DETERMINANTS OF CUSTOMERS' PREFERENCES TOWARDS THE DIGITAL PAYMENT SYSTEM IN VISAKHAPATNAM CITY

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Abstract: There is a lot of buzz around the digital payment. The government and private sector both are riding on the digital payment wave. The people who use the digital payment mode are considered more advanced. Digital revolution has provided an easy way to go for digital payments. The reach of mobile network, internet and electricity is also expanding digital payments to remote areas. Digital payment platforms, especially post demonetisation have become the most convenient method to transact in the Indian economy. Although digital payments are popular now, it's also important to use them safely. "Data breach" are two words we hear frequently, and we must know how to use our digital money in a safe manner. The focus of this paper is to determine the composite weight of the factors that are preferred for making digital payment by using Analytical Hierarchy Process (AHP) after conducting survey. The main objective of this paper is to rank the factors of preferring digital payment over cash payment. For the study, a sample of size 284 is selected randomly from Visakhapatnam city.

Key words: Digital Payment, Demonetisation, Data breach, Analytical Hierarchy Process (AHP)

Introduction

Though the concept of digital payment is not new, but the use of digital payment has gained momentum due to the initiative taken by the Narendra Modi government of India by announcing demonetization of Rs, 500 and Rs. 1000 currency notes on 8th November 2016. The term Digital Payment means making payment to other person with the help of internet or through electronic mode instead of paper money. Digital Payments was initiated to bring transparency in transactions and eliminating black money. It was actually a move towards cashless economy. Further, digital payments were encouraged to provide sufficient cash availability to the banks for providing credit to people. Though after demonetization, a considerable part of society has started using Digital mode of Payments, but still people feel scared of using Internet Banking, debit cards, e-cash etc. due to various security reasons. Initially the Government was providing considerable incentives for digital payments but now a decline has been seen in this push. This paper tries to identify the reasons for adopting digital payments by people in India and it also tries to find out the most preferred and least preferred reason for making digital payments.

Review of literature

E- payment system in India, has shown tremendous growth, but still there has lot to be done to increase its usage. Still 90% of the transactions are cash based. Technology Acceptance Model used for the purpose of study. They found Innovation, incentive, customer convenience and legal framework are the four factors which contribute to strengthen the E- payment system (Sanghita Roy, Dr. Indrajit Sinha ,2014)[1].

Rakesh H M &Ramya T J (2014)[2] in their research paper titled "A Study on Factors Influencing Consumer Adoption of Internet Banking in India" tried to examine the factors that influence internet banking adoption. It is found that internet banking is influenced by its perceived reliability, Perceived ease of use and Perceived usefulness. In the process of internet banking services expert should emphasize the benefits its adoption provides and awareness can also be improved to attract consumers‟ attention to internet banking services.

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Objective of the study

The primary objective of the study is to rank/weigh the determinants of the customers' preferences of digital payment system.

Research methodology

The study was based on primary data. Interview Schedule was constructed for the collection of data using structured questionnaires. Data for this study were collected by means of a survey conducted in the Visakhapatnam city. The structured survey questionnaires were in English and those were distributed to randomly selected 302 participants. Participants were students, retired persons, businessmen, government employees, private employees, informal sector employees and housewives. The respondents were asked beforehand whether they had knowledge about and using online Payment services. Only those who answered in affirmative were given the questions to complete in presence of the researcher. The questionnaire consist of two sections. Section A was designed to collect demographic information like age, gender, occupation, educational qualification and section B was designed to generate information relating to the experience of the customer in online payment services. 287 responses were received and after checking the validity of the questions 284 respondents were fit for carrying out AHP analysis. Data thus collected were posted in a master table to facilitate further processing. The AHP analysis of the data were done through MS Excel in computer.

Analytical Hierarchy Process (AHP):

The Analytical Hierarchy Process is a structured technique for organising and analyzing complex decisions based on Mathematics and Psychology.

It has particular application in group decision making and is used around the world in a wide variety of decision situations in fields such as government, business, industry, healthcare, shipbuilding and education

Rather than prescribing a correct decision, the AHP helps decision makers find one that best suits their goal and their understanding of the problem. It provides a comprehensive and ration framework for structuring a decision problem for representing and quantifying its elements for relating those elements to overall goals and for evaluating alternative solutions.

The AHP converts the evaluations to numerical values that can be processed and compared over the entire range of the problem. A numerical weight or priority is calculated for each element of the alternatives. These numbers represent the alternatives' relative ability to achieve the decision goal. In AHP the comparison of the factors or elements happens in a rational and consistent way. This capability distinguishes the AHP from other decision making techniques.

AHP Model calculation

The following factors are considered in the preference of choosing/opting for digital payments which include a) Convenience /Ease of Digital Transactions b) Time Saving c) Offers/ Discounts / Cash back rewards d) Not holding enough Cash e) Easy Tracking of Expenses

A survey has been done with considerable sample of the size 284 taken from the population in Visakhapatnam consisting of Government employees, Private sector employees, Businessmen, Housewives, and Students etc by considering the above mentioned five factors in the form of a questionnaire. A pair wise comparison is made by using a satty scale which is a relative scale to measure how much would one prefer regarding one factor with respect to another factor. After collecting the data from the respondents, the AHP methodology was applied to determine the weightage of the factors. Consistency check is done as per AHP procedure.

The consistency ratio is computed to verify whether the inconsistency is acceptable or not. If the value of consistency ratio is smaller than 0.1 or 10%, the inconsistency is acceptable. If the consistency ratio is greater than 10% we need to revise the subjective judgement.

Analysis and discussion

The AHP process on five paired comparison revealed the critical weights of the five factors considered in the study namely Convenience /Ease of Digital Transactions, Time Saving, Offers/ Discounts / Cash back rewards, Not holding enough Cash and Easy Tracking of Expenses. The highest value of the critical weight indicates the most accepted determinant of customers. The least value of critical weight indicates the least accepted determinant of customers for the online payment.

Table 1: Critical Weight of the Determinants

	Convenience	Time	Offers	No cash	Tracking	Row total	critical weight
Convenience	0.523	0.7113	0.4155	0.3369	0.2439	2.2306	0.4463
Time	0.1146	0.1708	0.4028	0.3098	0.2459	1.2439	0.2488
Offers	0.131	0.0428	0.1188	0.2488	0.2264	0.7678	0.1536
No cash	0.128	0.0415	0.0374	0.093	0.2282	0.5281	0.1056
Tracking	0.1032	0.0334	0.0253	0.0113	0.0554	0.2286	0.0457

The critical weight with the value .4463 indicates that the respondents prefer online payment system due to its convenience and ease of digital transactions. Since the value of critical weight is highest, this shows that the factor namely convenience is the most accepted determinant of the customer for online payment. It aids the user by giving an option that is quick, and convenient during the travelling time. Digital payments can be carried out without any hassle and much efforts as it does not require one to be physically present anywhere for the money to be paid.

The least critical weight value is .0457 which is for the tracking system. Out of the five determinants chosen, tracking system is the least accepted determinant of the customer for online payment. If all transactions are on record, it will be very easy for people to keep track of their spending. It will also help while filing income tax returns and, in case of a scrutiny, people will find it easy to explain their expenses.

The second highest critical value is .2488 that is of time savings. The respondents are of the opinion that the online payment helps them to save time, As this type of payment does not require one to be physically present anywhere for the money to be paid, This also helps save immense time of the user so that the user is able to utilize time for other important tasks/aspects.

The value of critical weight of .1536 makes the offers stand in the third place of determinants to be accepted by the customers for their online payments. Going digital can benefit the users in terms of discounts provided to them for various occasions as well as purchases. For example, for encouraging people to use digital method of making transactions, government announced waiver of service tax on card transactions up to Rs 2,000. Such incentives and measures by the government help people be more digital friendly, and thus, helps government keep tabs on tax evasion. Moreover, the customer avails benefits of discounts online every now & then, and gets a fair price for the product/service needed. Similarly, saving on rail tickets, highway toll, or purchase of insurance can help cut your costs. Add to these the cashback offers and discounts offered by mobile wallets like Paytm, as well as the reward points and loyalty benefits on existing credit and store cards, and it could help improve your cash flow marginally.

The critical weight value of .1056 keeps the determinant not holding enough cash in fourth place of acceptance. Its not always possible to hold and carry the cash. The online payment helps and rescues the person even when he doesn’t hold any cash.

Table 2: Ratio of Weighted sum to Critical weight

	Convenience	Time	Offers	No cash	Tracking	Weighted Sum (WS)	Critical Weight (CW)	WS/CW
Convenience	0.4463	1.0361	0.537	0.3825	0.20108	2.60298	0.4463	5.8323
Time	0.0977	0.2488	0.5205	0.3518	0.2026	1.4214	0.2488	5.713
Offers	0.1117	0.0522	0.1536	0.2825	0.1866	0.7866	0.1536	5.121
No cash	0.1092	0.0604	0.0483	0.1056	0.1881	0.5116	0.1056	4.8447
Tracking	0.088	0.0486	0.0327	0.0128	0.0457	0.2278	0.0457	4.9846

$\lambda max = \sum (WS/CW)/n$

where WS, CW and n are weighted sum, critical weight and number of determinants respectively.

$\lambda max = 26.4956 / 5$

$= 5.299$

Consistency Index (C.I.) = $\lambda max-n / n-1$

$= 5.299 – 5 / 4$

$= 0.07475$

Consistency Ratio (CR) = C.I. / R.I.

Since the R.I. (Random Index) value is 1.12 for 5 determinants from the table value

Therefore, CR = .07475 / 1.12

$= 0.06674$

Since the CR value is less than 0.1, the data is said to be consistent and there is only 6% of inconsistency which is acceptable.

Conclusion:

The AHP process on five determinants revealed that the order of the determinants preferred by the customers for the online payment is convenience & ease, time, offers & discounts, non cash availability and tracking system respectively.

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A Study on Saving Habits of Post Graduate Students in Visakhapatnam City

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Abstract: ***Every oneof us works hard and smart to earn more money to improve our financial position but if the finances are not managed well, the money can leave us easily. So, it is important that the finances are managed well. Saving is one of the most crucial way of managing the finances. Unfortunately, savings is not so profound among the students. The students lack managing their financial management skills. This paper is sought to understand the saving habits among MBA students of Visakhapatnam District. It was found that the savings into various financial schemes by MBA students is below average. There should be some awareness program conducted for the students to learn saving to secure their future wealth.***

Keywords: Money, savings, students, financial schemes

1. Introduction

Savings brings pleasure whether the savings are on buying a product or services or saving in banks or any other financial schemes. Also, the saving habits makes a crucial role in making any financial decisions. It gives financial freedom and stability (Loibl & Kraybill, 2011) [1].

The saving habit becomes impetus due to the dynamic nature of economic policy. This also makes the financial literacy important. In a study by Anjana & Nagavali(2020)on Financial literacy on PG students of Visakhapatnam district, it is found that there is a very poor financial literacy among the students. They are aware of only some financial schemes like bank deposits, post office schemes and insurances but are not aware of other schemes. It is also found that they don't have habit to save in any of the financial schemes [2]. Based on a study done by Danes, Huddleston-Casas, & Boyce (1999) [3], the curriculum on finance can improve the financial literacy among school students and can makea positive improvement on making better financial decisions.

Poor financial literacy would lead to lack of retirement planning and poor borrowing deeds (Lusardi, 2008) [4]. The financial literacy should start at home where the children can be taught to handle the money, and also how to spend the money wisely. They can be taught of various saving options available in the market so that they can develop saving habits (Ambre 2012) [5]. Based on a study done by Rodriguez (2015) [6], the saving habits improved among the group who received reminder messages for savings than the group who received the messages on financial literacy.

2. Review of Literature

The financial decisions taken by people are influenced by social and environmental factors which are changing with the evolving of technology. The availability of financial options for savings have also multiplied with the dynamic and changing technology (Greenspan, 2005) [7].

Saving is an important element of financial literacy. So, for a person to be wise enough in making savings and developing the saving habits, it is important for him/her to be financially literate to some extent (Huston, 2010) [8]. Savings leads to accumulation of assets which lasts for a longer time. That part of the income gets saved which is not spent (Henderson & Poole, 2005) [9].

Sonuga-Barke & Webley, argue that saving is defined in terms of the value of a set of activities (going to the counter and depositing money), made concerning one or other establishments (bank or building society). From the practical point of view, savings is, therefore, an adaptive reaction to the income limitation problem [10] (Sonuga & Webley, 1993).
The development of habit of saving takes time but once developed it changes the perception towards savings that helps in making good financial saving decisions (Loibl, Kraybill & DeMay, 2011) [11]. Allesie& Lusardi (1997) [12], also believed that once a habit is formed, it tends to affect an individual's consumption and savings. They noted that savings are a function of one's past savings and a recipe for current income changes and "discounted value of future income changes". In industrial society, savings are usually done by diverse people and for diverse reasons(Samuelson & Samuelson, 1980) [13].

3. Objectives of the Study

a) The main objective of the study is to analyze the saving habits of Post graduate students (MBA) in Visakhapatnam city.
b) To study saving habits of students with respect to Gender, Specialization, Age and type of family they belong to.

4. Methodology of the Study

In this study, the respondents are the students pursuing Masters of Business Administration in the colleges located in Visakhapatnam District. Only the students having Finance or Human Resources as their specialization are considered for the study. The respondents are chosen on the basis of simple random sampling technique. A structured questionnaire was distributed to 442 students of MBA of various colleges in Visakhapatnam, out of which 393questionnaires were considered for the analysis as 49 questionnaires were incomplete. Therefore, the answered questionnaire of 393 respondents were analyzed for the study. Both the primary and secondary data was collected for the study. Secondary data was collected from various publications and websites. Primary data was collected by administering a structured questionnaire and interaction with the MBA students of Visakhapatnam city. SPSS was used to analyze the data collected from the respondents.

5. Result and Analysis

The completed response from 393 questionnaires by the MBA students (with specializations either in Human Resources or Finance) were analysed to understand the saving behaviour of these students in various financial schemes available in the market. For this, five hypotheses were tested using t-test or f-test statistics.

5.1 H0: The level of saving habits among the college students for various financial schemes is equal to average level

Table 1: Saving habits of students in various financial schemes

Savings options	Mean	Standard deviation	T value	Significance value
Saving in bank deposit	2.23	0.956	26.68	.000**
Saving in NBFC deposits	1.72	0.676	31.07	.000**
Saving in post office	1.78	0.438	47.02	.000**
`Saving in Securities	1.82	0.743	25.79	.000**
Saving in Derivatives	1.1	0.401	33.98	.000**
Saving in Mutual funds	1.24	0.601	24.96	.000**
Saving in Commodity Derivatives	1.08	0.255	47.87	.000**
Saving in Insurance	1.45	0.807	21.73	.000**
Saving in Physical gold	1.32	0.439	31.08	.000**
Saving in Chit fund	1.54	0.679	23.04	.000**
Saving in Real estate	1.31	0.368	35.01	.000**

**indicates significance at .01
Source: Primary Data

The p values for all the statements related to the saving options in various financial schemes by the Management Students in Visakhapatnam is .000 at 1% level of significance. Thus, the Null hypothesis is rejected. This indicates that the saving habit levels of the post graduate management students is not average. The mean values of the saving options in various schemes indicate that students don't have the habit of saving into various financial schemes. The mean values are less for all the financial schemes which means that the students don't have the habit of saving in any of the schemes. The highest mean value is 2.33 for the financial scheme "Bank Deposits". This indicates that some percentage of savings is done in Bank deposits by the students when compared to the other financial schemes' options.

5.2 H0: There is no significant difference between male and female student with regard to the savings in various financial schemes.

Table 2: Gender and Saving habits of students

Statement on saving	Gender	Mean	T value	Significant value
Saving in Bank Deposit	Male Female	2.36 2.22	.92	.35
Saving in NBFC	Male Female	1.96 1.81	1.42	.15
Saving in post office	Male Female	1.88 1.88	.04	.96
Saving in securities	Male Female	1.86 1.69	1.34	.18
Saving in Derivatives	Male Female	1.21 1.16	.72	.47
Saving in mutual funds	Male Female	1.30 1.44	-1.02	.31
Saving in commodity derivatives	Male Female	1.07 1.06	.162	.87
Saving in insurance	Male Female	1.49 1.75	-1.51	.13
Saving in physical gold	Male Female	1.20 1.25	-.51	.61
Saving in chit fund	Male Female	1.31 1.44	-.88	.38
Saving in real estate	Male Female	1.10 1.16	-.64	.52

Source: Primary Data

Since the p values of all the financial schemes are greater than .05, this indicates that there is no significant difference in the saving habits of the students with respect to male and female. Thus, the null hypothesis is accepted. The mean values indicate that the saving habit of both the males and female students in various schemes (Bank deposit, NBFC, post office, securities, derivatives, mutual funds, commodity derivatives, insurance, physical gold, chit fund, real estate) are below the average level. The saving habits of the students are very poor irrespective of the gender.

5.3 H0: There is no significant difference between HR and finance specialization student with regard to the savings in various financial schemes.

Table 3: Specialization in MBA and Saving habits of students

Statement on saving	Gender	Mean	T value	Significant value
Saving in Bank Deposit	Finance HR	2.28 2.50	-1.029	.309
Saving in NBFC	Finance HR	1.88 2.07	-1.683	.096
Saving in post office	Finance HR	1.90 1.80	1.159	.252
Saving in securities	Finance HR	1.85 1.70	1.052	.297
Saving in Derivatives	Finance HR	1.22 1.13	1.120	.267
Saving in mutual funds	Finance HR	1.42 1.07	4.379	.000**
Saving in commodity derivatives	Finance HR	1.09 1.00	3.128	.002**
Saving in insurance	Finance HR	1.58 1.47	.720	.475
Saving in physical gold	Finance HR	1.17 1.37	-1.660	.106
Saving in chit fund	Finance HR	1.35 1.30	.386	.701
Saving in real estate	Finance HR	1.10 1.17	-.868	.390

**indicates significance at .01
Source: Primary Data

Since the p values of the financial schemes (Bank deposit, NBFC, post office, securities, derivatives, insurance, physical gold, chit fund, real estate) are greater than .05, this indicates that there is no significant difference in the saving habits of the students with respect to HR and Finance specialisation in MBA program. The mean values indicate that the saving habit of both the HR and Finance students in various schemes are below the average level.

The p value of financial scheme (mutual funds and future commodity derivatives) is less than .01, which indicates that there is a significance difference in the saving habits of students with respect to HR and Finance specialisation. Though the saving habits of both the HR and Finance specialisation students are below the average level but the mean values indicate that the Finance students have comparatively more saving habits than HR students in Mutual funds and future commodity derivatives.

5.4 H0 there is no significance difference among the age group with respect to saving in various financial schemes

Table 4: Age and Saving habits of students

Statement on saving	Age (in years)	Mean	Standard Deviation	F value	Significant value
Saving in Bank Deposit	Less than 20 20-25 25-30	2.33 2.36 1.86	.577 .973 .690	.897	.410
Saving in NBFC	Less than 20 20-25 25-30	2.33 1.91 2.00	2.30 .632 .577	.601	.550
Saving in post office	Less than 20 20-25 25-30	2.00 1.87 2.00	.000 .464 .000	.399	.672
Saving in securities	Less than 20 20-25 25-30	2.33 1.81 1.71	.577 .767 1.113	.715	.491
Saving in Derivatives	Less than 20 20-25 25-30	1.00 1.21 1.14	.000 .407 .378	.457	.634
Saving in mutual funds	Less than 20 20-25 25-30	1.33 1.31 1.71	.577 .563 1.11	1.470	.234
Saving in commodity derivatives	Less than 20 20-25 25-30	1.00 1.07 1.14	.000 .250 .378	.411	.664
Saving in insurance	Less than 20 20-25 25-30	1.33 1.58 1.20	.577 .824 .488	.552	.577
Saving in physical gold	Less than 20 20-25 25-30	1.00 1.22 1.29	.000 .453 .488	.428	.653
Saving in chit fund	Less than 20 20-25 25-30	1.33 1.34 1.29	.577 .692 .488	.022	.978
Saving in real estate	Less than 20 20-25 25-30	1.00 1.12 1.00	.000 .378 .000	.530	.590

Source: Primary Data

Duncan Multiple range test was conducted to test if there is any significance difference among the age groups with respect to saving habits in various financial schemes. The p values are non-significant for the saving habits of students in various financial schemes. This indicates that there no significant difference in saving habits of students in various financial schemes with respect to the age group. The means values of various saving schemes indicate that the students have very poor saving habits irrespective of whatever age group they belong to.

5.5 H0: There is no significance difference among family types with respect to the saving habits in various financial schemes

Table 5: Family Type and Saving habits of students

Statement on saving	Family type	Mean	Standard Deviation	F value	Significant value
Saving in Bank Deposit	Joint family Nuclear family Others	2.80 2.24 1.33	1.215 .808 .516	8.076	.064
Saving in NBFC	Joint family Nuclear family Others	2.10 1.91 1.33	.548 .716 .516	3.362	.030*
Saving in post office	Joint family Nuclear family Others	1.97 1.87 1.50	.414 .443 .548	2.809	.122
Saving in securities	Joint family Nuclear family Others	1.97 1.73 2.50	.765 .736 1.225	3.612	.369
Saving in Derivatives	Joint family Nuclear family Others	1.13 1.20 1.50	.346 .402 .548	2.136	.790
Saving in mutual funds	Joint family Nuclear family Others	1.20 1.38 1.33	.407 .655 .516	1.005	.049*
Saving in commodity derivatives	Joint family Nuclear family Others	1.07 1.07 1.00	.254 .263 .000	.236	.790
Saving in insurance	Joint family Nuclear family Others	1.57 1.51 2.33	.858 .742 1.211	3.081	.049*
Saving in physical gold	Joint family Nuclear family Others	1.20 1.23 1.00	.407 .472 .000	.652	.523
Saving in chit fund	Joint family Nuclear family Others	1.63 1.22 1.80	.928 .530 .837	5.846	.004**
Saving in real estate	Joint family Nuclear family Others	1.10 1.13 1.00	.305 .393 .000	.366	.694

*indicates significance at .05 and **indicates significance at .01
Source: Primary Data

Duncan Multiple range test was conducted to test if there is any significance difference among the type of family with respect to saving habits in various financial schemes. The p value is significant at 5% level of significance for factors ‘saving in NBFC’, ‘saving in mutual funds’, ‘saving in Insurance’ and 1% level of significance for factor ‘saving in chit fund’. This indicates that there is a significant difference in the saving habits of the students belonging to ‘joint family’.‘nuclear family’ or ‘other type of family (Singe parent/ No parent)’ for saving habits in NBFC, mutual funds and Insurance at 5% level of significance. Also, there is a significant difference in the saving habits of the students belonging to ‘joint family’, ‘nuclear family’ or ‘other type of family (Singe parent/ No parent)' for saving habits in chit funds at 1% level of significance.

The means values of various saving schemes indicate that the students have very poor saving habits. But the saving habits are comparatively high for 'joint family' for NBFC and mutual funds and for 'other type of family (single parent/ no parent)' for chit funds and insurance. For the families with no parent or single parent, the financial insecurity is high and the savings are more in insurance to secure the life of their children.

6. Findings and Interpretations

The study on students of Masters of Business Administration with Human resource or Finance specialisation in Visakhapatnam city revealed that the students don't have the habit of saving above the average level in various financial options. But there is minimal savings in the Banks, securities and post office. The poor savings habits can be seen among all age groups and gender and also irrespective of any family type or any specialization whether Human Resources or Finance.

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Author Profile

Dr. Chamoli Anjana was awarded Doctorate in Management in February 2020. She has received degree in MBA and MHRM in 1997 and 2008 respectively. She has achieved a gold medal in PGDFM from IGNOU in 2010. She has qualified UGC NET and AP SET in 2011 and 2017 respectively. She was a member of Board of studies for BBA course offered by Andhra University from 2017-2020. She is a member of Editorial Board of International journal of Research in Education and Psychology and has also reviewed articles in Asian Research journal of Arts and Social Sciences.

Human Resource Development Practices In Private Telecom Sector.

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Abstract :

In the present changing scenario Human resource development practices play very important role, for employee's point of view as well as development of whole organization. The study in the project enables us to an understanding of the environment, encompasses, influences of different HRD practices, also impact of technological changes in the private Telecom Sector. This study might find to be with the high percentage of respondents with both Technological changes with respect of HRD practices. This study also addresses the feeble impact between technological changes and performance as variable for HRD as dependent variable, it might be because most of the respondent were having less work experience. Decision making authority, have to give more opportunities to their employees for personnel growth & development also threw recognition for good work done. This can be achieved throw widening their areas of responsibility larger delegation of authority, adequate feedback & incentives for good work.

Hence forth the present study was aimed to analyze some of the HRD Practices to find out which ones can help telecom industry in Visakhapatnam to combat the future challenges on the basis of the variables Training and development , Performance Apprasial ,Counseling, Career Planning and development,. Might be the HRD practices which receives a good response from the respondents may be the quality of work life , Welfare measures, Organizational Development, training and development , reward s and participation because of the effective use technology in the private telecom sector. Career planning, Reward and Recognition and welfare activities, performance appraisal and exit policy beyond statutory requirement. These areas need to be further worked upon for the improvement of job satisfaction and commitment of the employees towards their respective organizations so that the global challenges can meet confidently.

Keywords: Training and development , Performance Apprasial , Career Planning and development,.

INTRODUCTION

Human resource management is in an evolutionary phase and HR function is transforming from the routine to strategic activities. The traditional structure of HR function is different from the line HR structure. Presently, HR professionals are considered as the core of workforce management, especially in their contribution to strategy. Each practice has its own line of importance and this can be clearly explained by the widely accepted definition of Flippo (1984) who said that Personnel Management is “the planning, organizing, directing and controlling of the procurement, development, compensation, integration, maintenance and separation of human resources to the end that individual, organizational and societal objectives are accomplished”. While planning, organizing, directing and controlling are considered as Managerial Functions, procurement, development, compensation, integration, maintenance and separation are considered as Operative Functions. While the Managerial Functions are common to all Managers, the skill required in managing all these functions are transferred to various operative areas, due to which the manager’s effectiveness will improve the organization’s effectiveness. The studies though made in limited number by different researchers, clearly establish that the use of technology will positively influence the HRM practices and improve the employee’s efficiency and effectiveness. Due to immense changes in the organizational structure, there came the necessity for integrated strategies and new ways of managing the human resources in promoting technology innovation, organizational change, and entrepreneurship.

Leonard Nadler in the year 1970 published a book “ Developing Human Resources” in which the term “Human Resource Development”(HRD) was coined . The term human resources refers to talents, skills, energies and knowledge of the people that are working in an organization and who realizes their potentials to the creation and realization of the organization’s mission, vision, values and goals. Whereas the term development refers to a process of active learning from experience leading to systematic and purposeful development of the whole person, body, mind and spirit. Thus, HRD is the integrated use of training, organizational and career development efforts to improve individual , group and organizational effectiveness. On the other hand, Role of technology, particularly in the modern times, has become an integral part of the day to day activities of the organizations. Technology impacts an Industry multi dimensionally but subject to efficient implementation of it. Further, the development of technology has its impact on Industrial sector not only in terms of tremendous rise in productivity of labour, output per a man day but also in the implementation of different functional practices. In India telephone users with1.183 billion subscribes out of which 1.161 billion the mobile subscribes and 21.29 million fixed line subscribes as on may 2019. It is necessary to remember that the India’s telecommunication network is the second largest in the world. In fact the major sectors of the Indian telecommunication industry are telephone, internet and television broadcast industry in the country which is in an ongoing process of transformation into next generation. An extensive system of modern network elements such as digital telephone exchanges, mobile switching centres, media gateways and signalling gateways at the core, interconnected by a wide variety of transmission systems using fibre-optics or microwave radio relay networks.

REVIEW OF LITERATURE:

Nicholas Born et al.(2015) concluded that work environment is transforming to contemporary work environment rapidly due to the advancement of technology, globalization and changing organizational structure. So, in order to prepare for future work and to stabilize the business, it is necessary to have a new skill set this is only possible with the help of implementing technology within the work environment.

Robert C.Merchant Jr. (2015) has made a study on role and importance of career development programs in developing and retaining employees. The career development programs include counseling and training of the employees. Where counseling provides employees with an opportunity to define career goals and to create plans within the organization realities. The career development programs will assist to retain the most valued resource. If the organization is able to assist all employees in meeting their needs, then both employees and the department will benefit in the long run.

The success of career development can be measured through employee satisfaction, development of employees through promotion and lower turnover. On the other side, the failure of career development can be measured by conducting timely exit interviews.

Cisco(2015), Dreher, S.(2014), Mc Kintosh, S.(2012) commented that the organizations in order to survive in this global arena, it is necessary to develop new skills and once it decides for developing new skills, it has to create teams who are responsible for imparting skills, implementation, evaluation and growth of training programs.

Eggers and Hagel (2012) added that updating of firm and introduction of new technologies into the workplace requires updating of advanced skills, from floor operators to white collar workers. So it is noticed that acquiring the workers with advanced skill is not criteria but they should regularly renew with the skills.

Andeniji and Osibanjo(2012) expressed that career development usually reduces the cost of recruitment and training of new employees in the organization.

Hameed & Waheed (2011) have concluded that Employee development can boom organization's performance. By developing employees, employee learning , skill growth , self direction and employee attitude enhance organization's performance.

Benedicta and Appiah, (2010) stated that there is a positive relationship between training and employee performance. Training generates benefits for the employee as well as the organization by positively influencing employee performance through the development of employee knowledge, skills, ability, competencies, and behavior.

Kramer, Jenkins and Katz (2007) stated that Information Communication Technology is playing a prominent role in our modern life. Apart from many more advantages like improving productivity, providing instant connectivity and access to information it is also reducing the cost of doing business. Many big IT firms are investing heavily in human capital aiming to develop future employees (customer) through technical literacy program and moreover, there is a shortage of technical and engineering skills in the labor force.

Mishra and Bhardwaj (2002) have highlighted the nature of HRD Climate over different levels of managers in the private organization that which are located in eastern part of Indi. In their study they have concluded the climate conditions in private organizations are good and satisfactory.

STATEMENT OF PROBLEM:

In globalization era, telecom industry is playing an important role in infrastructure development and is in expansion phase. The technological change has a greater impact on modern life and is difficult to measure. The daily routines of an organization are pillared around the technology in use. The technology has a dual impact on the human resources; it makes skills obsolete and also impacts career growth. Sometimes the technology increases human capabilities and at times makes knowledge outdated. Thus, the role played by technological changes may be both positive and negative. A paradigm shift with respect to technology is taking place all over the world, the technological changes redefine the process of activities in the organization. The outcome of empirical studies clearly outlines the impact of technological changes on the industry. The economic perspective of technology is a major area of study. The economic consequences of technological changes and the influence of economic environment on such changes are both positive and negative for an Organization. The society point of view to study technological changes is adopted by many sociologists. The major objectives of National Telecom Policy 1999 have highlighted that the telecom that they 1. encourage the development of telecommunication facilities especially in the remote , hilly and tribal areas. 2.

To facilitate affordable and effective telecommunication, for all. 3. One most important objective is that they want to continuously upgrade the Indian telecommunication sector and provide an equal opportunity for all doing business in India . The success of the objectives are due to the upgradation of technology.

The foregoing reviews clearly brings into light that a number of studies have been put forward by several authors regarding the HRD practices at different levels of management in organizations and the Telecom market has been witnessing growth which is manifold for last few years. Many private players have entered the economy thereby increasing the level of competition. In the competitive scenario it has become a challenge for each company to adopt practices that would help the organization stand out in the market. The competitiveness of a company of an organization is measured through the quality of products and services offered to costumers that are unique from others. Thus the best services and products offered to the customers are result of genius brains working behind them. Human Resource in this regard has become an important function in any organization. All practices of marketing and finances can be easily emulated but the capability, the skills and talent of a person cannot be emulated. Hence, there is a need and importance should be given to the improve the level of efficiency and effectiveness of the employees through some HRD practices. HRD Climate and general practices of HRD had been studies in different industries in different areas around the globe but no study has been conducted in private sector telecom companies in Visakhapatnam .So, in this regard a study is going to take up to study and understand the of role of HRD practices on the technological changes in private sector telecom companies.

OBJECTIVES OF THE STUDY :

1. To study the policies and objectives of Private telecom organizations.
2. To assess and evaluate the impact of training on performance of an employees.
3. To study the influence of technology on Human Resource Development Practices in Telecom sector.

HYPOTHESIS OF THE STUDY:

1. $H_0$1: There is a significant relationship between Training and Development practices and the performance /skill of employee.

2. $H_0$2 : There is no significant difference on the employee performance with respective technology .

SCOPE OF THE STUDY :

The present study confines to Three aspects of HRD practices such as Training and development , Performance Apprasial , Career Planning and development, in Private telecom organizations. The study covers the opinions of the employees with respect to technological changes and its influence on HRD practices that which includes details of training policy, different training programmes attended ,performance appraisal policy, the process and methods, counselling methods and procedure. The study also covers opinions of the employees in respect of HRD activities.

The scope of the study is confined to the private sector telecom organizations of Visakhapatnam.

METHODOLOGY:

The proposed study seeks to adopt both quantitative and qualitative research methodologies in a complementary manner. To begin with a critical review of theoretical and empirical literature related to technological changes and work environment on HRD practices in telecom sector will be carried out. This is followed by analysis of available secondary data and documents. Primary data is collected from general discussions. The respondents were contacted personally outside workplaces. The target population for the study is Visakhapatnam region for finding the HRD practices in telecom sector. For analysing the quantitative data, statistical techniques like percentages are going to compute and draw the inferences.

The annual growth rates are going to trace year-to-year changes in respect of time series data. For assessing the degree of satisfaction of employee towards HRD programmes, the level of satisfaction of employees is going to ascertained on 5 point likert-style for analysing the qualitative data relating to the opinions and satisfaction of employee’s. The statistical techniques like percentages, frequency tables, are performed with the help of SPSS Package. The sample size for the study is 90.

DISCUSSION:

I. $H_0$1: Training and Development practices have influence on the performance /skill of employee.

i. Training and Development:

ITI endeavours to train its employees in areas of emerging areas of knowledge and skill, to offset technological obsolescence and gain competitive edge in their services. Accordingly, training programmes and workshops were organized in New Technologies. These training programmes were conducted by the premier institutions like IIM's, IIT's and also People Capability Maturity Model (PCMM), Project Management Maturity Model (PMMM) were conducted.

Further the training programmes were also conducted in-house on Technical, Quality, IT , Soft Skills, Stress Management, Safety , awareness programmes on Health, Environment, Energy Management, Time Management , Vigilance awareness etc. were conducted.

Table No:1

Sr.No	**Training and Workshops**
1	3D Printing technology
2	Smart grid
3	Smart Energy Meter
4	G-PON
5	PLB HDPE pipes
6	OFC networks
7	Smart City/ IoT and 5G technologies

Source: Annual report of the department of telecommunications Ministry of communications government of India new Delhi, 2018-1019.

ii. Employee Training: In-house and External Nominations:

Table No:2

No. of Training Programmes	No. Trained			No. of Training Man-days Achieved			Total Expenditure (Rs.)
	Exe.	Non-Exe.	Total	Exe.	Non-Exe.	Total	
101	1336	373	1709	2823	463	3286	64,66,076.00

Source : Annual report of the department of telecommunications Ministry of communications government of India new Delhi, 2018-2019.

From the above table it is well understood that the department of telecommunications have provided 101 training programmes in the year 2018-19 for both the executives and non -executives with the total expenditure of Rs. 64,66,076.00.

iii . Distribution of respondents' Opinions on Training and Development

Table No:3

S.No	Items	Mean	SD	PS
1.	Supervisor efforts to know your strengths and Weakness before and after training.	3.64	0.99	66.1
2.	The practices or techniques used in T&D.	3.99	0.74	74.7
3.	Are Satisfied with the training programme.	3.56	1.10	64.0
4.	Content and material of training programme	3.46	1.05	61.5
5.	Regularity of the programme.	3.62	0.92	65.4
6.	Enhancement of skills after training .	3.91	0.90	72.74

Source: Primary data

It is understood that from the table that the 61.5% is the percentage score constitutes that employees are satisfied with the content and materials of the training programme whereas 64% of the respondents are stated the training programmes are satisfied. Maximum employees i.e. 74.7% expressed that the practices or techniques used in training and development programmes were excellent. Thus 72.7% of the employees have stated that the training has increased the performance of the employees and in the future this this may lead to commitment and satisfaction in the employees. Therefore the hypothesis-I proved and it is accepted.

iv. Percentage of Respondents' Opinions on Items of Career and Growth

Table No:4

S.No	Items	Mean	SD	PS
1.	Fairness in promotion system	4.07	0.82	76.83
2.	Experience is considered	3.94	0.77	73.41
3.	Career counselling done for better prospects.	3.94	0.77	73.41
4.	Free to communicate with management about your career plans.	3.99	0.74	74.70
6.	Number of promotions in this organization.	3.90	0.82	72.62

Source: Primary Data

Form the above table it is well understood that 76.83% of the respondents have stated that there is fairness in promotion system whereas 74.70% have stated that the employees are free to communicate with management about their career. Hence forth the career counselling and growth is good in case of telecom sector .

II. **H_02 :There is no significant difference on the employee performance with respective technology** .

Influence of technology on the performance of the employee. /Performance Indicator.

Table No:5

IMPACT OF TECHNOLOGY ON THE PERFORMANCE Details of Achievements for the Last Three Years (Rs.Crore)				
Sl.No.	Product/Project	Performance (2016-17)	Performance (2017-18)	Provisional Performance 2018-19 (Un-Audited)
1.	NFS Cable Laying	700.16	267.11	269.92
2.	MSP	190.00	200.11	434.33
3.	Defense /ASCON	181.135	127.00	121.51
4.	MLLN,MLLN AMC/SSTP	154.85	185.66	72.48
5.	GSM-WZ Project/AMC	81.11	34.46	27.61
6.	GSM-SZ/AMC	76.25	153.32	46.08
7.	NPR/SECC Projects	70.59	122.03	0.00
8.	NGN/CS/Ph	35.86	3.55	3.54
9.	OCB AMC Business	32.86	28.05	20.23
10.	G-PON	22.51	391.96	51.61
11.	Misc. Services	19.77	7.80	4.22
12.	Data Centre	19.13	17.88	17.64
13.	Banking /Div. Prod/ Cont. Mfg.	11.23	7.25	16.64
14.	SMPS & Repair	5.73	5.81	11.55
15.	SATCOM & PCM MUX, CDOT AN RAX	5.24	15.21	8.01
16.	GSM-MTNL	2.44	0.00	0.00

Note : The Performance includes Taxes.

Source : Retrieve from Annual report of the department of telecommunications Ministry of communications government of India new Delhi, 2018-1019

From the above table it is well understood that the performance in the product / project like MSP , Banking /Div. prod/ Cont. Mfg, SMPS & repair of different years were improved and this shows that the technology have a greater impact on the performance of the employees. Hence forth the $H_0$2 is rejected.

CONCLUSION:

Since the objective of the present study is to analyze the perception of the selected respondents with regard to the use of technology in implementing the HRD practices in the selected telecom organization . SPSS Version 14, minitab-14 and Ms-Excel 2007 are used for analyzing the data and present in percentiles, averages, deviations etc. In the present changing scenario Human resource development practices play very important role, for employee's point of view as well as development of whole organization. The study in the project enables us to an understanding of the environment, encompasses, influences of different HRD practices, also impact of technological changes in the private Telecom Sector. This study finally highlights that there is relationship between the training , performance ,job satisfaction and employee commitment.

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Role of Trade Union in Conflict Resolution

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ABSTRACT: *A Trade Union signifies an organization of workers engaged in securing certain economic benefits for its members. In the modern context, trade union's role is not only confined to securing the economic benefits but also the political and welfare benefits for its members. Trade union is a historical necessity and by product of the Industrial revolution. For good Industrial Relations, trade Unions play a vital role. With a view to self-protection and self-help, labour has organized itself under employee associations and unions. Conflict between capital and labour in Europe and American resulted in the origin of the trade union movements. With growing prosperity workers have organized their own Trade unions and thus gained a bargaining power enabling them to establish their rights in the Industrial society.*

The study is carried out with the objectives of analysing the attitudes of Trade unions towards technological changes , to study Trade unions use of technology to grow and maintain membership and to examine the role played by the Trade unions in expansion of steel manufacturing industries. The sample of the present study comprised of about 60 including 30 executives and 30 non-executives.

Hence this paper throws light on the growing importance of technology and support given by the trade unions.

Key words*: Technological changes , Attitudes , Trade unions and Industrial relations.*

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I. INTRODUCTION:

Technology plays an important role in the growth and development of a nation. The technological inventions and innovative practices improve the standard of living in the country. The technological innovations in developed nations have changed income patterns, lifestyles and communications in that country. The technology has made countries interdependent on each other. According to Virmani B.R. and Kala Rao(1997) the extent of technology and expertise differ from country to country and accessibility to such technology, expertise or resource has made countries inter-dependent on each other. Further, it has become imperative that technology is shared for achieving better living standards among all nations for mutual gain.

The term 'technology' differs in sociology aspect, where it means that the technology is not simply a machine and a scientific instrument but is an appropriate attitude, habits of thought and action because mere installation of the machine doesn't work on its own. Kingsley Davis(1949) observed that technology and science deal with the intrinsic relations. Whereas G.M. Foster(1950) stated that technological development is a complex process because it is not only the overt acceptance of material and technical improvements but also cultural, social and psychological process as well. D.Rosseau and R. Cooke (1984) say's the technology is a tool that enables to deliver greater value to customers, increase market share and revenue to the organization Technology is the sum of Knowledge, tools, techniques, and processes used to transform organizational inputs into outputs. The United States is considered as a global leader in the development of new technology. However, Japan, South Korea and china from Asia and Germany, France and the United Kingdom are some international competitors in the area of development of new technology. Since 1990 implementation of new technology and its adoption is a challenge for Indian organizations. Miriam Coe (2011) based on his studies concluded that technology is beneficial as it has more impact on the quality of life. But people in the USA have more belief on the usefulness of new technology than in India.

Hence, technology increases the pace of gathering, deleting and logical arrangement of information. Further, technology helps for the integration of data from different sources of organization. This integration of data can be at the national level (Macro level) or at the organizational level (Micro level). The organization which adopts new technology will experience a broader set of organizational changes both technically and economically. In fact, new technologies will reduce the number of inputs especially the human resources required for manufacturing and results in improving business's competitive strategy. The consequence of using technology in organization makes the organization more competitive by reducing costs and improving the quantity and quality of goods and services to meet the objectives of organization and society with effectiveness and efficiency.

Role Of Trade Unions In Technological Change :

Trade unions are important institutions in a steel manufcaturing units organization and they play a vital role in providing proper working environment, congenial and harmonious industrial relations in the steel manufacturing plants. The key role played by the trade unions in encouraging increased production, maintaining discipline and acting as agent of social welfare is well acknowledged both by the management and the employees of the steel manufacturing plants. Trade unions work together with the employees and the management for a common purpose in a cooperative spirit avoiding conflicting situations. With a lot of technological developments taking place in recent years and with more competition which the steel manufacturing plants has to face in present day scenario, trade unions have changed their approach and they have become now more innovative and creative. They have reoriented themselves towards employees' based systems which focus on the employee's motivation, empowerment , disciplined working and large participation in the decision making process.

Research Objectives:

1. To analyse the attitudes of Trade unions towards technological changes.
2. To study and understand the behaviour of the trade unions towards use of technology in the organization.
3. To study Trade unions use of technology to grow and maintain membership.
4. To examine the role played by the Trade unions in expansion of steel manufacturing industries.
5. To analyse the grievances faced by the employees during the phase of expansion.

Research Methodology:

The relevant data has been obtained from secondary and primary sources. The various secondary information sources used for the present research include journals and magazines. The primary data was collected from 60 respondents containing executives (30), non executives(30)of steel Manufacturing industry. The data was analyzed using Percentage Method. The data collected through survey was analyzed for accomplishment of the stated objectives.

Questionnaire Design:

The questionnaire was designed in such a way that the first five questions are pertaining to the personal data which are in agreed nature such as designation, department etc.

The quantitative data was designed with forced choices of 5 scales method i.e. 0-5 level like Highly satisfactory (5), Satisfactory (4), Can't Say (3), Dissatisfactory (2), Highly Dissatisfactory (1). The qualitative data was designed by administering the open-ended questions with the ranking method so as to ascertain the quality information from the survey findings.

II. DATA ANALYSIS AND INTREPRETATION:

1. Distribution of Sample respondents , according to their cadre:

Table No:1

Sl.NO	Type of Employees	HD	D	CS	S	HS	Total
	Executives	2(6.6%)	3(10%)	6(20%)	5(16.6%)	14(46.6%)	30(100%)
	Non-Executives	6(20%)	3(10%)	2(6.6%)	7(23.3%)	12(40%)	30(100%)
	Total	8(13.33)	6(10%)	8(13.33)	12(20%)	26(43.33%)	60(100%)

INTERPRETATION:

From the above table, 46.6% of executives are of the opinion that technology advances will enhance the Industrial Relations in Steel manufacturing units , whereas 16.6% of the executives are satisfied .where 16.6% of the executives were dissatisfied that technological changes may effect negatively towards the industrial relations.

40% Non – Executives feel that Industrial Relations in Steel manufacturing unit is Highly satisfied ,6.6% of them felt satisfied , 27% of them feel that it is average and the remaining 13% of them feel that it is poor.

2.GRIEVANCES FACED BY THE EMPLOYEES DURING THE TECHNOLOGY CHANGES :

Sustainability of an organization depends upon the Grievance Redressal mechanism as the employees feel satisfied and work effectively, when grievances are attended quickly and positively. About thirteen items are identified for the present study and data collected on each such items are analyzed and presented in table no.2.

Table No.2

Percentage of Respondents' Opinions on Items of Grievance Redressal

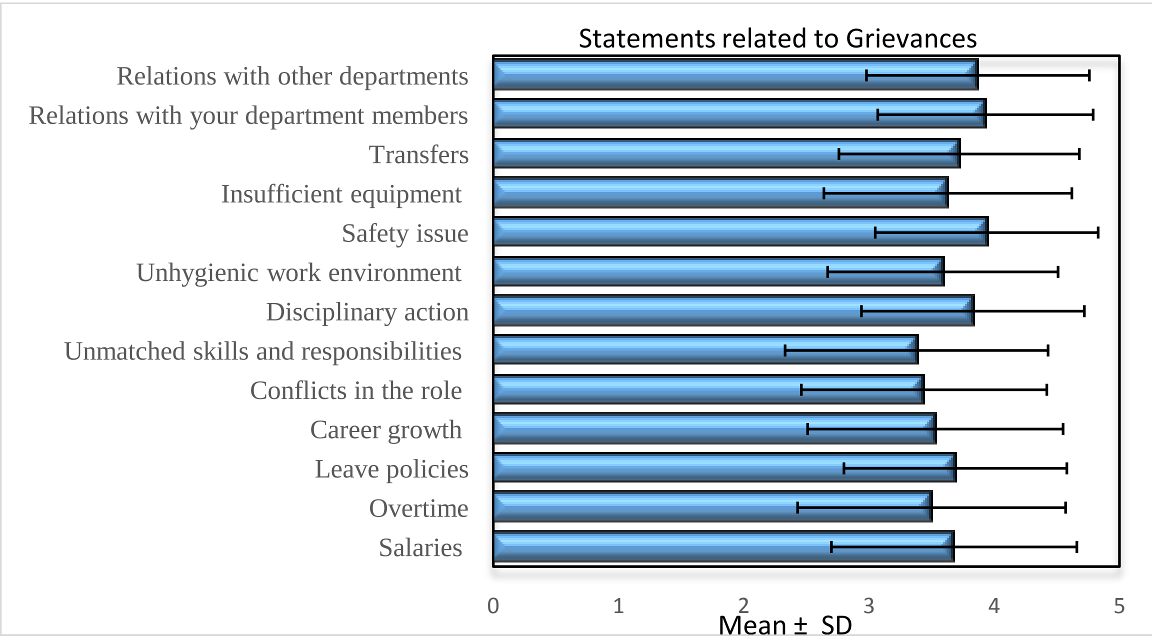
S.No	Items	HD	D	CS	S	HS	Mean	SD	PS
1.	Salaries.	4.1	11.2	10.7	60.2	13.7	3.68	0.98	67.01
2.	Overtime.	6.8	12.2	18.0	50.5	12.4	3.50	1.07	62.38
3.	Leave policies.	3.7	8.3	13.9	64.1	10.0	3.69	0.89	67.13
4.	Career growth.	6.8	11.2	11.7	62.7	7.6	3.53	1.02	63.17
5.	Conflicts in the role.	4.1	15.4	20.0	52.9	7.6	3.44	0.98	61.10
6.	Unmatched skills and respondents.	6.6	14.4	22.2	47.8	9.0	3.38	1.05	59.57
7.	Disciplinary action.	2.0	8.0	13.7	57.3	19.0	3.83	0.89	70.85
8.	Unhygienic work environment	1.7	11.5	26.8	46.6	13.4	3.59	0.92	64.63
9.	Safety issue.	1.5	7.3	12.4	53.4	25.4	3.94	0.89	73.48
10.	Insufficient equipment	2.4	11.2	25.9	42.0	18.5	3.63	0.99	65.73
11.	Transfers	2.9	8.3	21.2	49	18.5	3.72	0.96	67.99
12.	Relations with your department members	2.4	5.9	8.3	62.7	20.7	3.93	0.86	73.35
13.	Relations with other departments.	2.4	6.3	13.4	57.8	20.0	3.87	0.89	71.65

Source: Primary data

According to the data, it can be observed that the percentage score is as high as 73.48% among the respondents towards safety issues while nearly 59.5% of the respondents felt unhappy at attending the problem of unbalanced skills and responsibilities at work by management. On the whole, they expressed satisfaction and on another occasion higher levels of satisfaction.

The weighted mean oscillates in the range 3.38 to 3.94. The weighted mean for conflict in roles is second from last. The grievances about relations within the department and with other department are markedly present in the organization.

The graphical representation is provided in bar chart



III. DISSCUSSIONS:

This paper is an attempt to understand the behaviour of trade unions in maintaining their relations with the employees and management during the technological advancement or expansions of their units. As the coin has both the sides similarly trade unions have two approaches, one approach is to cooperate with the management or else they have to be with the employees.

Reasons for resistance by the employee are:

1. Resistance To Learn New Skill:

The respondents were recruited with certain qualifications and the necessary skills learned to operate the Existing Technology. The Organisation has earned profits and saved money within the internal process. The technology change requires advance automation skills. The age and stage in the life cycle interfered with the willingness to change; therefore some resistance is there to learn a new skill.

2. Disturbance From Status Quo Or Refusal To Come Out Of Comfort Zone:

The employees are accustomed to the policies, practices, rules and regulations in the Steel manufacturing units . Any change will result in disturbance of the existing culture; therefore some resistance against status quo exists.

3. No Incentives To Work In New Or Both Areas Where There Is Technological Change:

The employees feel there are no special incentives for working in the new plant. The employees are getting the same performance incentives and salary for working in the new automated area.

4. In New Areas Manpower Decreased And The Workload Increased:

The New Technology and areas where Modernization or Upgradation has taken place the level of automation was advanced. The manpower requirement at such areas, especially Expansion area and area were Modernized technology is in operation is lower in comparison with other areas.

The Employees Complain That Workload Is More In The Expansion Area And Modernized Areas Of Technology.

1. **Manning Area Is Large In The New Technology Area:** The area for manning work in the New Area is larger in meters. The distance between the panel board operations is larger and any attendance requires moving physically.
2. **Malfunctioning Of Machinery:** Any interruption due to malfunctioning of machinery is taking more time for finding fault in a New Area. Further, in case of any small technical snag, the complete operation of the machinery stops.

3.Willingness Letters: The Organization has circulated a notice to all employees to give consent to work in the Areas of New or Modernized Technology. The Existing Area employees did not give willing letters, Only one percent of the workforce has given wiling letter to be transferred to the New Area.

4. Responsibility: The responsibility towards the new automated machinery is more, further the employees have more responsibilities in loss of production due to computer related or automated problems. Previously the responsibility is distributed among more number of human resources.

5. Risk: There is a feeling of risk to operate in the New Technology Area or Modernized Area of Technology. The automated or integrated manufacturing is difficult to stop immediately and the risk of an accident carries over a larger area.

Role Played By Trade Unions:

Trade unions work together with the employees and the management for a common purpose in a cooperative spirit avoiding conflicting situations. Hence forth they are considered to be a vital link between management and the employees and the above problems were sorted out by trade unions in convincing the employee to accept the change in the organization.

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LABOUR PRODUCTIVITY AND ECONOMIC GROWTH IN PUBLIC ORGANIZATION

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ABSTRACT :

Human capital , Physical capital and efficiency generally acts as yardstick for measuring the economic growth of an organization. However human and physical capital are put together used for producing output which as known as productivity. Which is particular important for developing countries. In fact labour productivity plays an important role for the success of any type of organization. This paper provides guidelines to improve labour productivity, efficient utilizing of human capital and impact of training and development on performance and rate productivity. Hence forth the results reveal that there is significant relationship between the employee training and performance. In fact the employee involvement and commitment levels of employees may lead to economic development of the organization.

Key Words: Labour Productivity, Economic Growth.

Introduction:

Human Resource Management is assuming more critical role today due to increase in technology and knowledge base industries and as a result of global competition. Its major accomplishment is aligning individual goals and objectives with corporate goals and objectives. Strategic HRM focuses on actions that differentiate the organization from its competitors and aims to make long-term impact on the success of organization.

Organizational objectives can be achieved by individuals and team efforts. The organizational objectives can be achieved by effective utilization of human resources, by ensuring to recruit and retain personnel in the organization and by developing personnel to Coda, Cesar, A.M.R.V.C., Bido, D.S, and Louffat, E.(2009) defined HRM functions as all the activities and processes involved in the management and development of people in an organization from the period of hiring or acquisition and retention to the point of exit. The functions of HRM include resourcing and retention, compensation and rewards, training and development, performance appraisal, benefits and relations with an employee.

According to Buhler(2002) the functions like recruitment and selection, human resource development, compensation and benefits and safety and health which are used as a key to the management of human resource and for the effective improvement of performance in the organization.

OBJECTIVES :

1. To study the role of training and development on Labour productivity in public organizations .
2. To investigate whether training and development has impact on employees' performance and productivity in public organizations.
3. To study and analyze the factors influencing Labour Productivity.

HYPOTHESIS:

1. Ho1: Training and development has no influence on labour productivity in case of public organization.

   Ho2: Training and development has influence on labour productivity in case of public organization .
2. Ho1: Labour productivity has no influence on economic development of public organization
   Ho2: Labour productivity has influence on economic development of public organization.

REVIEW OF LITERATURE:

Humphries and Dyer (2001) concluded that organizations provide training or development programs to their employees so that they can align and prepare themselves for present and future organizational needs. Organizations spend an enormous amount of time and money on training in order to assist employee's learning of job-related competencies (Cascio,1991; Noe,2006). Becker(1964) concluded that the organization should continuously provide with new skills for the development of the organization and training the employee should be continuous.

Davidove and Schroeder (1992), Huselid, M.A.(1995) concluded that the revenue cycle is driven by knowledge, innovation, and creativity – all of which come from employees. Employers must actively manage these assets by investing in training. Either training evaluation is carried out in a very casual way, or it does not exist at all in many organizations and the lack of this information makes it impossible either to prove the value of training or to find reasons for its existence.

Rolf & Pareek (2002) outlines some of the consequences of inadequate training as poor planning skills and decision making, which in turn will repay the organization's profit and success. Other symptoms of inadequate training include overtime, high labor turnover, and poor employee morale. Finally by utilizing on the job training and off training methods employees are in the position to get the necessary skills/knowledge which will make them be more effective and efficient in the organization.

Berman et al. (2001) argues that training effectiveness is constrained because of inadequate transfer of learning from the training environment to workplace environment and they also criticize the current belief that effective training is necessary. The argument is that mere training is not sufficient in improving performance. This line of argument emphasizes that no discussion on the effectiveness of training would be complete without considering the role of human resource utilization. However, most training attempts to improve the organization and process performance by addressing only one level (the job level) and only one dimension of the job level (skills and knowledge). As a result, the training has no significant long-term, training money is wasted, and trainees are frustrated and confused. If inappropriate training method is used then the results will not play any role in the business organization, which will be a waste of resources.

Thomas (1992) stated that though several approaches are used to evaluate training program in the organization but there is no one best way of evaluation, just as there is no best way to train employees. Training results can be best identified mainly on the organizational performance which is triggered by employee performance. This involves the comparison of statistical indicators of performance before and after training took place. The measurement indicators include sales volume and revenue, levels of customer complaints, quality and quantity variables in cost reduction, productivity ratios, cost ratios in terms of stock level and debt collection periods and industrial relations (labor turnover rates; absenteeism, grievances).

The human resources are the most vital resources for any organization. It is responsible for each and every decision were taken, each and every work done and each and every result. Compensation is the remuneration received by an employee in return for his/her contribution to the organization. It is an organized practice that involves balancing the work-employee relation by providing monetary and non -monetary rewards to employees. Compensation management is an integral part of human resources management which helps in motivating the employees and improving organizational effectiveness.

Colville and Millner (2011) noticed that organizations are not recognizing the change caused due to the implementation of performance management and they are trying to implement the change just by seeing other organizations are doing. Even they explained the change in performance management system with the help of past and future changes. The past changes include competencies inclusion, more regular meetings/ feedback, enhancing pay links, simplification, links performance management to strategic business goals. Whereas future change is due to enhancing link with pay, streamlining of performance with management process, providing more coaching/ development for appraisers, review/ improve rating process, more regular feedbacks.

Sillup et al.(2010) suggested that every organization should consider performance appraisal as the main priority. Treat this performance appraisal as one of the main organizational objectives and integral part of their jobs rather than duty of measuring the performance

Devaraj and Kohli (2003) argued that adaptation of technology also changes the routines, business processes, and work habits. So, HR professionals need to have the competencies of changes management. HR managers need also new competencies on technology and more knowledge on facilities of technology before they had in the past. As a result, applications of technology in the HR functions, affect HR practices and make HR professionals develop their level of performance.

Murnane, Levy and Autor (1999) also studied how the lower-skilled jobs in check processing were redesigned with the introduction of image processing technology. The outcomes for these jobs were more complex, in that instance of both increases and decreases in skill and pay occurred. The transformation required a structured training program and worker buy-in to be successful.

Opkara (2004) and Samad (2007) concluded that if the workforce is satisfied with their job as well as the organizational environment including its colleagues, compensation, and leadership they will be more committed to their organization as compared to when they are not satisfied. The importance of these two areas cannot be overlooked because they are the key factors that influence employee’s turnover, employee’s performance, and their productivity. The satisfied and committed workforce is usually are contributor and performer towards enhancing organizational productivity. On the basis of above discussion, it is evident that employee compensation has some positive impact on the employee’s job satisfaction and organizational commitment. Organizations that have better compensation management system put a very positive impact on their employees.

PRESENT STUDY :

The study is to analyze the existing practices relating to labour productivity and economic development of the employees , a reputed public organization with business interests in Steel . The present survey was conducted in a Public sector Organization. It covers mostly the executives , workers and staff. The study covers various aspects like Building human capacities, Rewards and Compensation , Employee Involvement and Commitment and Performance Management. The methodology of selecting the sample respondents can be explained in three stages.

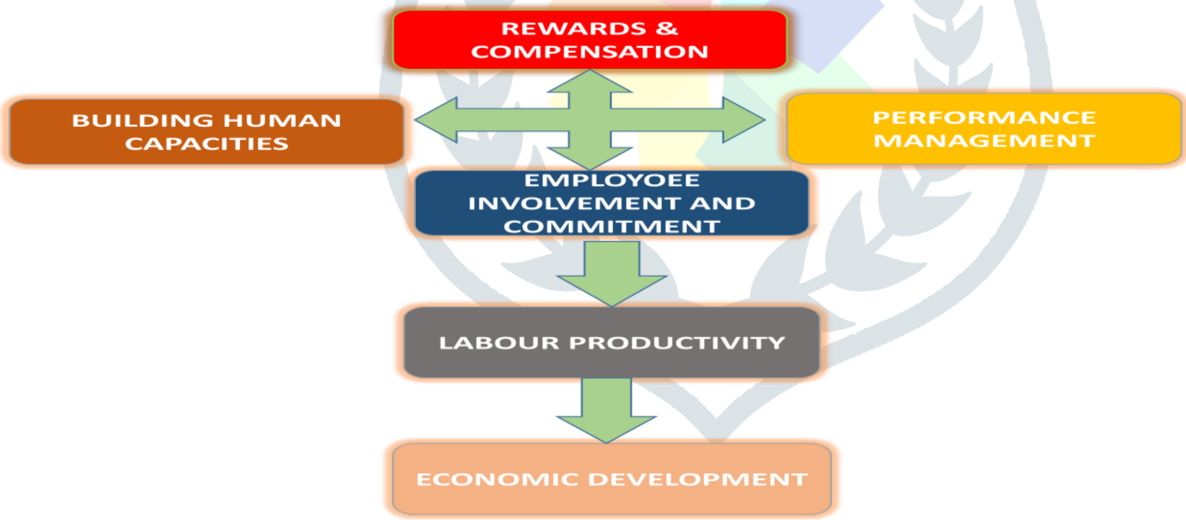
Out of the total population of 18,153 regular employees' of the selected organization, only 410 employees are selected as per Jeff Watson formulae (2001). In the next stage, respondents are selected conveniently (whoever is available and can spare time to fill up the questionnaire).

Table.No.1

Distribution of sample respondents, according to Department and Area of Technology

SL.NO	Type Of Department	Total
1	Works	365
2	Non-Works	45
	Total	410

The focus of the study is on the perceptions of sample respondents selected from works and non-works departments.



Building Human Capacities

Public Organizations in general, strike hard for building human capacities by providing training facilities for improving the skills of employees. Training programs are meant for not only to develop the individual skills but also the organizational abilities. Therefore, building human capacities is said to be an important human resource practice for any organization.

Data collected on nine identified items relating to training and development activities and the respondent's opinions are calculated and presented in table no.2

Table No.2

Building Human Capacities and percentage distribution of respondents' Opinions

S.No	Items	HD	D	CS	S	HS	Mean	SD	PS
1.	The training and development facilities provided.	1.7	4.6	5.9	60.2	27.6	4.07	0.82	76.83
2.	Content of the programmes	1.7	4.4	9.8	66.8	17.3	3.94	0.77	73.41
3.	The trainers provided	2.2	3.4	13.9	59.3	21.2	3.94	0.83	73.48
4.	Quality of the training and development programmes.	1.0	2.9	13.4	61.7	21	3.99	0.74	74.70
5.	Relevance of the programmes to job requirement.	1.7	7.6	12.4	54.6	23.7	3.91	0.90	72.74
6.	Learning environment in the organization.	1.2	7.3	9.8	63.2	18.5	3.90	0.82	72.62
7.	Regularity of the programme	2.2	8.0	11.2	54.9	23.7	3.90	0.93	72.44
8.	Programmes for furthering our career.	1.7	8.3	11.5	61.7	16.8	3.84	0.86	70.91
9.	Improvement in skills after the programmes.	1.2	8.8	13.9	57.3	18.8	3.84	0.87	70.91

Source: Primary data

It can be understood from the above table.2, that the minimum percentage score is 70.99% and the maximum is 76.83% indicating that, overall a minimum of 71% of respondents are satisfied with the training programs arranged in the organization. About 76.83% of the respondents expressed satisfaction with the training and development facilities provided while it is only 71% expressed satisfaction on the positive impact of training programs. However, in general, the mean value, standard deviation and the highest percentage score value indicates that the employee satisfaction on the training facilities and program are very much satisfactory and help them to build their skills.

2. Performance Management System

The Performance Management Mechanism is said to be the backbone of an organization. It is a process by which the performance of employees is measured and effective future plans can be prepared by the management. A good performance management system, acceptable for both employees and employers can create wonders and lay good foundation leading to sustainability of the organization.

Table No.3.

Building Human Capacities and percentage distribution of respondents' Opinions

Percentage distribution of Respondents' Opinions on Items of Performance Management System

S.No	Items	HD	D	CS	S	HS	Mean	SD	PS
1.	The statements in the appraisal.	2.7	3.4	12.4	63.4	18.0	3.91	0.82	72.68
2.	The targets set for your performance.	1.0	3.9	12.7	61.2	21.2	3.98	0.76	74.45
3.	The method of rating of your performance.	2.0	5.4	21.5	47.8	23.4	3.85	0.91	71.34
4.	The performance rating shared with you.	2.0	7.8	22.4	48.8	19.0	3.75	0.92	68.78
5.	The performance rating results and its uses.	1.5	6.8	24.9	47.8	19.0	3.76	0.89	69.02
6.	The training provided based on performance appraisal.	1.5	8.0	21.7	52.9	15.9	3.74	0.87	68.41
7.	The reporting and reviewing system in the performance appraisal.	1.5	5.1	23.4	54.6	15.4	3.77	0.82	69.33
8.	Timing of the appraisal system.	2.0	3.9	18.8	58.3	17.1	3.85	0.82	71.16

Source: Primary data

It can be seen from the table that the employees are better aware of the targets set for good performance as 74.45% of respondents expressed satisfaction towards the target set by the organization. They opined that they are pretty well aware of the statements on appraisal (72.68%), targets (74.5%), performance method rating(71.34%), performance rating sharing (68.78%) results and its uses (69.02%), and training based on results of performance appraisal (68.41%) and reporting and reviewing (69.33%).

3.Employee Involvement and Commitment

Employee Engagement is a critical component without which the organization can't claim success. Employee's of any organization particularly established units should always feel proud to be associated with the organization. They should always speak positively about the career prospects, growth participation in decision making etc. Data relating to these aspects are analyzed.

Table No.4

Building Human Capacities and percentage distribution of respondents' Opinions

Percentage of Respondents' Opinions on Items of Employee Involvement and Commitment

S.No	Items	HD	D	CS	S	HS	Mean	SD	PS
1.	Your pride in being an employee of this organization.	2.4	1.0	3.2	49.3	44.1	4.32	0.80	82.93
2.	Utilization of opportunities provided by the organization to improve your career.	2.2	5.1	10.2	48.3	34.1	4.07	0.92	76.77
3.	Comparing with other similar organization career opportunities provided by this organization.	2.9	4.6	12.2	54.1	26.1	3.96	0.91	73.96
4.	My involvement in the job allotted to me.	2.2	2.7	8.8	60.7	25.6	4.05	0.80	76.22

Source: Primary data

All the four elements incorporated in the HR dimension of employee involvement and commitment has recorded a minimum of 73.96% positive response by the respondents. The Percentage Score with respect to the statement "Your pride in being an employee of this organization" has the highest acceptance with 82.93%.

4. Rewards and Compensation

Organizations whether Public or Private Sector resort to paying Rewards either in suitable Monetary or Non Monetary form as these two motivate the employee's to work more efficiently and help the organization.

Salary according to qualification's, experience, skill and other tangible and intangible benefits are listed for an intensive analysis of the Rewards and Compensation Practice.

Table No.5.

Rewards and Compensation Practices and percentage distribution of Respondents' Opinions

S.No	Items	HD	D	CS	S	HS	Mean	SD	PS
1.	Salary in terms of qualification .	2.7	10	6.6	55.6	25.1	3.90	0.98	72.62
2.	Salary in terms of experience.	3.2	12.4	7.6	58	18.8	3.77	1.00	69.21
3.	Salary in term of responsibilities.	3.2	12.9	10.5	53.7	19.8	3.74	1.02	68.48
4.	Salary and its linkage to workload.	3.7	14.4	15.4	50.7	15.9	3.61	1.03	65.18
5.	Incentives for efficiency and workload.	6.8	14.6	16.1	49.3	13.2	3.47	1.10	61.83
6.	Methods of wage fixation.	4.6	14.4	21.7	47.1	12.2	3.48	1.03	61.95
7.	Bonus calculation practice.	7.6	12.7	21.0	48.0	10.7	3.42	1.08	60.43
8.	Appreciation provided for good work.	7.8	16.6	16.6	49.3	9.8	3.37	1.11	59.15

Source: Primary data

According to the data analyzed in table no.5, the percentage score is the minimum for the practice of appreciating good work in the plant (59.15%), While it is as high as 73% for salary according to qualifications. The weighted means also range between 3.37 and 3.90, a maximum number of employee's have expressed satisfaction towards the salary and other monetary benefits and expressed unhappiness for not appreciating good work. The means for a method of wage fixation and bonus calculation is 3.48 and 3.42 respectively.

FINDING OF THE STUDY:

- It is identified that there is good Involvement and Commitment among the employee's towards their organization. Employee's have an average opinion on the utilization of opportunities provided by the organization to improve their career and regarding involvement in the job allotted to them. When compared to the career opportunities provided by the organizations, the employees are slightly dissatisfied as they felt that the career opportunities provided by other organizations are better.
- Ho2: Training and development has influence on labour productivity.

Training and development has influence on labour productivity because the analyses has pointed out that about 76.83% of the respondents expressed satisfaction with the training and development facilities provided while it is only 71% expressed satisfaction on the positive impact of training programs. However, in general, the mean value, standard deviation and the highest percentage score value indicates that the employee satisfaction on the training facilities and program are very much satisfactory and help them to build their skills.

- It is concluded that majority of respondents are satisfied in setting targets for performance and the statements in the appraisal are systematic. When it comes to the method of rating and timing of the appraisal system, the employee's are of average opinion. The majority of respondent are of the opinion that performance rating results and its uses, performance ratings shared with them and training provided based on Performance Appraisal were the elements which dissatisfies them in the organization.
- Ho2: Labour productivity has no influence on economic development of organization.

Employee Engagement is a critical component without which the organization can't claim success. Employee's of any organization particularly established units should always feel proud to be associated with the organization. They should always speak positively about the career prospects, growth participation in decision making etc. All the four elements incorporated in the HR dimension of employee involvement and commitment has recorded a minimum of 73.96% positive response by the respondents.

SUGGESTIONS:

- Performance Management System should be improved by evaluating with the open door discussions about the employee's advancement and training needs. This will help the employee work towards increasing his skill and knowledge. Then ensure that the employee performance evaluations are directly linked to the compensations.
- Frequent training programs on oral communications, business awareness programs, responsibility and initiative, team building, problems solving and IT competency should be conducted for developing the non-technical skills of the employees.
- Reward system in the plant should modify by introducing effective corporate recognition awards and even some bonus programs like new idea bonus program where the company offers a fixed percentage for developing a process or strategic improvement that is expected to improve profits in the future. Quality Circles may be extended by awarding a certain percentage of saving to the organization to the team or the individual.

CONCLUSION :

The study reveals that labour productivity plays an important role in any public organization as employees are only responsible from start to end process of any business activity, the more the labour productivity is more the productivity of the organization and vice-verse. It is the evident that the labour productivity depends on the quality of building human capacities, level of commitment and involvement possessed by the employees. From the analysis it is the evident that the training programs in the public organization was made attractive with foreign trips for training at the place of the supplier of machinery. The willing employees were sent for overseas training on new machinery being installed.

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Customer Perceptions on E-Banking services: A Comparative study of select public and Private sector banks in Visakhapatnam city

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Abstract

Purpose – This paper aims to know the perceptions of the respondents on various technological factors which influence E-Banking like ATM services, Internet banking services, telephone banking services and Mobile banking services and their implications on banking operations of both public and private sector banks.

Methodology – The study is based on both primary and secondary data collected from both ICICI and SBI banks. In the case of primary data, a total of 500 questionnaires are administered among e-banking customers of SBI and ICICI, Visakhapatnam. ANOVA, the t-test is used to analyze the data.

Findings – In case of a number of transactions per month, quality of currency notes and the location ATMs, the respondents are very much satisfied; Around 20.0 percent of respondents are neither satisfied nor dissatisfied (neutral). The reasons for dissatisfaction or neutral may be a lack of awareness about Internet banking, illiteracy, lack of enough experience in using or no need to use Internet banking and the inability to make use of technology. The respondents from ICICI are more satisfied than SBI in mobile banking and reward points. Also, there are significant differences are found in the usage of technological services in SBI and ICICI

Originality/value – This study examines the perceptions of technological services of E-Banking which are important to know to prove better services in the banking sector.

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Keywords – Technological services, E-Banking, Mobile Banking, Internet Banking, ATM services

Paper Type – Empirical paper

INTRODUCTION

Enterprises face the ever-changing competitive environment with the rapid globalization of the Indian economy. Enterprises are implementing strategies aimed at creating a competitive edge in terms of product differentiation, quality , speed, service , and cost based on increased customer value. In the post-liberalization period, with Indian economy deregulation, the financial services sector is witnessing a complete metamorphosis and technology playing a very important role in that process. India has been one of the fastest adopters of information technology in all sectors of the economy over the past decade; there is one among this banking sector , particularly because of its ability to provide organizations around the world with a software solution. Information technology offers excellent support to India's banking to most build technology in the areas of mobile banking, telephone banking , online banking, and electronic commerce. It technology is also helping to expand primarily through mergers and acquisitions that communications and technology can achieve. Technology plays a major role in increasing customer service effectiveness, courtesy, and speed. India is also aiming for digitalization. So an ever-increasing importance for e-banking. It's said it is the E-Banking era.

It is more effective to use the Internet than to use other delivery channels as banks are searching for an expanded consumer base. Different categories of marketing are successful in reaching consumers in various demographic groups and should reach the consumer base. Banks are not in a position to look to their competitors towards their customers. Interestingly, delivery online will offer the best suited customized services that every customer needs. Mass customization effectively takes place through Online Banking. Customization is a method that can reduce costs and resources compared to daily time. Digital banking means less staff members compared to other banking networks, lower demands on resources. Online banking offers an easy

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and convenient way to handle finance that is conveniently available 24 hours a day , seven days a week. Moreover the information is up-to - date.

While E-Banking offers many advantages, the major concern with E-Banking is security. Many of the customers don't trust the E-Banking services because they think it's a public network because lacks protection and privacy. Some security issues are hacking, sharing personal details with other banks and agencies, theft of information that is very confidential, etc. Basically, the truth is that the banks offer best practices in defense. There is only one thing that is less information on the security concerns of the E-Banking services. They 're identification and authentication, firewalls and encryption. Throughout this process, the online address will take internet address, then request login-id and password to authorize / access the user to his / her account, then a message will be encrypted between customers and online banks, so that a hacker would not be able to read the message even if the message is intercepted over the internet.

Internet banking is offering lot of services with a single mouse click. Still some of the customers will go with traditional banking only because of security and privacy. But there are many advantages when the customer shifts from the traditional method of banking to e-banking. The major advantages are convenience, availability, transaction speed, efficiency, effectiveness, cheaper alternative.

Because of their advantages over conventional banking, e-banking is growing. The growth of e-banking is possible primarily through internet penetration. Internet usage in India is experiencing tremendous growth. The percentage of internet usage in the year 2000 is only 0.5 per cent of the total population. By 2014, this has increased to 18 per cent. And it is expected to cross 34.8 per cent by 2016. According to the NASSCOM report, Internet users in India are estimated to be 730 million by 2020 and the Internet users in Rural India will be 280 million by 2018.

Theoretical Background

Electronic banking is a high-order system , consisting of many channels of distribution. E-banking isn't just a tool for banking; it's an internet-based network that uses high-speed internet

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access for continuous services. The most general form of electronic banking, however, is Online banking, that is Internet banking. One may explain the word electronic banking in several ways. Electronic banking is a means of banking that can provide banking information of any kind through a computer / telephone / mobile / other media. We may assume that, at higher rates, customers can access their bank accounts to transact banking services. We can also claim that in advanced stage, it is called internet / online banking as it offers various services such as accessing account information, transfer of funds, exchanging transactions, online purchasing of financial products with a single mouse click through 24 X 7. Within the literature the terms Online banking and online banking are sometimes used to refer to the same things. The Internet is the principal platform for online banking nowadays. Basically, electronic banking can be done across the mediums such as internet , telephone, and mobile personal computers. It is important to note, Daniel (1999), that Internet Banking is different from PC Home Banking. The obvious difference is that Internet Banking is browser-based, whereas Desktop Home Banking allows customers to install a Bank-assigned software program on their Computer. In addition, PC Home Banking allows customers to do their banking services only on PCs which have the assigned software package installed, such as Intuit, Inc.'s Quicken and Microsoft Corp. 's Money.

Many researchers have done research on E-Banking. So, different researchers defined in different ways. But, the common thought of the authors is, internet offers many services through online. Many of the customers access these with smart devices (Suriya, Mahalakshmi & karthik, 2012).

Karjaluoto et al. (2002a) indicated that the Internet, accessed via personal computer, is the principal electronic distribution platform in banking. Telephone banking, TV-based banking, and regulated network are not playing such a major role in today 's banking. In 2002 Karjaluoto predicted that with mobile devices the banking with personal computers will be transformed into wireless. Consequently, as Wah (1999) points out, electronic banking should not always be on a computer screen. It can be on a cell phone's tiny computer, or some other wireless unit. Customers can check their bank account balances and transaction history with these wireless apps, initiate purchases or orders to buy and sell securities and even send an e-mail to their banks.

Many developed and developing countries have agreed that E-Banking is a revolution in

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banking sector and it plays a significant role in banking industry (Daniel, 1999; Jayawardhena and Foley, 2000). The customers who use internet banking for financial services will be more benefited. They can have numerous different services through internet banking. Daniel estimated that internet banking is a major threat for traditional banking. He also, think that in near future the branch banking may be disappear.

There's also been some discussion about traditional banks disappearing. The Internet banking future is looking really good. This would be important to see what happens to conventional banks with branches as Internet banking becomes more common. Wah (1999) argues that, in the future, traditional banks will not disappear. Instead, the new technologies would position them in banking services to a new level. She believes that this modern technology will help even conventional banks and will be able to provide for their clients in a more effective, profitable and enjoyable way. She also argues that customers find Internet banking playful. However, there is relatively little evidence about the playfulness of Internet banking.

Various forms of E-Banking:

Intense pressure has forced banks to reconsider their way of doing business. To make them more competitive and cost-effective, they must redesign and develop their goods and services. The banking activities can be performed here by means of different technological instruments. For automation, different banking operations can be accessed at the door-step at reduced cost. More and more consumers are using online banking products and services, and since a bigger segment of banks would be made up of computer-educated customers in the future, banks will be able to provide these consumer products and services that allow them to do their banking electronically. If they fail to do this they will, simply, not survive.

Automated Teller Machine (ATM): The ATM was launched in mid-1970 as one of the first electronic banking devices. It offered consumers the opportunity to withdraw or deposit cash, review account balances, move money and details on review statements. This took some time before consumers became acquainted with the ATM, as with any modern product, and began to embrace it as an acceptable means of doing their banking.

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Electronic Funds Transfer (EFT): Another electronic banking device that allows the movement of funds from any branch of a bank to any other branch of any bank in the shortest time possible.

Telephone banking: Another facility that the banks have. A customer will ring out a bank and request a phone call for some operation. It's fast to become one of the most successful items, though. From the ease of their own home or office, the user will perform a variety of transactions; however, from wherever they have access to the internet. The customer can check information on balances and statements, transfer funds from one account to another and pay certain bills and other statements or books of cheques.

Mobile Computer Banking: Transactions using a personal computer and high speed internet access can be performed in this form of banking. Any banking process can be reached here via a computer without having to visit the bank branch. Whichever service the customer can use from home is accessible in the house. They also have the ability to download information in some cases, and process it in their own software for financial management.

Home Banking: Under home banking, the client is served at his residence and a variety of regular transactions do not allow the customer to enter the bank's premises. Any banking service the consumer wants can do from home. A client, for example, can access all financial details from home; he / she can contact the bank by phone etc. If the customer needs to finish the transaction, he wishes to see his account to have a receipt from his account, he may need to use a Laptop. The home banking service can be narrowly split into two categories, one without the use of the information system and the other with the IT. If a client calls the bank o the phone no special equipment is needed and the telebanking service is given.

Internet Banking: Internet banking is an improvement over PC banking. There are several differences between PC banking and internet banking. The major difference in these two is high accessibility with internet banking. The bank can set up their system, much the same as PC banking. It is accessible to anyone using the internet, not just the bank’s customers. One of the

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main reasons electronic banking products were introduced was that the banks were losing their market share. Electronic banking has assisted the banks in retaining their customers and their market share by reducing costs in many areas, especially those associated with providing service to the customer and to enhance their image. Most banks are trying to get customers to use electronic banking because it saves them money. If a customer comes into a branch to perform a routine task such as checking a balance or withdrawing funds, it passes on a cost to the bank. The cost of providing these routine transactions in a traditional branch environment is far greater than providing the same service by electronic means.

E-banking services

Bill payment service: The banks provide the various payment operations. These diverge from bank to bank. The banks may have links with numerous other firms to provide such services in this sense. Which include payment of different bills such as power, telephone bills, mobile bills, train tickets, travel tickets, insurance premiums etc. to pay for these bills, a simple one-time biller register can be made. Payments online can be made once certain instructions have been set. It is quick to pay the bills, it takes less time, it is more surprisingly true that the banks are reluctant to charge for certain services.

Funds transfer: Any amount can be moved from one account to another from the same bank or from some other. Customers in India can transfer money to anywhere. It is important to note the account number of Payee, his bank and the branch after signing in to the account. The movement of funds will then be carried out in a fraction of seconds with very small fees. Nevertheless, in conventional system, it can take a long time to pass money and you need to visit the branch. In ICICI's terms , the main common resources of them are electronic bill payments and fund transfer facilities.

Credit card customers: For various reasons, credit card users can use the online services. They can apply for a loan with online credit card payment history, they can ask to increase the credit limit electronically, they can pay any bill that requires credit card charge, they can ask for any fee, they can interrupt the payment, they can obstruct the fee, they can complain about any unwanted momentum through internet.

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Railway pass: Indian railways have renewals of railway passes with ICICI branch. Anyone can register online for or upgrade their local train passes. The pass is delivered at the customer's doorstep. But the facility is being provided by the bank in the small cities. The bank authorities say, they will also spread the facility to the other cities. The service is currently available in Pune, Thane, Mumbai, Surat, Nasik. For this transaction, the ICICI bank charges a minimum amount of Rs. 10 + 12.24 per cent of service tax.

Investing through Internet Banking: A customer can open a savings bank account, a fixed deposit, a current account, demat accounting. Any of the above accounts can be opened, and purchases can be made electronically. Digital is very useful in making stock market trades simple. Today buyers with interlinked demand account and financial account are able to exchange conveniently in the equity market and the balance will be debited directly from their respective bank accounts and the shares will be credited to their demand account.

Recharging a prepaid phone: Every time the balance in the prepaid mobile is over we used to run to the shop. But nowadays the prepaid accounts are easy to reload. Only supplement the prepaid mobile cards by logging in to the Internet banking network. Through simply choosing the name of the operator, entering the telephone number and the recharge period, the phone is back in service within minutes.

Shopping at your fingertips: leading banks have ties to various shopping websites such as flipkart, Amazon etc. through online shopping, a consumer can find a wide range of items at a reasonable price, at a convenient time. The customer can browse through online, compare and pay the money. Because of their 24 X 7 availability and wherever online business and online transactions are becoming very common. We may claim that internet banking is not only 'healthy to have,' but 'need to have.' Online banking is essential in many developed and developing countries, as it is the choice and the cheapest way of delivering services.

Both the financial institutions and consumers benefit from e-banking. A commercial bank should sell the best goods, with easy service, full security features and should be up-to - date to succeed in this competitive environment. It is important to know the effect of online banking as regards technical infrastructure in order to provide the best infrastructure. The researcher therefore

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attempted to assess the customer's understanding of technical factors that drive bank customers towards e-banking. Following the aforementioned debate, the hypothesis proposed is

H_{01}: There is no significant difference between the level of usage of different banking facilities like ATM, Mobile banking, PC Banking, Tele Banking of SBI and ICICI.

H_{02}: There is no significant difference between the nature of e-banking services like ATM/Debit card, credit card, mobile banking, online banking, and Telebanking services and their overall e-banking services.

Methodology

The study is based on both primary and secondary data. The major objective of this study is to know the perceptions of technological services of E-Banking in public and private sector banks. Hence, the primary data has been collected from the customers who use e-banking services of SBI and ICICI, Visakhapatnam. In the case of primary data, a total of 500 questionnaires are administered among e-banking customers of SBI and ICICI, Visakhapatnam. The secondary data is collected from Articles, Journals, Various websites and annual reports of State Bank of India and ICICI.

Sampling and Statistical Techniques

This study has used a convenience sampling technique to collect primary data. Convenience sampling is a statistical method of drawing representative data by selecting people because of the ease of their volunteering or selecting units because of their availability or easy access. There are both advantages and disadvantages with convenience sampling. The major advantage with convenience sampling is the free availability and quick response in the collection of data. The major drawback is less accuracy. Sometimes, it may not represent the population and it might be biased. Under this study, the researcher directly meets the customers according to their convenience and collects the data. Thus in this study, there is a finite number of population and their convenience is known.

According to the records, there are 44,800 and 42,160 customers using net banking facility at main branches of SBI and ICICI respectively. The sample according to the sample determining formula at 95 percent of confidence level and 6.2 percent of permissible error is

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248.46 for SBI and 248.38 for ICICI. So, 250 customers each from SBI and ICICI (rounding to the nearest ten) is the sample. Data analysis is done using SPSS (Statistical Package for Social Science) version 20.0. The data has been analyzed with the help of required statistical tools such as descriptive statistics, frequency tables, percentage, ANOVA, t-tests and logistic regression analysis.

Reliability and Validity

The reliability and validity of cronbach's alpha is verified. Extensive literature reviewed was done on the basis of defining a total of 4 parameters with 17 parameters with a graded likert scale of 5. Then, before being finalised, a small group of respondents was pre-tested to maximize the reliability and validity of the questionnaire. The reticent questions were removed based on the feedback and the results of the feedback. The alpha value of cronbach greater than 0.70 usually reflects the validity of the measure, and is statistically appropriate.

S.No	Dimension	No. of items	Cronbach's Alpha value
1	ATM services	4	0.89
2	Internet banking services	5	0.91
3	Telephone banking services	4	0.81
4	Mobile banking services	4	0.83

Discussions and Implications

Perceptions of the respondents on technological services like ATM services, online banking services, telephone banking services and mobile banking services are analyzed and shown below.

1. Satisfaction of customer on various ATM Services

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In general, the customers are satisfied with the functioning of ATMs except in the case machine break-down. As far as promptness in delivering the card to customers, banks are very efficient. Banks generally choose a convenient and centrally located area for their ATMs. A number of transactions per month are restricted by all the banks. The quality of currency notes is also good in general.

Table-1: Perceptions on ATM services

ATM services	Name of the Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied	Total
Promptness of card delivery	SBI	39 (15.6)	168 (67.2)	28 (11.2)	10 (4.0)	5 (2.0)	250 (100)
	ICICI	112 (44.8)	105 (42.0)	24 (9.6)	7 (2.8)	2 (0.8)	250 (100)
Number of transactions	SBI	24 (9.6)	177 (70.8)	09 (7.6)	28 (11.2)	12 (4.8)	250 (100)
	ICICI	33 (13.2)	160 (64.0)	24 (9.6)	32 (12.8)	1 (0.4)	250 (100)
Quality of currency notes	SBI	30 (12)	160 (64)	51 (20.4)	9 (3.4)	--	250 (100)
	ICICI	50 (20.0)	108 (43.2)	49 (19.6)	31 (12.4)	12 (4.8)	250 (100)
Conveniently located	SBI	48 (19.2)	136 (54.4)	50 (20.0)	12 (4.8)	4 (1.6)	250 (100)
	ICICI	51 (20.4)	116 (46.4)	40 (16.0)	26 (10.4)	17 (6.8)	250 (100)

Source: Primary data, Note: Figures in parentheses indicates the percentage

The above table shows that all the respondents of SBI and ICICI are very much satisfied with the ATM services. The majority of respondents of both the banks are either extremely satisfied or satisfied. They account for more than 80.0 percent in the case of promptness of delivering the ATM card to them. 70.0 to 80.0 percent of respondents are either extremely satisfied or satisfied in the case of a number of transactions per month, quality of currency notes and the location ATMs as shown in the above table.

2. Satisfaction of customers on various Internet banking services

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Internet banking services are very useful to customers and are having many advantages when compared with traditional banking such as availability of account information, e-payments, fund transfers, installment payments, e-statements, etc. at any time during 24 hours according to the convenience of the customer.

Table-2: Perceptions on Net Banking services

Net Banking	Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied	Total
Account information & Balance inquiry	SBI	58 (23.6)	107 (42.8)	59 (23.6)	21 (8.4)	5 (2.0)	250 (100)
	ICICI	84 (33.6)	125 (50.0)	30 (12.0)	9 (3.6)	2 (0.8)	250 (100)
E-payments	SBI	47 (18.8)	118 (47.2)	68 (27.2)	15 (6.0)	2 (0.8)	250 (100)
	ICICI	57 (22.8)	139 (55.6)	43 (17.2)	09 (12.8)	2 (0.8)	250 (100)
Fund transfers	SBI	50 (20.0)	160 (64)	32 (12.8)	6 (2.4)	2 (0.8)	250 (100)
	ICICI	43 (17.2)	120 (48.0)	51 (20.4)	30 (12.0)	6 (2.4)	250 (100)
Installment payments	SBI	44 (17.6)	149 (59.6)	50 (20.0)	7 (2.8)	--	250 (100)
	ICICI	46 (28.4)	110 (44.0)	51 (20.4)	27 (10.8)	16 (6.4)	250 (100)
E-statements	SBI	43 (17.2)	138 (55.2)	47 (18.8)	19 (17.6)	3 (1.2)	250 (100)
	ICICI	44 (17.6)	143 (57.2)	25 (10.0)	22 (8.8)	16 (6.4)	250 (100)

Source: Survey, Figures in parentheses indicate percentages

The satisfaction of the customers on Net banking services is presented in the table above. It can be observed from the table that the majority of the respondents of both SBI and ICICI (70.0 to 80.0 percent) are very much satisfied with the various services of Net banking. A very negligible percentage of respondents (10.0 to 15 percent) is dissatisfied with these services. Around 20.0 percent of respondents of all the 500 respondents neither satisfied nor dissatisfied (neutral). The reasons for dissatisfaction or neutral may be a lack of awareness about Internet banking, illiteracy, lack of enough experience in using or no need to use Internet banking and the inability to make use of technology.

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As observed from the table the number of respondents who are satisfied with the availability of account information and E-payments is more with ICICI (209 and 196 respectively) when compared with the respondents of SBI (165 and 165 respectively). In the case of funds transfer and installment payments, it is reversed. More respondents of SBI (210 and 193 respectively) are satisfied whereas the figures in the case ICICI are 163 and 156 respondents respectively. And, an almost equal number of respondents from SBI (181 respondents) and ICICI (187 respondents) are satisfied with the service of e-statements.

3. Satisfaction of customers on various Telephone Banking Services

Telephone banking is gaining momentum slowly. The private banks are leading in Telephone banking. Hence, an attempt is made in this study to understand the satisfaction of customers on these services. Table exhibits the customers' satisfaction on various aspects of Telephone Banking. Major problems of Telephone banking are connecting to the line in the case of IVRS, options to get proper department, getting to customer executive and content of the information. In spite of these problems, the majority of respondents of SBI and ICICI are satisfied with the telephone banking services.

76.8 percent of SBI and 66.0 percent of ICICI respondents are either extremely satisfied or satisfied with the connectivity of a telephone line of the bank. Approx, 74 percent of SBI, 58 percent of customers are satisfied with the service 'reasonable number of voice prompts'. 72 percent of SBI, 60 percent of ICICI are satisfied with the instructions given by the banks.72 percent of SBI, 62 percent of ICICI are satisfied with additional options provided by the banks. Comparatively, SBI customers showed more satisfaction levels with telephone banking services than ICICI.

Table-3: Perceptions on telephone banking

Telephone Banking	Name of the Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied	Total
Connectivity of Telephone Line	SBI	48 (19.2)	144 (57.6)	48 (19.2)	04 (1.6)	6 (2.4)	250 (100)
	ICICI	59 (23.6)	138 (55.2)	32 (12.8)	15 (6.0)	6 (2.4)	250 (100)
Reasonable	SBI	36	150	40	16	8	250

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no of voice prompts		(18.8)	(47.2)	(27.2)	(6.0)	(0.8)	(100)
	ICICI	36 (14.4)	111 (44.4)	70 (28.0)	26 (10.4)	7 (2.8)	250 (100)
Clarity and quality of information	SBI	35 (14.0)	147 (58.8)	41 (16.4)	19 (7.6)	8 (3.2)	250 (100)
	ICICI	35 (14.0)	115 (46.0)	49 (19.6)	34 (13.6)	17 (6.8)	250 (100)
Additional options in IVRS	SBI	46 (18.4)	135 (54.0)	51 (20.4)	14 (5.6)	4 (1.6)	250 (100)
	ICICI	43 (17.2)	111 (44.4)	54 (21.6)	22 (08.8)	20 (8.0)	250 (100)

Source: Survey, Figures in parentheses indicates percentage

4. Satisfaction of customers on various Mobile Banking Services

The share of Mobile banking in the overall E-banking scenario is very important. This is due to the increasing use of smartphones by people. Moreover, banks are encouraging their customers to use mobile banking applications on their smartphones. Customers are also interested in using mobile banking applications as they are very convenient. Though they are several advantages of mobile banking some of the important services such as reward points for using the mobile application, mobile recharge, SMS alerts from the bank and transaction status are considered to understand the satisfaction of the customers as shown in the above table.

The majority of total respondents (500) are very much satisfied with all the services of mobile banking. But, it is observed from the table that the respondents who are satisfied with the services of mobile banking are more among ICICI customers. 74.0 percent of ICICI respondents are satisfied with the reward points. But, respondents of SBI who are satisfied in this regard accounts for 60.8 percent only. As observed from the Table, there is the same trend in the case of mobile recharge, SMS alerts, and transaction status.

Table-4: Perceptions on Mobile banking services

Mobile Banking	Name of the Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied	Total
Reward points	SBI	48 (17.6)	108 (43.2)	53 (21.2)	27 (10.8)	18 (7.2)	250 (100)
	ICICI	46 (18.4)	139 (55.6)	32 (14.4)	26 (10.4)	3 (1.2)	250 (100)

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Mobile recharge	SBI	43 (17.2)	126 (50.4)	53 (21.2)	18 (7.2)	10 (4.0)	250 (100)
	ICICI	47 (18.8)	140 (56.0)	35 (28.0)	18 (7.2)	10 (4.0)	250 (100)
SMS alerts about bank services	SBI	48 (14.0)	108 (58.8)	52 (16.4)	30 (7.6)	12 (3.2)	250 (100)
	ICICI	49 (14.0)	131 (46.0)	32 (19.6)	28 (13.6)	10 (6.8)	250 (100)
Transactions status	SBI	41 (18.4)	136 (54.0)	39 (20.4)	22 (5.6)	12 (1.6)	250 (100)
	ICICI	63 (17.2)	123 (44.4)	38 (21.6)	20 (08.8)	06 (8.0)	250 (100)

Source: Survey, Figures in parentheses indicates percentage

5. Satisfaction of customers on the service channels of E-banking - Comparison between SBI and ICICI

After knowing the satisfaction of respondents on the service channels of E-Banking in earlier pages an attempt is made to compare between the satisfaction of SBI customers and ICICI customers using the statistical tool, t-test in the table below. The table enlightens us about the overall satisfaction of the customers of SBI and ICICI. SBI customers are a little more satisfied than ICICI customers with the ATM services as the mean scores of satisfaction of SBI customers is 30.60 whereas that of ICICI customers is 27.42. But, the test statistic value of t for the responses of customers, 9.4837**, and the p-value, 0.00002 show that there is no much difference between the overall ATM services in SBI and ICICI as it is significant at 0.01 level.

Table-5: Perceptions on E- banking services

E-Banking Services	Name of the Bank	N	Mean	Standard Deviation	Standard Error	t- value	P-Value
ATMs services	SBI	250	30.60	3.017	0.166	9.4837**	0.00002
	ICICI	250	27.42	4.552	0.186		
Net banking Services	SBI	250	28.14	3.238	0.222	3.2699**	0.00115
	ICICI	250	27.11	4.178	0.280		

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Telephone Banking Services	SBI	250	23.41	3.654	0.217	5.4126**	0.00000
	ICICI	250	22.03	4.111	0.247		
Mobile Banking Services	SBI	250	22.94	3.098	0.213	1.8963	0.05852
	ICICI	250	22.02	3.883	0.256		

** $p<0.05$, Source: Survey, Figures in parentheses indicates the percentage

In the case of other services, Net banking and Telephone banking also there is no much difference between the E-banking services of SBI and ICICI as mean scores of satisfaction of customers of both the banks are more or less same at the significant level, 0.05. The p-values of ATM services, Net banking services, telephone banking services are respectively 0.00, 0.00, and 0.00 which are less than to 0.05. So there are significant differences in these services of SBI and ICICI. But, in the case of Mobile banking, though the mean scores of satisfaction of both the banks are somewhat similar the p-value (0.05852) is greater than the significant level, 0.05. This indicates that there is no difference in the Mobile banking services provided by SBI and ICICI.

6. Logistic regression to compare the technological services provided by SBI and ICICI

Logistic regression is a predictive analysis which is used to forecast the dependent variable which is having dichotomous variable. The major objective of logistic regression is to explain the relationship between one dependent binary variable and one or more nominal, ordinal, interval or ratio level independent variables. The major assumptions of logistic regression are (i) the dependent variable should be dichotomous. (ii) There should be no outliers. (iii) There should be no high multi-collinearity among the predictors. To know which technological factors are impacting the two selected banks.

Cox and Snell model to predict the impacting factors on E-banking:

To predict the factors which influence E-banking, logistic regression is used the summary of the model is shown in the below table. Here dependent variable is E-banking practice (either ICICI or SBI), whereas the independent variables are ATM services, NET banking services, Telephone

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banking services and mobile banking services. The estimated variances with model are shown with cox & snell R square and Nagelkerke R square. The values 0.38, 0.45 are representing the covered variance on dependent variable. This is to understand that the summarized model is covering the variance of the dependent variable from 38 percent to 45 percent.

Table-6: Model summary of variance of dependent & independent variables

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	337.614[a]	0.38	0.45

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

In the following table the contribution of each independent variable to the model and its statistical significance is shown. To know this, wald test applied. The wald test is used to determine statistical significance for each of the independent variable.

Table-7: Statistical significance by Wald test.

Dimensions	**B**	**S.E.**	**Wald**	**Df**	**Sig.**
BANK	-.304	.291	1.090	1	.297
ATM services	.090	.060	2.249	1	.134
NET Banking services	-.062	.046	1.822	1	.0177 **
Telephone banking services	.086	.050	3.026	1	.002 **
Mobile Banking services	-.056	.046	1.493	1	.222
Constant	.466	1.144	.166	1	.683

** Significance at 0.05

The statistical significance of the test is found in the ‘sig.’ Column. The two independent variables ‘NET banking services’ and ‘telephone banking services’ are found to be significant (p-values are 0.0177, 0.002 respectively which are less than to 0.05. another two independent factors ‘ATM services’ and ‘mobile banking services’ are not significant because the p-values are greater than to 0.05 (0.134, 0.222). Therefore, it is found that there are significant differences between ICICI and SBI in Net banking and telephone banking services whereas there are no significant differences between ICICI and SBI in the usage of ATM services and mobile banking services.

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Conclusion

The respondents are using technological services in E-Banking. The major problem with electronic banking is security. The majority of respondents want to do online transactions. But due to insecurity, somehow they are not doing online transactions. So it is suggested that to develop appropriate technologies for encryption of data for secured transactions and also access control, data recovery plans should be used to protect all sensitive, high-risk e-banking systems, servers, databases, and applications. After that, it is needed to create awareness about security features among the people.

Nowadays, criminals are using innovative software to hack the confidential information. They transfer cash, valuable business information from one account to another with their logic. These create an unbearable loss to the customers and also to the bank. Hence, banks must do their best to educate and warn their customers. Both private and public sector banks should educate their customers regarding safe banking transactions, use of technology, advantages of technology in the banking sector with different educational, cultural, age, health, social and ethical backgrounds for the use of efficient e-banking services.

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RESISTANCE TO ORGANIZATIONAL CHANGE (A STUDY WITH REFERENCE TO PUBLIC-SECTOR ENTERPRISE (PSE) UNDER THE MINISTRY OF STEEL IN VISAKHAPATNAM, ANDHRA PRADESH, INDIA)

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ABSTRACT

Purpose: Resistance to organizational change is a complex issue facing management in the complex and ever-evolving organization of today. This paper tried to analyse the perception of the respondents on the factors that resists organizational change. Resistance to organizational change includes employee's resistance to change and organizational resistance to change. This paper analyses the perception of the respondents on the dimensions i.e., employee's resistance to change and organizational resistance to change.

Methodology: The study is based on both secondary and primary data collected from the select Public Sector Enterprise in (PSE), Visakhapatnam. The research study analysed the perceptions of 650 executives in the select public sector enterprise (PSE) in Visakhapatnam on individual and organizational resistance to change. Percentages, Chi-square and ANOVA tests are used to analyse the data.

Findings: Employees' resistance to change in the select PSE in Visakhapatnam found to be 35.77 per cent, which is medium. PSE is managing employee resistance during any changes in organization, it can be observed from the affirmative response of about 64.23 per cent respondents of the total sample.

Organizational resistance to change in the select PSE in Visakhapatnam i.e. 16.6 per cent, it reveals that PSE is thorough in examining and adopting the changes in the organization from time to time to survive in the market competition, it can be observed from the affirmative response of about 83.35 per cent respondents of the total sample.

Originality/value: The present study identifies the factors that resists organizational change, which helps the organizations in the present global competition to manage employees and organizational resistance to change and enables organizational change successfully.

KEYWORDS: Resistance to Organizational Change, Individual Resistance, Organizational Resistance, Need, Objectives, Methodology, Findings and Suggestions.

Paper Type: Empirical Paper

I. INTRODUCTION

Organizational change is an activity of transformation or modification of something in organizational system. The main purpose of this activity is to make improvements of organizational performances. Managing resistance to change is a crucial a part of the success of all change efforts in each company. Dealing with resistance in large part will depend upon your ability to acknowledge the important sources or causes of resistance to change. Managers will need to be aware that there will be always persons or organization itself will resist the proposed changes. Because of that, efficiency and effectiveness of the change process are going to be in direct relation with resistance to change and successful managing resistance to change.[1]

NEED FOR THE STUDY

Resistance to organizational change is a complex issue facing management in the complex and ever-evolving organizations of today. In present global scenario organizations need to be more flexible so that they can adapt changes according to market requirements. It is difficult for organizations to avoid change for their growth and development in the present global competition. Some people like, Tendai Masunda (2015) did research on topic 'An Evaluation of Resistance to Organisational Change and its Effects on Employee Productivity: The Case of Telecom Namibia', Mbongeni Andile Mdletye, Jos Coetzee, and Wilfred Isioma Ukpere (2014) on 'The Reality of Resistance to Change Behaviour at the Department of Correctional Services of South Africa', V. Swarnalatha (2014) on 'A Study on Employee Resistance towards Organizational Change with Special Reference towards Prosper Exports, Tirupur, India', Justin Bateh, Mario E. Castaneda and James E. Farah (2013) on 'Employee Resistance to Organizational Change' in

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USA, Rosemond Boohene, Asamoah Appiah Williams (2012) on 'Resistance to Organisational Change: A Case Study of Oti Yeboah Complex Limited' in Ghana, and Robyn Thomas Cynthia Hardy (2011) on 'Reframing resistance to organizational change' in UK are some of the researchers conducted research studies in India and abroad Much research has not been done in India especially in Andhra Pradesh related to 'Resistance to Organizational Change'. Keeping this in mind the present study makes an attempt to understand the factors that resist the change in the organization. No research work has been done on the Resistance to Organizational Change with reference to a large Public-Sector Enterprise (PSE) under the Ministry of Steel in Visakhapatnam. Therefore, to fill up the gap this topic has taken for the research study. The results of the study may be helpful to the business organizations to diminish the resistance to change in the organization.

OBJECTIVES OF THE STUDY

The major objective of the research is to study the Resistance to Organizational Change. In doing so, the study will seek to fulfil the following objectives.

1. To analyse perceptions of the respondents on resistance to organizational change in the select public sector enterprise in Visakhapatnam.
2. To suggest some practical measures to reduce the resistance to change in the organization.

RESEARCH METHODOLOGY

Unit of Analysis

The study was on "Resistance to Organizational Change (With Reference to select public sector enterprise, Visakhapatnam)". The select public sector enterprise in Visakhapatnam was the unit of analysis for this study.

Method of Data Collection

Keeping the objectives of the study in mind, the following methodology has been adopted for conducting the present study, both primary and secondary source of data have been used for this study.

Secondary Data

The secondary data has been collected from different text books journals, magazines, periodicals, different websites, administrative records, annual reports, management reports, organization personnel manual, and special project reports.

Primary Data

The study focuses on perceptions of employees with regard to Resistance to Organizational Change. A well-structured questionnaire was used for collecting data from target respondents. The views and opinions on broad issues have been collected from selected employees from various departments of the organization. The source of primary data are the executives from Top Management, Middle Management, Frontline Management and Supervisory level who are working in the different departments of select PSE, Visakhapatnam.

Population and sample

The study is mainly focused on Executives working in the PSE, thus exits 6,505 number of total employees.

The sample size is calculated after conducting the pilot study, using the results obtained from the pilot study and by using the below formula we have selected the sample size as 650.

$$n = \frac{\left(\dfrac{P[1-P]}{\dfrac{A^2}{Z^2} + \dfrac{P[1-P]}{N}} \right)}{R}$$

Where:

n = sample size required
N = number of people in the population
P = estimated variance in population, as a decimal: (0.5 for 50-50, 0.3 for 70-30)
A = Precision desired, expressed as a decimal (i.e., 0.03, 0.05, 0.1 for 3%, 5%, 10%)
Z = Based on confidence level: 1.96 for 95% confidence, 1.6449 for 90% and 2.5758 for 99%
R = Estimated Response rate, as a decimal

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Assume that the estimated variance in the population as P=50%=0.5, and precision desired is assumed to be A=5%=0.05, and the confidence level assumed is at 99%, then by the normal table value Z=2.58. Basing on the pilot study the response rate is found to be R=0.93. Thus, by substituting all the constraints of the sample size is 649.3(Approximately 650). Thus the sample size is approximately 10% to the total population.

Sampling Technique

Probability-Proportional-to-Size ('PPS') sampling, in which the selection probability for each element is set to be proportional to its size measure, probability proportion to size is a sampling procedure under which the probability of a unit being selected is proportional to the size of the unit.

For selecting the sample respondents, a multi stage stratified random sample technique has been adopted. In the first stage, the select public sector enterprise has been chosen purposively for studying the organizational change and development. In the second stage, the total executives of PSE hold 6,505 permanent employees has been divided into four strata viz., Top level Management, Middle level management, Front line management and Supervisory level basing on their nature of job. Since the exact size of the population of each stratum is known, a sample of 10 per cent of the total population from each stratum has been drawn randomly, in the third stage, which constitutes a total sample of 650. The details of the sample design have been presented in table

Table: 1 Sample Design

S.No	Stratum	Cadre	Size of the population	Sample of 10 % of the total population
1.	**Stratum – I**	Top level Management	469	46
	Stratum – II	Middle level Management	2157	216
	Stratum – III	Frontline Management	3039	304
	Stratum – IV	Supervisory level	840	84
Grand total			**6505**	**650**

Hypothesis: The following hypothesis is formulated for testing the relationship between the variables.
H_0: There would be no significant impact of resistance on organizational change

II. PERCEPTIONS OF THE RESPONDENTS ON ORGANIZATIONAL CHANGE

SOCIO ECONOMIC BACKGROUND OF THE RESPONDENTS

The socio-economic background of the respondents has a significant bearing upon the attitude towards behaviour of the employees at the work place. There is a need to understand the personal background of the employees. The objective of this section is to analyse the personal background of the respondents in terms of their personal data like qualification, age, respondent's monthly income, cadre in the organization and work experience etc.

Gender:

Table:2 Distribution of Respondents According to their Gender

Gender		Cadre				
		Top Management	Middle Management	Front Line Management	Supervisory level	Total
	Female	8	40	54	16	118
		17.4%	18.5%	17.8%	19.0%	18.2%
	Male	38	176	250	68	532
		82.6%	81.5%	82.2%	81.0%	81.8%
Total		46	216	304	84	650
		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-square: 0.114, P-value: 0.990, Source: Field Study

Since the p-value (0.990) of the chi-square test (0.114) is greater than 0.05, the level of significance so it is concluded that there is no significant association between gender and cadre i.e., gender has no significant impact on cadre at 5% level of significance.

Analysis: The above table furnishes the Gender-wise distribution of the respondents by their cadre in PSE. It is observed from the data that a vast majority of 81.8 percent of the respondents are male while the remaining 18.2 percent are female respondents. Further, in cadre top management 82.6 percent respondents are male and 17.4 percent are female, in middle management 81.5 percent respondents are male and 18.5 percent are female, in frontline management 82.2 percent respondents are male and 17.8 percent are female whereas at supervisory level 81.0 percent are male and the remaining 19.0 percent is female.

It can be concluded from the table that as the select PSE works round the clock and appointing women at shop floor is constraint because women cannot work in shift system involving physical stress and strain. As such there are few women in the plant, which is proved in our study also. In the select PSE women are more in administrative jobs.

Age: Table:3 Distribution of Respondents by their Age

Age	Cadre				
	Top Management	Middle Management	Front Line Management	Supervisory level	Total
31-40 Years	0 0%	2 0.9%	174 57.2%	14 16.7%	190 29.2%
41-50 years	2 4.3%	122 56.5%	130 42.8%	70 83.3%	324 49.8%
More than 50 years	44 95.7%	92 42.6%	0 0%	0 0%	136 20.9%
Total	46 100.0%	216 100.0%	304 100.0%	84 100.0%	650 100.0%

Source: Field Study

Analysis: From the table it is clear that, 49.8 percent of the respondents fall between 41-50yrs of age, 29.2 percent of the respondents are in the age between 31 -40 yrs and 20.9 percent of the respondents are more than 50years of age. It can be concluded that half of the respondents of the study is in the age between 41-50yrs and above, who are experienced and had good knowledge in their work.

Educational Qualification:

Table:4 Distribution of Respondents According to their Educational Qualifications

Educational Qualifications	Cadre				
	Top Management	Middle Management	Front Line Management	Supervisory level	Total
Under Graduation	14 30.4%	6 2.8%	28 9.2%	68 81.0%	116 17.8%
Post Graduation	32 69.6%	210 97.2%	276 90.8%	16 19.0%	534 82.2%
Total	46 100.0%	216 100.0%	304 100.0%	84 100.0%	650 100.0%

Chi-square: 282.052, P-value: .000, Source: Field Study

The chi-square value and its corresponding p-value make note that there is a significant association between educational qualification and cadre of the employees i.e., the majority of the respondents are in higher cadre if they acquire highest degree and the difference is statistically significant at 5% level.

Analysis: For the convenience of analysis, it has been sorted that the respondents into four categories according to their Educational qualifications viz., Up to SSC/ITI, Intermediate/Diploma, Degree and Post Graduate. It is observed from the data that a majority 82.2 percent of the respondents possess post-graduation, while 17.8 percent respondents are

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undergraduate holders. It is revealed that 69.6 percent of the respondents from top management are post graduates and 30.4 percent respondents are under graduates, 97.2 percent of the respondents from middle management are post graduates and 2.8 percent respondents are under graduates, 90.8 percent of the respondents from frontline management are post graduates and 9.2 percent respondents are under graduates, where as 19.0 percent of the respondents from supervisory level are post graduates and 81.0 percent respondents are under graduates.

It is interesting to note that post graduates are considerably very high in number in total sample. The employees with higher qualification and experience are an asset to the organisation. It also helps the individual to get better positions even after their retirement also.

Monthly Salary * Cadre

Table:5 Distribution of Respondents According to their Monthly Salary

Present Monthly Salary in Rupees		Cadre				Total
		Top Management	Middle Management	Front Line Management	Supervisory level	
	Below 40,000	0	0	76	84	160
		0%	0%	25.0%	100.0%	24.6%
	41,000-60,000	0	0	98	0	98
		0%	0%	32.2%	0%	15.1%
	61,000-80,000	0	64	130	0	194
		0%	29.6%	42.8%	0%	29.8%
	Above 81,000	46	152	0	0	198
		100.0%	70.4%	0%	0%	30.5%
Total		46	216	304	84	650
		100.0%	100.0%	100.0%	100.0%	100.0%

Source: Field Study

Analysis: As income plays a vital role in any organization, the researcher has classified the monthly income into four categories. The table-6.1.9 represents the details of the income particulars of the respondents who figured in the sample. It is divulged from the data that 30.5 percent respondents of the sample are earning an annual income of above Rs 81,000 followed by 29.8 percent respondents who receive between Rs. 61,000-80,000 per month. The monthly income of 24.6 percent respondents is below 40,000 whereas 15.1 percent respondents are in between Rs.41, 000 - 60,000.

Respondents in each cadre have different designations, based on their designations the salary structure varies between the respondents of the same cadre.

Nature of Job * Cadre

The nature of an employee's work is best defined the sort of work that he does. This can show the essential daily tasks that he carries out as a part of his job. An employee's work can be evaluated with the nature of the work performed. Evaluating an employee for his/her work is done relative to their position within the company. At this juncture it is important to know the nature of the Job of the respondents.

Table:6 Distribution of Respondents by their Nature of Job

Nature of Job		Cadre				Total
		Top Managemen	Middle Managemen	Front Line Managemen	Supervisory level	
	Both office job and site/field work	16	98	176	20	310
		34.8%	45.4%	57.9%	23.8%	47.7%
	Mostly Office Job	30	114	126	22	292
		65.2%	52.8%	41.4%	26.2%	44.9%
	Mostly Site/Field Work	0	4	2	42	48
		0%	1.9%	0.7%	50.0%	7.4%
Total		46	216	304	84	650
		100.0%	100.0%	100.0%	100.0%	100.0%

Source: Field Study

Analysis: The table designates that the distribution of cadre of the respondents by their nature of the job involved. It is clear from the above table analysis, out of the total sample 47.7 percent of the respondents are involved in both office job and site work. 44.9 percent respondents are involved in only office job. Only 7.4 percent respondents are involved in site/ field work.

Work Experience * Cadre

Table: 7 Distribution of Respondents by their Work Experience

Total Work Experience		Cadre				
		Top Management	Middle Management	Front Line Management	Supervisory level	Total
	6-10 years	0 0%	0 0%	76 25.0%	4 4.8%	80 12.3%
	11- 15 years	0 0%	0 0%	228 75.0%	80 95.2%	308 47.4%
	More than 20 years	46 100.0%	216 100.0%	0 0%	0 0%	262 40.3%
Total		46 100.0%	216 100.0%	304 100.0%	84 100.0%	650 100.0%

Source: Field Study

Analysis: The above table explains the experience of the respondents. The data indicates that a majority 47.4 percent of the respondents had 11 to 20 years of experience while 40.3 percent respondents had more than 20 years of work experience, where as 12.3 percent respondents had 6 to 10 years of the experience. Further, cadre wise, in top and middle management cadre 100 percent of respondents had more than 20 years of experience, in middle management cadre 75.0 percent of respondents had 11 to 20 years of experience and 25 percent had 6 to 10 years of experience, in supervisory level cadre 95.2 percent of respondents had 11 to 20 years of experience and 4.8 percent of the employees had only 6 – 10 years of experience. The experience of its employees enriches the quality of output of an organization. The organization under study has been fortified with the gainful experience in all the cadres. With this experience the respondents would increase the productivity of the organisation. It is advantageous to the select PSE for having more experienced work force.

III. PERCEPTIONS OF THE RESPONDENTS ON RESISTANCE TO ORGANIZATIONAL CHANGE

Data was gathered from the employees through a structured Questionnaire aimed at various aspects as a part of the study. Qualitative data were gathered from target respondents focusing on the following two main dimensions measured in a well-structured questionnaire for collecting data, processing, analysing and arriving at conclusions.

1. Employees resistance to change
2. Organization resistance to change

The following table describes the average values and the standard deviation values of each and every dimension related to the Organizational Change that prevails in PSE.

Table: 8 Descriptive Statistics of the Dimensions

Descriptive Statistics	Mean	SD
Employee resistance to change	3.0177	.40625
Organizational resistance to change	2.5865	.39347

Source: Field Study

The table indicates the average scores and the standard deviation of two dimension of resistance to organizational change. The average value of employee resistance to change is greater than the organizational resistance to change.

DIMENSIONS OF RESISTANCE TO ORGANIZATIONAL CHANGE

NOTE: In the following analysis the respondents' opinions on the first two points of the scale i.e. Very High, High are taken as the Negative responses of the dimensions, whereas respondents' opinions on the remaining three points i.e. Moderate, Low and Very Low are taken as the Positive face of the dimensions.

Table: 9 Respondents Opinion on the Dimension 'Employee Resistance to Change'

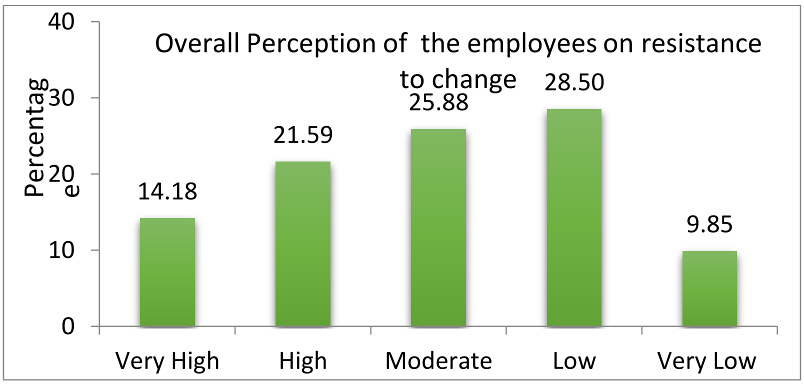
Statements related to Employee resistance to change	VH	H	M	L	VL
Employees' resistance to any changes in the area which they work (Inconvenience)	3.7	3.4	20.6	45.5	26.8
Resistance due to fear of the unknown/surprise changes	28.9	46.2	1.8	20.0	3.1
Resistance due to mistrust on changes	1.2	6.5	15.7	58.2	18.5
Resistance due to loss of job security/control	1.8	29.5	19.4	44.6	4.6
Resistance due to bad timing	17.5	24.3	50.8	1.5	5.8
Threat to interpersonal relations	23.4	26.5	41.2	3.7	5.2
Increasing workload	36.0	20.6	17.2	23.1	3.1
Management strategies to overcome the employee resistance during change	0.9	15.7	40.3	31.4	11.7
Overall Perception	14.18	21.59	25.88	28.50	9.85

VH= Very High, H=High, M=Moderate, L=Low, VL = Very Low

Source: Field Study

Analysis: The furnishes the overall opinion of the respondents on the dimension "Employees resistance to change" in PSE. It is observed from the data that an average, 28.50 percent respondents of the sample have expressed 'low' for the statements of the said dimension while 25.88 percent respondents have expressed 'Moderate'. Only 9.87 percent respondents have stated 'very low' as their opinion. However, 21.59 percent and 14.18 percent of the respondents have expressed 'high' and 'very high' to the statements in the dimension employee resistance to change. From this analysis it can be concluded that the employee's resistance to change in the organization is found to be 35.77per cent, which is medium. PSE managing employee resistance during any changes in organization, it can be observed from the affirmative response of about 64.23 percent respondents of the total sample.

Figure: 1 Respondents Opinion on the Dimension 'Employee Resistance to Change'



The figure depicts the overall opinion of the respondents on the dimension ‘Employees resistance to change’ in the organization. During any changes in any organization minimum resistance will be exhibited by the employees in the organization, it can be managed by the management effectively unless the resistance to change is very severe or maximum. As the organization is a large public-sector organisation with huge manpower, more than 60 percent of the respondents of the total sample agreed with the minimum to the statements in the dimension employees’ resistance to change in PSE.

Table:10 Respondents Opinion on the Dimension ‘Organizational Resistance to Change’

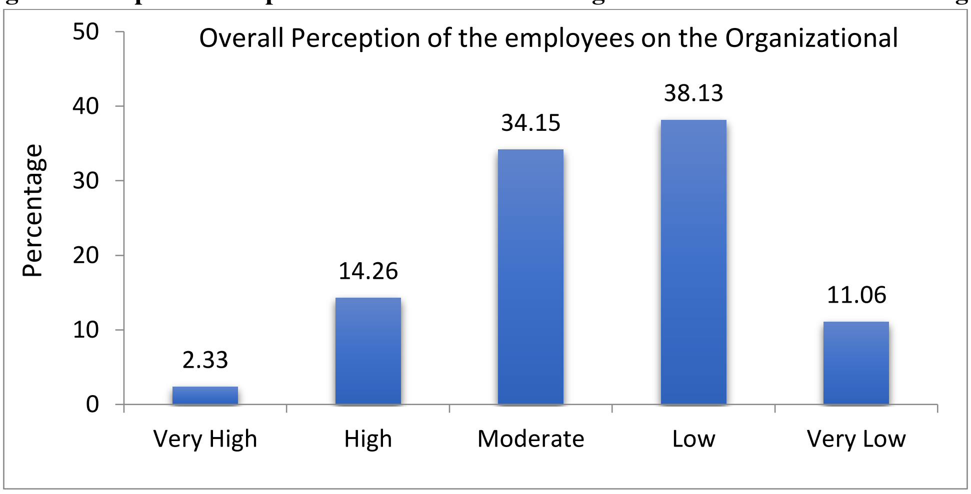
Statements related to Organizational Resistance to Change	VH	H	M	L	VL
Organizational resistance to any changes in the organization	0.9	5.5	8.0	42.8	42.8
Resistance due to structural inertia	3.7	20.6	39.1	32.3	4.3
Limited focus of change	4.0	16.6	28.9	45.8	4.6
Group inertia	3.4	4.9	41.8	36.9	12.9
Threat to expertise	4.9	32.3	33.5	24.0	5.2
Threat to established power relationships	0.6	8.9	40.6	44.9	4.9
Threat to established resource allocations	0.6	6.2	31.1	57.2	4.9
Organization strategies to overcome organizational resistance to adopt change	0.6	19.1	50.2	21.2	8.9
Overall Perception	2.34	14.26	34.15	38.14	11.06

VH= Very High, H=High, M=Moderate, L=Low, VL = Very Low

Source: Field Study

Analysis: The furnishes the overall opinion of the respondents on the dimension “Organizational resistance to change” in the PSE. It is observed from the data that an average, 38.14 percent respondents of the sample have expressed ‘low’ with the statements of the said dimension while 34.15 percent respondents have expressed ‘Moderate’. Only 11.06 percent respondents have stated ‘very low’ as their opinion. However, 14.26 percent and 2.34 percent of the respondents have expressed ‘high’ and ‘very high’ to the statements in the dimension Organizational resistance to change. From this analysis it can be concluded that the organizational resistance to change is found to be 16.6 per cent, which is minimum. PSE thoroughly examining the changes needed in the organization which makes to survive in the market competition, it can be observed from the affirmative response of about 83.35 percent respondents of the total sample.

Figure: 2 Respondents Opinion on the Dimension ‘Organizational Resistance to Change’



The figure revealed the overall opinion of the respondents on the dimension ‘Organizational resistance to change’ in the PSE. It is one of the big competitors in the steel industries, it should be always thorough in examining the future markets and changes with global market competition, more than 80 percent of the respondents of the total sample agreed with the minimum to the statements in the dimension Organizational resistance to change in PSE.

Table: 11 ANOVA TEST FOR RESISTANCE TO CHANGE BY CADRE

Dimension	Cadre	n	Mean	SD	F-Value	P-Value	Decision
Employee resistance to change	Top Management	46	2.96	.34	4.276	0.005 *	Significant
	Middle Management	216	2.96	.40			
	Front Line Management	304	3.07	.44			
	Supervisory level	84	3.10	.27			
Organizational resistance to change	Top Management	46	2.69	.35	5.118	0.002	Significant
	Middle Management	216	2.59	.44			
	Front Line Management	304	2.57	.36			
	Supervisory level	84	2.43	.33			

Very High (5), High (4), Moderate (3), Low (2), Very Low (1)

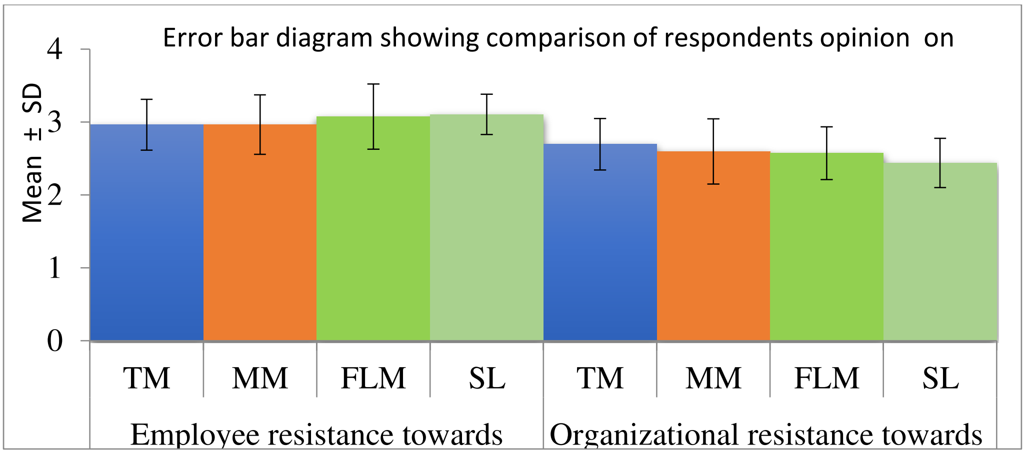
Source: Field Study

Analysis: From the table and the error bar diagram, it is observed that the opinion score of the respondents on the factor "resistance to change" at PSE, is found to be significant at 0.05 level according to their cadre. There is significant impact of resistance on organizational change according to the cadre. The opinion of the respondents on the two dimensions related to the resistance factor is not unanimous by their cadre. Further, it is affirmative as can be observed from the Figure. The supervisory level cadre employees have significantly positive opinion when compared with other three cadres followed by Front line management with regard to the dimension "Employee resistance to change". Whereas for the dimension "Organizational resistance to change", Top management employees have given optimistic opinion when compared with other three cadres of employees followed by Middle management. Further the scores are nearer to "3" and some are below "3" which reveals that, on an average the responses obtained for this factor is not that much of optimistic.

The factor shows that there is 'moderate' resistance to change in the PSE. It reveals that Employees and Organization are exhibiting some moderate resistance to change in the organization, which is quite common in any organization. It can be considered as a positive sign because resistance to change is moderate rather than very high in the organization. It can be managed or reduced through proper coping strategies.

The P-values of the two dimensions is found to be significant at 0.05 level. In other words, the respondents, notwithstanding their cadre, have expressed dissimilar opinion on the aspects of this dimension and it is nearer to neutral level as can be observed from the Figure below.

Figure: 3 Error bar diagram



IV. Discussion and implications

The study observed that a vast majority of the respondents are male while few people are female (Table:1). However, in PSE women are more in office jobs. It is observed from the study that a majority of the respondents are post graduates (Table:2), when compare to graduates. The chi-square value and its corresponding p-value (0.000) make note that there is a significant association between educational qualifications and cadre of the employees i.e., the majority of the respondents in the higher cadre are with highest qualification and the difference is statistically significant.

The study shows that half of the respondents are involved in both office job and site work. Remaining respondents are involved in only office job (Table:6). The study mentioned that a majority of the respondents have 11 to 20 years of

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work experience while next most of the respondents are having more than 20 years work experience (Table:7). Since almost all the employees in the sample have an experience of more than 6 years, they may be ready to accept the changes in the PSE to face challenges in the global competition. It is advantageous to have more experienced work force.

The study observed that the opinion score of the respondents on the factor "***Resistance to change***" at PSE, is found to be significant according to their cadre. There is significant impact of resistance on organizational change according to the cadre. The opinion of the respondents on the two dimensions are not unanimous by their cadre. The P-values of the two dimensions are found to be significant (Table:11). The supervisory level cadre employees are significantly positive in their opinion when compared with other three cadres followed by front line management with regard to the dimension "Employee resistance towards change". Whereas, for the dimension "Organizational resistance towards change", top management employees have given optimistic opinion when compared to other three cadres of employees followed by Middle management.

It is evident from the study that the 'Employees' resistance to change' in the PSE found to be medium (Tabel:9). PSE managing employee resistance during any changes in organization, it can be observed from the high affirmative response of the respondents. Resistance from employees is the major disruption because of which change initiatives in most of the organizations fail. In any public or private sector organizations, minimum resistance is quite common during organizational change. It can be reduced by the management effectively, unless the resistance to change is very severe or maximum. From the study it is revealed that, majority of the respondents expressed that employee resistance to change is minimum to the factors, fear of the unknown/surprise changes, bad timing, threat to interpersonal relations, and increasing workload. Employee resistance to change is high due to the factors, inconvenience in the area they work**,** mistrust on changes and loss of job security/control. In this particular aspect it is suggested that Management of PSE should implement coping strategies like communicating and educating the employees regarding the change, continuous action learning, co-optation, involving the employees in the change program, facilitation and support to the employees, introducing stress management, negotiation with the employees and practicing soft coercion tactics to counter the resistance in the organization.

The study observed from the analysis, that the 'Organizational resistance to change' in the PSE is minimum (Table:10). It reveals that PSE is thorough in examining and adopting the changes in the organization from time to time to survive in the market competition, it can be observed from the high affirmative response of the respondents of the total sample. Organizational resistance to change makes organization static that makes organizations fail to change with the market competition. In present scenario every organization needs to change to survive in the market or else die! It is observed from the study that majority of the respondents expressed positive opinion i.e., "organizational resistance to change is minimum in the organization", still a minority of the respondents expressed negative opinion i.e., organizational résistance is high in the plant due to the factors, structural inertia, limited focus of change and threat to expertise. In this background, it is suggested that PSE management should maintain dynamic structure and should focus on the changes taking place in the Globalization**.** PSE should take necessary steps to get expertise to minimize organizational resistance to change.

V. CONCLUSION

Resistance to change in the Public-Sector Enterprise is moderate, which is quite common in any organization irrespective to public and private sectors. The management should formulate a policy further to reduce the percentage of respondents with negative attitude towards the Organizational Change. The Policy may include the programmes like change awareness programmes, counselling programmes, rewards and recognitions, special trainings, workshops, seminars and so on, to reduce resistance to change in the organization. Business Organizations should always keep itself ready to accept the challenges to change with global competition to excel in the world market. It will make the organization to stand in the business leader position in the cut throat business competition.

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Impact Of E-Banking Service Quality On Customer Satisfaction: A Case Study Of ICICI Bank, Visakhapatnam

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Abstract

Purpose *- This paper aims to know the perceptions of the respondents on service qualities like Reliability, Efficiency, Accuracy, security, and Easy & convenient of E-Banking which influence the satisfaction of the customer in ICICI bank, Visakhapatnam.*

Methodology *- The study is based on both primary and secondary data collected from the customers of various branches of ICICI bank in Visakhapatnam. In the case of primary data, a total of 384 questionnaires are administered among E-Banking customers of ICICI, Visakhapatnam. ANOVA, the t-test, Factor analysis and multiple regressions are used to analyze the data.*

Findings – *The reliability on various aspects of E-banking services like information, and content of the website and transaction processes are very reliable. Around 70 percent of ICICI customers are either extremely satisfied or satisfied. The satisfaction of customers of ICICI on the efficiency is around 50 percent. Surprisingly 20 percent of the respondents are neutral about efficiency of E-banking services. Internet banking application security features about online banking are perceived as less acceptable by the respondents of ICICI. I.T assistance regarding online banking of ICICI is perceived as trustable, no need to worry with respect to automatic timeout feature, unregistered third party, logging information, and alert, password policy management, session management etc given by ICICI. And the majority of the respondents felt that the ICICI bank making the banking operations as easy & convenient to their customers.*
Originality/value *– This study examines the perceptions of the respondents on various service qualities of E-Banking operations of ICICI bank ltd, Visakhapatnam.*

Keywords *– Service Quality, E-Banking, Customer satisfaction, ICICI*

Paper Type – Empirical paper

INTRODUCTION

In the post liberalization era, with the deregulation of the Indian economy, the financial service sector witnessing a complete metamorphosis and technology is playing a very significant role in this record. Over the last decade, India has been one of the fastest adopters of information technology in all sectors of the economy; among this banking sector is one, particularly because of its capability to provide a software solution to organizations around the world. Information technology provides an excellent support to the banking in India to develop most in technology in mobile banking, telephone banking, online banking, and electronic commerce areas. Also, this technology is helps in growing largely by mergers and acquisitions which can be done by communication and technology. Technology is playing a major role in increasing the efficiency, courtesy, and speed of customer service. Moreover, India is aiming at digitalization. So importance for e-banking is ever increasing. It is said to be the age of E-Banking.

Enterprises are adopting strategies aimed at developing a competitive advantage based on enhanced customer value in terms of product differentiation, quality, speed, service, and costs. Using the Internet is more efficient than using other distribution media because banks are looking for an increased customer base. To target the customers at different demographical segments, multiple segments in promotion is effective and will cover the total base. The banks are not in a position of

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looking their customers to their competitors. Interestingly, online delivery will offer best suitable customized services which are needed by every customer. Mass customization happens effectively through Online Banking. Customization is a practice which can decrease cost and time compared to routine time. Online Banking means fewer staff members, smaller infrastructure demands, compared with other banking channels. Online Banking provides a convenient and effective way to manage finances that are easily accessible 24 hours a day, seven days a week. In addition, information is up to date.

Even though there are many advantages with E-Banking, the major concern with E-Banking is security. Many of the customers do not have confidence with E-Banking services and they think it is a public network and it has lack of security and privacy. Some of the security issues are hacking, sharing of personal details with other banks and agencies, theft of very confidential information etc. Basically, the truth is that the banks are providing best security practices. Only thing is there is less awareness levels on the security issues of E-Banking services. They are identification and authentication, encryption, and firewalls. In this process, the online will take internet address then it ask login-id and a password to authorize/access the user into his/her account, later, a message between customers and online banks are all encrypted so that a hacker cannot view the message even if the message is intercepted over the Internet.

Internet banking is offering lot of services with a single mouse click. Still some of the customers will go with traditional banking only because of security and privacy. But there are many advantages when the customer shifts from the traditional method of banking to e-banking. The major advantages are convenience, availability, transaction speed, efficiency, effectiveness, cheaper alternative.

E-banking is growing due to its advantages over traditional banking. The growth of e-banking is possible mainly through the penetration of the Internet. There is tremendous growth in the usage of internet in India. In the year 2000, the percentage of internet usage is just 0.5 percent of the total population. This was increased to 18 percent by the year 2014. And it is 433.4 million by end of June 2019. By 2018 the internet users in Rural India were 280 million.

Theoretical Background

Electronic banking is a high-order construct, which consists of several distribution channels. E-banking is not only a medium for banking; it is an internet based platform which uses a high speed internet connection for uninterrupted services. However, the most general type of electronic banking is banking via the Internet, in other words, Internet banking. The term electronic banking can be described in many ways. Electronic banking is a medium of banking which can provide any kind of banking information through a computer / telephone / mobile / other mediums. In higher levels, we can say that customers can access their bank accounts to transact banking services. Also, in advanced level, we can say that, it is called internet / online banking because it provides various services like accessing account information, fund transfer, share transactions, buying financial products through online with a single mouse click through 24 X 7. The terms Internet banking and online banking are often used in the literature to refer to the same things. Nowadays the Internet is the main channel for electronic banking. Electronic banking is basically can be done through the mediums like personal computer with computer, telephone, and mobile. Daniel (1999), it is important to remember that Internet Banking is different from PC Home Banking. The obvious difference is that Internet Banking is browser-based, whereas PC Home Banking requires customers to install a software package assigned by the bank on their PC. Moreover, PC Home Banking allows customers to do their banking services only on PCs that have been installed the assigned software package, such as include Intuit, Inc.'s Quicken and Microsoft Corp.'s Money.

Many researchers have done research on E-Banking. So, different researchers defined in different ways. But, the common thought of the authors is, internet offers many services through online. Many of the customers access these with smart devices (Suriya, Mahalakshmi & karthik, 2012).

Karjaluoto et al. (2002a) suggested that the main electronic delivery channel in banking is the

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Internet, accessed via personal computer. Telephone banking, TV-based banking, and managed network do not play such a big role in banking today. Karjaluoto in 2002 have expected that the banking with personal computer will be converted into wireless with mobile technologies. Thus, as Wah (1999) points out, electronic banking does not necessarily have to be on a computer screen. It can be on the tiny screen of a mobile phone or any other wireless device. With these wireless applications, customers can consult their bank account balances and transaction histories, initiate payments or orders to buy and sell securities, and also send an e-mail to their banks.

Concept of Customer Satisfaction:

Customer satisfaction process arises at post purchase of a product. It tells us the customer's feed back in terms of various aspects like quality, quantity, consumption, service, repeat purchase and brand loyalty etc (Churchill & suprenant, 1982). Oliver (1980) found that, the feeling of satisfaction can get by comparing the expectations of a consumer with original performance of the product. Tse & wilton defined customer satisfaction as "customer response to the evaluation of the perceived difference between expectations and final result after consumption". "Satisfaction can also be described as the feedback of a post-purchase assessment of certain service/ product's quality, and compared with the expectation of the prior-purchasing stage" (Kotler & Keller, 2011).

Dimensions of E-Banking services effecting Customer service: Many scholars have studied on E-banking factors which effect customer satisfaction. Some of the following studies which affect customer services are here under: according to Zeithamal and Berry (1985) speed in performing in the E-Banking services creates customer satisfaction. Efficiency in terms of quick speedy service is also confirmed by wirtz and bateson (1995) and khadem & Mousavi (2013). Liao and cheung (2002) identified that the reliability as one of the most important features that customers seek in evaluating their E-Banking services quality. Many studies are said that the major factors which affect customer satisfaction are reliability, efficiency, accuracy, security and easy & convenience.

E-banking services

Bill payment service: The various payment operations are providing by the banks. These are different to bank to bank. In this context the banks may have tie-ups with various other companies to provide these services. These provide various bills payment like electricity, telephone bills, mobile bills, train reservations, flight reservations, insurance premiums etc. to pay these bills, a simple one-time registration for biller should be done. Once some instructions are set, online payments can be done. It is easy to pay any bills, it takes less time, it is accuracy more interestingly the banks can not charge for many services.

Funds transfer: Any amount can be transferred from one account to another of the same or any another bank. Customers can send money anywhere in India. Payee's account number, his bank and the branch is needed to be mentioned after logging in the account. The money transfer can be then done in a fraction of seconds with very minimal charges. But, in traditional method, the money transfer may take long time and need to visit the branch. In the words of ICICI, the major popular services of them are bill payments and fund transfer facilities through online.

Credit card customers: Credit card users can use the online services for various reasons. They may apply for a loan with credit card payment history through online, they can ask to increase the credit limit through online, they can pay any bill which includes credit card bill, they can request any card, they can stop the payment, block the card, can give a complaint about any un-authorized traction through online.

Railway pass: Indian railways have a tie-up with ICICI bank to railway pass renewals. Anybody can apply or renew their local train passes through online. The pass will be delivered to the customer at their doorsteps. But the bank is offering this facility in the limited cities. The bank authorities saying that, they will spread the facility to the other cities too. Right now, this service is available in Pune, Thane, Mumbai, Surat, Nasik. The ICIC bank is charging a minimal amount of Rs. 10 + 12.24 percent of service tax for this transaction.

Investing through Internet Banking: a customer can open a savings bank account, fixed deposit, current account, demat accounting. Any of the above accounts can be opened and can do transactions through online. Online is very useful in doing easy transactions in share market. Now investors with

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interlinked demand account and bank account can easily trade in the stock market and the amount will be automatically debited from their respective bank accounts and the shares will be credited to their demand account.
E-banking is beneficial for both the financial institutes and customers. To survive in this competitive world, a commercial bank should offer the best products, with quick service, with complete security features and should be up-to-date.

Research Gap:

Many reviews are on the penetration of internet banking, perception on internet banking, services and satisfaction levels of e-banking, modern banking services, problems and prospects of E-Banking, adoption of E-Banking, E-Payment systems, mediums of E-Banking, security issues, operations of E-Banking. It is clear from the review of the literature, that E-Banking is beneficial for both the financial institutes and the customers. To survive in this competitive world, a commercial bank should offer the best products, with quick service, with complete security features and should be up-to-date. It is evident from the literature review that there are no sufficient studies on service quality dimensions of E-Banking in Visakhapatnam. So it is decided to take up internet banking services provided by ICICI. I have chosen ICICI for my study as this is technologically advanced in private sector. As it is not possible to cover the total customer base of ICICI, my study is confined to a sample of ICICI in Visakhapatnam which is a fast growing city in Andhra Pradesh.
It should provide the technological services which are reliable, efficient, accuracy, secure and easy & convenient. Therefore, the researcher tried to assess the customer's satisfaction on the above said factors of e-banking. Based on the above discussion, the proposed hypothesis is

H_{01}: There is an association between the efficiency of E-Banking services and customer satisfaction.
H_{02}: There is an association between the reliability of E-Banking services and customer satisfaction.
H_{02}: There is an association between the security of E-Banking services and customer satisfaction.

Methodology

The study is based on both primary and secondary data. The major objective of this study is to know the satisfaction levels of the respondents on various service quality measures of E-Banking of ICICI Bank. Hence, the primary data has been collected from the customers who use e-banking services of ICICI, Visakhapatnam. In the case of primary data, a total of 383 questionnaires are administered among e-banking customers of ICICI, Visakhapatnam. The secondary data is collected from Articles, Journals, Various websites and annual reports of ICICI bank.

Sampling and Statistical Techniques

This study has used a convenience sampling technique to collect primary data. Convenience sampling is a statistical method of drawing representative data by selecting people because of the ease of their volunteering or selecting units because of their availability or easy access. There are both advantages and disadvantages with convenience sampling. The major advantage with convenience sampling is the free availability and quick response in the collection of data. The major drawback is less accuracy. Sometimes, it may not represent the population and it might be biased. Under this study, the researcher directly meets the customers according to their convenience and collects the data. Thus in this study, there is a finite number of population and their convenience is known.

According to the records, there are more than one lakh customers are using net banking facility at all branches of ICICI bank. The sample according to the sample determining formula at 95 percent of confidence level and 5 percent of permissible error is 384. Data analysis is done using SPSS (Statistical Package for Social Science) version 20.0. The data has been analyzed with the help of required statistical tools such as descriptive statistics, frequency tables, percentage, ANOVA, t-tests, factor analysis and regression analysis.

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Reliability and Validity

The reliability and validity is confirmed by cronbach's alpha. Extensive literature reviewed was done on the basis of a total of 5 parameters is identified with 20 parameters with a 5 rated likert scale. Then to maximize the reliability and validity of the questionnaire was pre-tested on a small group of respondents before being finalized. Based on the feedback and results of the feedback, the reluctant questions were removed. Generally cronbach's alpha value more than 0.70 represents the validity of the scale and it statistically acceptable.

S.No	Dimension	No. of items	Cronbach's Alpha value
1	Reliability	4	0.79
2	Efficiency	4	0.76
3	Accuracy	4	0.78
4	Security	3	0.72
5	Easy & Convenient	5	0.89

Discussions and Implications

Satisfaction levels of the respondents on various services qualities of E-Banking are analyzed and shown below.

(i) Reliability:

E-banking in India is very reliable due to advanced technology, support from the government agencies and competitive advantage of banks. The satisfaction of respondents on the reliability of various aspects of E-banking services, in general, is in the Table (i). The websites of banks, information, and content of the website and transaction processes are very reliable according to the respondents as shown in the Table. Around 70 percent of ICICI customers are either extremely satisfied or satisfied. But, in the case of the reliability of information and content of the website of ICICI, only 54.8 percent of their customers are satisfied and quite a good number (70 respondents) accounting for 28 percent are neutral.

Table (i): Satisfaction on E- banking Service Quality

(Figures in No's)

E-banking service quality	Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied
Reliability of website	ICICI (384)	45 (11.6)	216 (56.4)	98 (25.6)	18 (4.8)	7 (1.6)
Reliability of Information and content of website	ICICI (384)	34 (8.8)	177 (46.0)	107 (28.0)	46 (12.0)	20 (5.2)
Reliability of transaction process	ICICI (384)	65 (16.8)	181 (47.2)	87 (22.8)	37 (9.6)	14 (3.6)

Source: Survey, Note: Figures in parentheses indicate percentages

(ii) Efficiency

The efficiency of E-banking lies mainly in the quick accessibility to the website (fast login), proper functioning of Cards, smooth transfer of funds and electronic clearing service. The satisfaction of customers of ICICI on the efficiency of E-banking is presented in the Table – (ii). Around 62 percent of ICICI respondents is either extremely satisfied or satisfied with the efficiency of their bank's E-banking whereas around 50 percent respondents are satisfied with their bank's efficiency in rendering e-banking services. Even the number of respondents who are neutral about the efficiency is more in ICICI. Hence, it may be said that the respondents are more efficient than in E-banking services of ICICI.

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Table-(ii): Customer Satisfaction on service Quality-Efficiency
(Figures in No's)

Efficiency	Name of the Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied
Faster login facility	ICICI (384)	46 (12.0)	195 (50.8)	98 (25.6)	28 (7.2)	17 (4.4)
Functioning of Cards	ICICI (384)	43 (11.2)	147 (38.4)	141 (36.8)	32 (8.4)	21 (5.2)
Smooth Transfer of Funds	ICICI (384)	44 (11.6)	161 (42.0)	109 (28.4)	54 (14.0)	16 (4.0)
Electronic Clearing Service	ICICI (384)	58 (15.2)	142 (37.2)	108 (28.8)	46 (12.0)	13 (6.8)

Source: Survey, Note: Figures in parentheses indicate percentages

(iii) Accuracy

Table-(iii) presents the satisfaction of E-banking customers on accuracy in solving their problems, maintaining error-free transaction records, electronic bill payments and service charges.

The satisfaction levels of ICICI with the problem solving, error-free transaction records, electronic bill payments and service charges respectively and the corresponding percentage of respondents of ICICI who are satisfied are 64.8, 61.2, 86.4, and 60.4

Table (iii): Customer Satisfaction of Service Quality – Accuracy
(Figures in No's)

Accuracy	Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied
Problem solving through instant info	ICICI (384)	52 (13.6)	196 (51.2)	75 (19.6)	32 (8.4)	29 (7.2)
Error-free transaction records	ICICI (384)	63 (16.4)	172 (44.8)	80 (20.8)	52 (13.6)	17 (4.4)
Electronic bill Payments	ICICI (384)	167 (43.6)	164 (42.8)	38 (10.0)	6 (1.6)	9 (2.0)
Service charges	ICICI (384)	64 (16.8)	167 (43.6)	92 (24.0)	37 (9.6)	24 (6.0)

Source: Survey, Note: Figures in parentheses indicate percentages

(iv) Security

Security is the top priority among all the issues pertaining to E-banking. The success of E-banking depends on the security of ATMs, E-payments and privacy and integrity. The satisfaction of customers on security issues are given in the Table - (iv). As shown in the Table the number of respondents who are satisfied is more in ICICI. But there is more number of respondents who are neutral about the security among the customers. It seems the customers are confused with the privacy and integrity of ICICI e-banking services as there are respondents (32.8 per cent) who are neutral about the privacy and integrity

Table- (iv): Customer Satisfaction of Service Quality – Security

Security	Name of the Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied
Security for ATMs	ICICI	86	164	80	32	22

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	(384)	(22.4)	(42.8)	(20.8)	(8.4)	(6.4)
Security of E-payments	ICICI (384)	75 (19.6)	186 (48.4)	77 (20.0)	24 (6.4)	22 (5.6)
Privacy and Integrity	ICICI (384)	63 (16.4)	146 (38.0)	126 (32.8)	15 (4.0)	34 (8.8)

Source: Survey, Note: Figures in parentheses indicates percentage

(v) Overall satisfaction of customers of ICICI bank

The overall satisfaction level of ICICI was shown in the following table- (v). The average scores on different satisfaction level with different dimensions offered by their bank were analyzed in the following table.

The satisfaction level of **reliability** offered by the bank institution of ICICI Bank customers mean is 27.75. The test statistic value by t-test is 5.2732, the p-value is 0.00 and it is significant at 0.01.

The mean 18.0 have a better opinion about satisfaction level of **efficiency** offered by the bank ICICI. The test statistic value by t-test is 3.064; the p-value is 0.002. It is significant at .01 levels.

ICICI customers with a mean of 11.0 have a better opinion about **Accuracy** offered by the bank when compared with ICICI Bank. The test statistic value by t-test is 4.4501**, the p-value is 0.00. It is significant at .01 levels.

ICICI customers with a mean of 11.12 have a better opinion about **security** offered by the bank. The test statistic value by t-test is 4.240**, the p-value is 0.0000. It is significant at .01 level.

The mean for the perceptions on **Easy and convenient banking** offered by the bank ICICI is 14.83. The test statistic value by t-test is 3.1719**, the p-value is 0.001. It is significant at .01 level.

Table- (v) Overall satisfaction of customers of ICICI

Dimensions of satisfaction on E-Banking Services	Name of the Bank	N	Mean	Standard Deviation	Standard Error Mean	t- value	P-Value
Reliability	ICICI (384)	384	27.75	4.760	0.312	5.2732**	0.000
Efficiency	ICICI (384)	384	18.01	3.412	0.222	3.064**	0.002
Accuracy	ICICI (384)	384	11.10	1.766	0.125	4.4501**	0.000
Security	ICICI (384)	384	11.12	1.701	0.125	4.2400**	0.000
Ease and convenience	ICICI (384)	384	14.83	3.113	0.190	3.1719**	0.001

*P <.05, **P< .01

The opinions of ICICI customers show that E-banking services are reliable, efficient, accurate and convenient and E-banking services of ICICI are secured. The p-values are showing that there are differences between the perceptions of the respondents on various dimensions service quality.

Conclusion

The respondents are using technological services in E-Banking. The major problem with electronic banking is security. The majority of respondents want to do online transactions. But due to insecurity, somehow they are not doing online transactions. So it is suggested that to develop appropriate technologies for encryption of data for secured transactions and also access control, data recovery plans should be used to protect all sensitive, high-risk e-banking systems, servers, databases, and applications. After that, it is needed to create awareness about security features among the people.

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The success of E-banking depends on the security of ATMs, E-payments and privacy and integrity. The opinions of ICICI customers show that E-banking services are reliable, efficient, accurate and convenient and E-banking services of ICICI are secured.

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Workforce diversity and work culture in the IT/ITeS industry, Visakhapatnam

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ABSTRACT: Workforce diversity is one of the important issues in today's corporate world. Due to globalization, almost all organizations have a variety of employees with different backgrounds, cultures and values, languages, religions, nationalities, skill and knowledge, and generations, etc. Therefore, managing diversity in organizations is crucial in order to harmonize employees of all generations to follow the same organizational culture and motivate them to work in a team for the betterment of the organization. As workplaces are becoming more diverse, employers must be very active to set the plans and policies of the organization in such a way so as to encapsulate the diverse nature of different employees. The organizations must take note of different important factors such as recruitment, communication, and training practices to manage and resolve the differences among the employees if any. In this paper, the researcher tried to know the perceptions of various generations of the workforce on various aspects of the work environment in the IT/ITeS industry. A structured questionnaire was developed and data is collected by survey method with a randomly drawn sample of 575 is taken.

KEY WORDS: workforce diversity, work culture, work environment

I. INTRODUCTION

A population may be divided into distinct segments on the basis of their age or experience. This serves the valuable purpose of identification of work-related preferences and behavioral traits which members belonging to a particular generational cohort exhibit as a result of the major life events which they share. This bifurcation of the workplace leads to a categorization of the individuals into different generations which are different from each other and unique in their own self. The current Indian workforce consists of men and women belonging to different generations, this is specifically true for the knowledge workers as well. The I.T sector also relies heavily on its knowledge workers who come from unique generational leanings and hence it becomes of paramount importance to ensure harmony among the different generations, such that their potential can be fully realized. Not much work has been done regarding generational diversity in the Indian context especially in the IT sector. There exist no major studies on I.T. The scope of the study is thus to find out the specific issues and challenges faced in a multigenerational workforce in the Information Technology sector.

I.T sector faces issues particular to this sector especially when it comes to areas like the use of technology, adaptability to change, etc. However, certain issues like mentoring opportunities and preferred methods of working which hold considerable importance in the corporate sector (and hence in the studies related to that sector) do not affect this sector much. Thus it may be clarified that due to lack of research in this specific sector this study has relied heavily on previous works across different sectors but is also conscious of the subtle and pronounced differences present and hence it needs to be clarified that the results of the study might not be in confirmation of previous findings in other sectors. Also, the aim is to identify those differences and devise ways and means which really work in overcoming these differences. Identifying strategies that work is important so that any detrimental effects of generational assortment can be nipped in the bud. The scope of the study is to understand generational diversity as an essential part of the Indian workforce, where diversity to date primarily refers to only gender, regional and disability studies.

II. 2. LITERATURE REVIEW

A Study on "Managing in a Multi-Generational work Place" conducted by NASSCOM to determine the competencies for the technology and enabled services industry focused to explore competencies to needed to manage the Gen-X at work environment. It is because of the financial , economic, and technical shifts that are shaking conventional management styles and work climate. The goal of the above study is to establish an industry-wide perspective through the collection of quantitative and qualitative data through targeting organisations. The above research study was performed on the premise that it is important to investigate both the home environment and the company in order to focus on the competencies required to handle the Gen-Y at the workplace.

Amir Zees a & Ahmed Irma (2012), clarified from their article "Generational Diversity: Strategies to Bridge the Diversity Gap" that the different styles of diversity are important ingredients in the organizational work environment in terms of race ethnicity, gender and age, and these diversities have become a major source of conflict and collaboration. The managers and organizations should promote an open and welcoming environment in which workers can learn about different generations as well as share their thoughts without fear. The increased diversity, however, is assured to deliver incentives for greater creativity and more effective ways of doing business. It is important to note that each generation possesses a diverse set of skills and in different capacities makes a valuable contribution to the workforce.

Namitha Rajani (2012), in her article "Engaging generations at the Workplace" concludes that engaging multiple Generations at the workplace to capitalize on their diverse skills and competencies can be a competitive advantage for them. According to author different generational employees have different values and aspirations but they are making a difference by contributing to the overall development of the organization. The HR practitioners and leaders should work towards understanding the diverse values and aspirations of the employees apart from that the organizations should create the structure that maximizes the collaborations among the different generations and should meet the different needs and aspirations of different generations to build an inclusive and engaged workforce that will ensure the overall business success.

Omkar Sapre(2010), in his article "India Inc. vies for the multi-generation workforce to achieve optimum efficiency," revealed that businesses are collaborating with multi-generation teams with these approaches to promote diversity and actively eradicate bias. The enduring programs that regularly sensitizes employees about organizational priorities allow senior employees the freedom to choose positions using social media networking platforms that holding informal sessions to facilitate collaboration. Employee bonding is taken very seriously for which organizational management is important to make people feel they are needed, resources and motivate them with information.

In a roundtable conference on 'Multigenerational Workforce Diversity,' SHRM India and Prof. VasanthiSrinivasan (2014) presented that generations in Western countries can be identified on the basis in birth-year cohorts, while in the Indian context the generation would be defined on the basis of financial , cultural and demographic factors. Both variables play an important role in assessing specific individuals' beliefs and behaviors, from which they can be categorized into different categories. Generational family-related ideals are likely to build greater spaces in the organizations for cooperation through generations. The study aimed to categorize generations in addition to establishing the structures that will be placed at work by organizations to strengthen multi-generational cooperation and its implications for HRM in the Indian context.

Rodney (2012), explored in her article "Impact of multigenerational diversity in the workplace: A big obstacle to address "where potential organisations need to harness the resources of several generations of their workforce in a manner that contributes to teamwork, deeper information exchange that contributes to innovative approaches and networks that facilitate knowledge sharing and alignment. Among the negative factors that affect the organization are increased creativity, innovation, openness to change, stimulus for creative thinking, cross-pollination of ideas in a constructive way delayed decision-making, ego conflict, confusion and discord. Therefore the collective aim of workers and employers is to control and manage multi-generational workplace diversity.

Based on the above review of the literature on workforce diversity in the workplace, it could be deduced that majority of the studies are focussed on the advantages of generational diversity and there is no much concentration on IT/ITeS industry. Therefore, this research is aimed to fill the gap in the literature, as it focuses on the occurrence of various events where generational differences play a role in the IT/ITeS industry.

III. METHODOLOGY

The data was collected from both primary and secondary sources.

3.1 Sources of Primary and Secondary

The study is based on first hand information as well as secondary data. The key purpose of this research is to examine workplace priorities of different generations on various aspects of human resource activities. The primary data were then obtained from various IT / ITES workers, Visakhapatnam. A total of 575 questionnaires were administered among I.T / ITES, Visakhapatnam employees during 2016 in the case of primary data. Secondary data is collected from IT / ITES companies' Articles , Journals, Various websites and annual reports.

3.2 Sampling and Statistical Techniques

This study utilized a technique of convenience sampling to collect primary data. Convenience sampling is a statistical technique of collecting representative data by selecting individuals because of their ease of volunteering or selecting units regardless of their capacity or ease of access. The benefit of such sampling is the simplicity and speed at which data can be collected. The drawbacks are the possibility the sample does not represent the entire population, and volunteers may skew it. Under this report the researcher meets the customers directly according to their convenience and collects data. Therefore, there is a finite number of participants in this sample and their comfort is known.

As per Andhra Pradesh Industrial Infrastructure Corporation (APIIC), there are 13,450 are working in IT / ITES companies, Visakhapatnam. According to the concept of margin of error (4 percent) and 95 percent of confidence level, the required sample is 575. So, the researcher has taken 575 employees as the sample for this study.

3.3 Data Analysis

Data analysis is done using SPSS (Statistical Package for Social Science) version 20.0. The data has been analyzed with the help of required statistical tools such as descriptive statistics, and multiple regression analysis is used to know the impacting factors of workplace according to generational diversity.

IV. DISCUSSION AND FINDINGS

In today's usage, "generation gap" often refers to a perceived gap between younger people and their parents or grandparents. In this context, the researcher attempted to know the factors which impact the work environment due to generational diversity. Multiple regression is used to know the factors which influence the work environment. Perceptions on various factors of the work environment are analyzed based on three generations called elder generation, mid-generation and the younger generation.

It is observed that the elder generation believes that the workers from different generations work effectively together. Also, younger generation respondents perceive that the workers from different generations learn from each other. Almost all generations feel that the Quality of work improves when there are a variety of generational perspectives.

Both elder and younger generations said that the Young generations are keen to learn through mentoring initiatives. And also, the younger generation perceives about creativity as ‘Environment conducive, innovation &creativity is created due to the presence of different generations’. The respondents from mid-generation perceived that ‘Employees state that coworkers from other generations have a very different perspective about authority & supervision. Younger generations feel that the senior generations look forward to reversing mentoring initiatives.

The p values are less than to 0.05 for the parameters namely ‘Workers from different generations learn from each other’, ‘Inputs from workers of different generations balance one another’, ‘Environment conducive to innovation & creativity is created due to presence of different generations’ which are representing a statistically significant difference between the three generations. There are differences among the three generations on various positive aspects of generational differences.

The p-values of two dimensions namely ‘Different generations have conflicts about acceptable work hours’, ‘Employees complain about the improper mode of communication’ are less than to 0.05. These are statistically significant. Therefore, the three generations have different perceptions of ‘conflicts’ and ‘improper mode of communication’.

Regression to know the variables which influence the work environment:

The table below provides a description of the model of multiple regression, which tells the relationship between diversity of the workforce and Independent variables. The researcher has measured the multiple regressions to find out the variables affecting the workplace. The table value R is 0.628, which says there is a positive correlation between the workforce and various work environment factors. The R^2 value tells about the percentage of outcome that the predictors describe, i.e., 16 variables.

Table-1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	.628[a]	.3893	0.372	0.695
a. Predictors: (Constant), Effective work, learn from each other, Quality of work, mentoring initiatives, inputs from workers, innovation & creativity, new insights, authority & supervision, reverse mentoring, acceptable work hours, do not respect others, communication breakdown, over- or under-reliant on technology, Resentment, improper mode of communication, take co-workers less seriously.				

Dependent Variable: Workforce diversity

Table-2: The significance of the model:

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	14.786	16	.924	1.912	.017 **
Residual	269.638	558	.483		
Total	284.424	574			

** Significance at 0.05

The R^2 for the model is 0.3893, which means predictors describe 38.93 percent of the overall perception about it. The R2 value modified provides an indication of how well the model generalizes the difference (0.3893-0.372) or 1.7%. This shrinkage means that if the model were derived from the population rather than from a sample it would account for about 1.7 percent chance of outcome variation. The F-value 1.912 from the table with p=0.017 is important at the standard significance level of 5 per cent. It can therefore be argued that the multiple regression model results in a substantially improved estimation of the reasons for the interpretation of various variables towards the work environment.

The table below provides the details of the parameters of the model (beta values) and meaning of those values. From the table, b0 is 1.444 and this can be interpreted as the model predicts that the perception will be 1.444 when there are no predictors (when X =). The value of b1=0.033 implies that an increase in 1 unit perception of the product results in an increase in overall perception in the workplace by 0.033 times. Similarly, the remaining variables are values b.

Table-3: Showing un-standardized and standardized coefficient values for an understanding of perception towards work environment

Parameters	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.444	.189		7.652	.000
Effective work	.033	.048	.033	.684	.004 **
learn from each other	.021	.050	.022	.418	.000 *
Quality of work	.082	.050	.078	1.643	.001*
mentoring initiatives	.015	.048	.016	.317	.000 *
inputs from workers	.063	.048	.064	1.309	.191
innovation & creativity	.042	.049	.044	.854	.03**
new insights	.001	.043	.001	.025	.980
authority & supervision	.042	.047	.049	.893	.000 *
reverse mentoring	.041	.053	.043	.771	.001 *
acceptable work hours	.025	.049	.026	.512	.609
do not respect others	-.029	.048	-.028	-.615	.539
communication breakdown	.025	.046	.026	.545	.021**
over- or under-reliant on technology	-.005	.040	-.006	-.123	.000 *
Resentment	-.005	.046	-.006	-.108	.914
improper mode of communication	.016	.051	.016	.317	.751
take co-workers less seriously	-.012	.046	-.011	-.249	.803

a. Dependent Variable: Generation; *Significance at 0.01; ** Significance at 0.05.

It is interpreted that, the p-values of the parameters are less than to 0.05. so, the work environment is impacted by the variables ‘Effective work’, ‘learn from each other’, ‘Quality of work’, ‘mentoring initiatives’, ‘innovation & creativity’, ‘authority & supervision’, ‘reverse mentoring’, ‘communication breakdown’, ‘over- or under-reliant on technology’.

V. CONCLUSION

In this digital era, generation is often play an important role in the workplace. Different generations may take decisions differently in uncertain situations. So, the researcher tried to know the perceptions of different generation’s employees. The study is carried with a sample of 575. the elder generation believes that the workers from different generations work effectively together. Also, younger generation respondents perceive that the workers from different generations learn from each other. Almost all generations feel that the Quality of work improves when there are a variety of generational perspectives. Both elder and younger generations said that the Young generations are keen to learn through mentoring initiatives. And also, the younger generation perceives about creativity as ‘Environment conducive, innovation &creativity is created due to the presence of different generations’. The respondents from mid-generation perceived that ‘Employees state that coworkers from other

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generations have a very different perspective about authority & supervision. Younger generations feel that the senior generations look forward to reversing mentoring initiatives.

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Rise of Crypto Currency-Bitcoin and Impact on the Financial System

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Abstract: A product of the 21st century, crypto-currency is a digital representation of a value that can be digitally traded and functions as a medium of exchange, a unit of account or store of value. Safety, simplicity, affordability, reachability, and transparency are advantages however, challenges such as fraud, complexity, money laundering plague Bitcoin, Lite coin, Dodge coin, Amazon coin,ethereum coin, Nemcoin, Libra, DC/EP coin.

Key Words: Crypto-Currency, Bitcoin, Financial system

I.INTRODUCTION

Money has been in existence for the last 3000 years originating from China as rudimentary coins to being officially minted in Lydia by king Alyattes 600B.C.It has acted as a means of exchange and store of value since the 15th century replacing the barter system which involved trading "something for something", this not only took a lot of time but was also cumbersome. 700B.C witnessed the rise of paper money in China and was eventually adopted by England and Europe as a whole in 1666, its rise improved financial stability and confidence not only in domestic trade but more so international trade leading to the rise of strong financial systems in England, Europe and Asia however, challenges such as hyperinflation and counterfeiting resulted in countries such as China temporarily abandoning paper money in 1455. 21st century gave rise to electronic payments through the invention of the internet in 1969 by ARPNET a USA military project and taken advantage of by Stanford Federal Credit Union in 1994 which introduced online payments and online banking system to its members later spreading to other financial institutions leading to rising to EFTs, credit cards, debit cards, prepaid cards and eventually E-cash of Cyber coin in 1966. The concept had been introduced by computer engineer Wei Dai ten years before cryptocurrency. In 1998 he released a paper about "B-money," the concept of digital currencies that could be sent along with a collection of cryptographic pseudonyms that cannot be traced. The same year, however, another attempt by the name of Bit Gold was introduced on 31 October 2008 by blockchain founder Nick Szabo, the idea was ultimately perfected by Satoshi Nakamoto who piloted the first developed block, Genesis. Virtual currency is not bound by borders, minimal regulation and much convenient in the 21st century due to their adaptability to the internet and modern technology, 2020 witnessed the rise of over 2000 virtual currencies globally valued at 237.1 billion dollars.

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However, unlike few countries like Switzerland that have openly accepted virtual currency such as Crypto,many countries globally have either banned (China, Bulgaria) virtual currencies in the form of crypto or refused to formally recognize them as official currencies. (India, Netherlands). Rejection of Crypto-currency in countries such as China isfear of anonymity, money laundering, illicit trading, and tax avoidance. These negative factors are all against the traditional motives of the invention of "money" and until ably addressed by the users, skepticism and negative regulation will surround cryptocurrency. By 2019, cryptocurrency scam in form of Bitcoin scams amounted to more than 4billion US dollars from players such as; One coin, Plexcoin, Bit connect, Pincoin, and ifan. Therefore, the researcher tried to exploit factors of cryptocurrency and its impact on the financial system.

II.CRYPTO-CURRENCY - THE CONCEPT

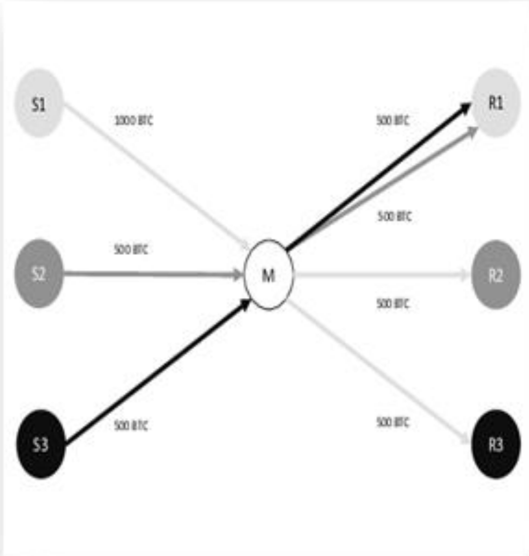
Bill Gates founder of Microsoft likened Bitcoin to a "techno tour de force", modernity and speed at which it's changed the financial system has been unforeseen, positioning many governments and regulators playing catch-up in terms of regulation and control. Unfortunately, advantages of anonymity, profitability and exchanging value without regulation from an institution have equally drawn negative attention and criticism from financial regulators, Jamie Dimon Chairman and CEO;JP Morgan Chase one of the largest banks in the USA,referred to Bitcoin as a "bubble worse than tulip bulbs, a fraud in the making that would not end well"Such polarizing statements made by two of the most influential global personalities have created uncertainty and intrigue around Bitcoin but also virtual currencies as a whole. Virtual currency maintains features of traditional currencies based on an idea of exchanging value without regulation or approval of an institution however having no legal tender. According to the European Central Bank, Virtual currencies are unregulated digital money issued and controlled by its developers and accepted in a specific virtual community however later on in 2015,the European Central Bank later eliminated the term "money" as they lack a high liquid asset and lack of public acceptance and the term "unregulated" as a few European countries had adopted guidelines and regulations. Virtual currencies can thus be defined as a digital representation of value not issued by a credit institution or central bank which in some cases can be used as an alternative money. Crypto-currency is based on two technical solutions; "blockchain and mining," the blockchain is part of the electronic framework of

Bitcoin which serves as the accounting mechanism of the network using a 'Distributed Ledger Technology' (DLT) is a scheme that allows for 'a database of globally distributed mirrored, linked, which coordinated digital records.This tracks recent transactions as blocks and connects them to previous transactions, maintains a historical overview of all network-wide operation, provides a comprehensive archive of all Bitcoin transactions ever created which is completely available, which users depend on similar versions of the ledger – the database is stored on several network-wide servers, or 'nodes,'.The Blockchain, as an accounting tool for a distributed network, represents a significant breakthrough in the double-entry bookkeeping processes that central banks and the traditional financial system have depended on for decades. Blockchains' protection approach was to classify users on the blockchain, not by my name but by alphanumeric 'shared keys' linked with their account, a function that many financial intuitions and governments envied and equally adored. Bitcoin's value is generated by mining that provides consumers with an opportunity to engage in which a transaction is sent to the Bitcoin network. A member in the network must verify the transaction before the transaction is registered on the Block Chain and merge it into a block with other pending transactions, computers in the network then rush to determine, or 'mine,' a solution to a cryptographic problem that enables the block to be connected to a previously verified block.When a miner discovers a solution, other network members verify the consistency of their work ensuring the validity and can be added to the blockchain helping to protect the Bitcoin network and requiring the blockchain to serve as an eternal database, while changing the transactional information contained on the blockchain would entail replication of the entire mining cycle from the period Bitcoin was established – an inference

III.FINANCIAL DISRUPTIONS OF CRYPTOCURRENCIES:

Anonymity, Bitcoin uses an alphanumeric code that does not take into account the conventional financial way of marking a transaction with the customer's name and address, besides, a "mixing" strategy that enables Bitcoin users to transfer Bitcoin's from one address to a mixing service and receive Bitcoin's mixing service to another address that could not be connected to the original one, operated by a central authority. To count as a legal transaction, all users involved in the mixing, blind signatures will sign the transaction ensuring that the meeting server does not know details about the linkability between the input and the output address.However, the likelihood that the mixer might de-anonymize users using its encrypted information is still high scenarios such as "silk road" operated by Ross Ulbricht, who used bitcoin as a big payment, enabling one of the biggest electronic drug exchange valued at $4 billion, while it was a wake-up call for many policymakers to either strictly control Bitcoin or solely ban in the case of China.

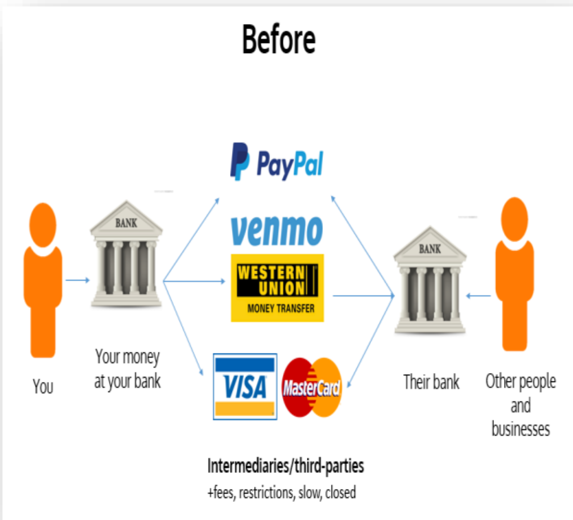
Figure-1:**Bitcoin mixing**

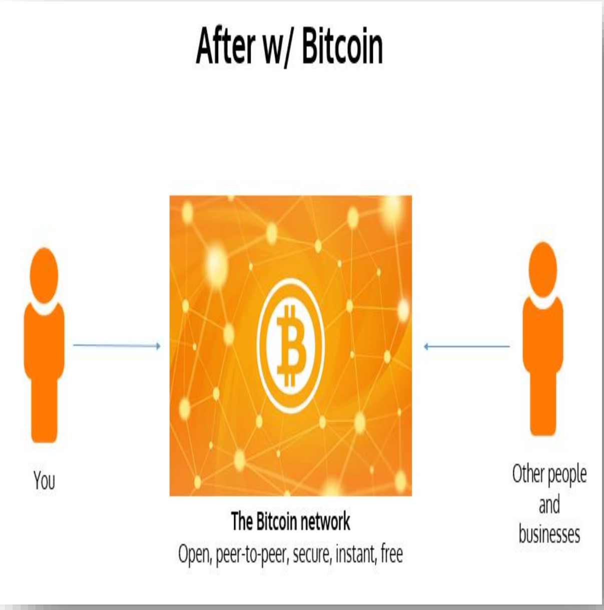


[1] www.researchgate.net/figure/Bitcoin-mixing-example_fig1_322914722

Interpretation: Accessibility and convenience, Bitcoinis based on decentralized autonomous cooperation (DAC), a form of cooperation that is code on the cloud-based algorithm set up to perform certain characteristics that create value. DAC is based on autonomous technology that is engrossed in today's modern devices making it easily reachable and accessible to users through phones and computers, such innovation has created stiff competition between traditional banks whose transactions take longer with unnecessary red tape also, users of Bitcoin don't need to walk into offices and fill documents rather they act remotely on mobile devices encouraging a few banks to study the DAC system but also revamp their traditional banking systems with features such as e-banking.

Figure-2:**Transactions "before" and "after" Bitcoin**

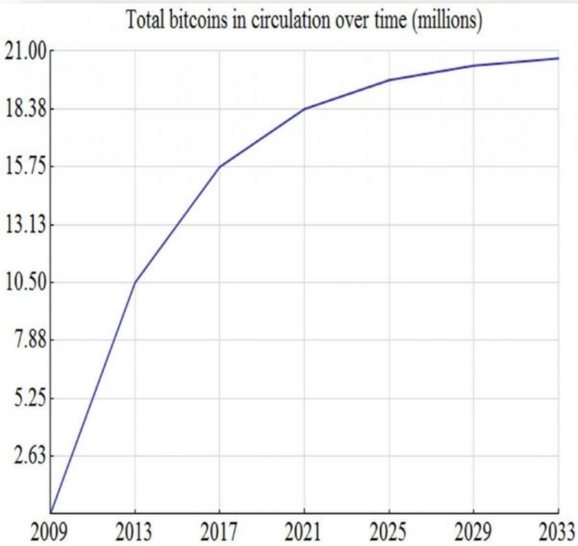




[2]. www.medium.com/@liamzebedee/3-essential-takeaways-from-the-mit-microsoft-Bitcoin-talk-54a4cd71a702#.l7zeppbil

Interpretation: Digital scarcity, Bitcoin relies on algorithms that create artificial scarcity controlling demand and supply as banks regulate money supply in the financial system. The scarcity of the Bitcoin is determined by the difficulty in "mining" and value-driven from the present and future supply giving an incentive to the owners of Bitcoin to purchase Bitcoin employing intensive computer machinery to solve complicated algorithms however this creates abnormal power consumption estimated to consume as much power as Denmark. However,by 2030Bitcoin will approach their optimum of 21 millionand according to programming protocols,no programmer currently can manipulate this feature making it vulnerable to skepticism about finite digital scarcity, unlike traditional currency.

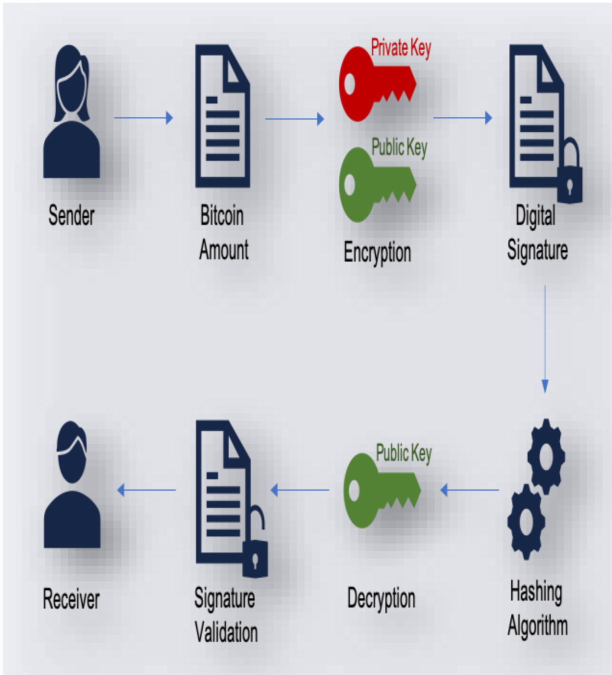
Figure-3: Total Bitcoins in circulation over time (millions)



[3]. www.vamos.ee/easy-trade/limited-supply-of-Bitcoin-ethereum-mh/

Interpretation: Transparency, unlike the traditional banking system the Bitcoin system is based on decentralized trust which requires the user to be able to track an initial transaction from the point of being accepted by the Bitcoin mechanism to finally being recorded in the ledger of distributed funds on the blockchain. Each user is availed a Bitcoin wallet, a private and public key which all act in sync, Bitcoin wallet doesn't store the Bitcoin but only recording transactions and balance.The public key is 34 long alphanumeric and can be seen by anyone and though related to the private key,the 64 alphanumerics should remain personal as it acts as a digital signature when issuing transactions. Such an innovative approach to Bitcoin transactions makes Bitcoin transparent and secure to transact to both public who can access information by tracking the public key which provides all transactions but also the private key which safeguards the user's information. However, technologydoesn't hack-proof, many users have lost colossal sums of Bitcoin to hackers, the 2014 Mt.Gox case which lost an approximate $470million worth of Bitcoin deflating prices by 50%, to date Bitcoin has incurred an accumulated loss of more than 4billion dollars creating unease within governments and financial regulators resulting in stringent regulations in countries like Russia or total ban in the case of China.

Figure-4: **Bitcoin transaction**



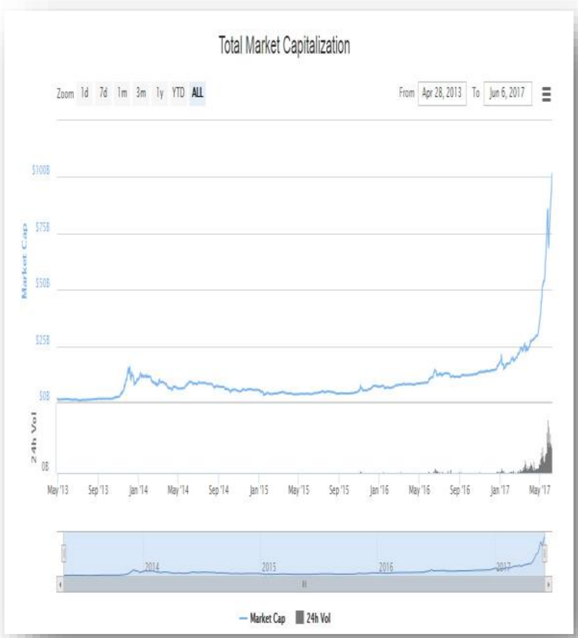
[4].www.coincover.com/post/how-are-Bitcoins-traded-and-what-is-a-wallet-signature

IV.CONCLUSION:

Acceptance, yet the biggest character cryptocurrencies and in particular Bitcoin has failed to achieve as currency volatility and extreme unpredictability defines Bitcoin creating a cloud of negative perceptions from the future users but also harsh regulation policies.

The current traditional system is based on fiat or in a few cases the gold standard, regulators can be able to predict inflation, recession and "overheating "of an economy through regulating the supply and demand of currency, this is not the case of Bitcoin which theoretically lacks any possibility of financial regulation as its value is based on artificial scarcity controlled by mathematical algorithms. However, financial regulators are not ignorant of solutions crypto-currency in particular Bitcoin offers in overhauling an outdated traditional currency defined by money laundering, high transactional fees,and incompatibility with the current technology which is based on online payment. "Libra" a currency developed by Facebook a USA based company is attempting to create a cryptocurrency dwarfing Bitcoin based on not a competition but initial collaboration with not only existing regulators of all currency; LibraUSD or ≋USD, LibraEUR or ≋EUR, LibraGBP or ≋GBP, LibraSGD or ≋SGD) but also partnership with intermediaries such as PayPal and MasterCard who have since distanced themselves from Libra. DC/EP, China's presumed digital currency also based on blockchain is being tested run in a few selected banks in anticipation of the 2022 Olympics but a possible merger with the upcoming 5G simcards. Ironically, Jamie Damion CEO JP Morgan and Stanley one of blockchain fierce critics launched the JPM Coin based on blockchain technology alongside the fiat system, and though currently a prototype in a few institutions, it's predicted to be used by businesses in the future.

Figure-5:**Total Market Capitalization of Crypto-currency**



[5]. Cryptomining-blog.com/tag/btc-market-capitalization/

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AWARENESS ON CLINICAL LITERACY AMONG GENERAL PUBLIC-AN EXPLORATIVE STUDY OF DIRECT OPINIONS OF PATIENTS IN URBAN AND RURAL OF VIJAYAWADA, ANDHRA PRADESH

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ABSTRACT

Literacy is different from illiteracy; where both are quite differentiate from clinical literacy that is what the researcher would like to focus with the help of the present study. The present study conducted on patients of urban and rural area hospitals on the basis of literacy levels. Both literate and illiterate patients in and around Vijayawada area are considered as the respondents in the study. Awareness on clinical terminology, Interest on clinical literacy improvements, are the variables in the study. The researcher constructed a scale based on awareness and interest the questionnaire has been developed and circulated among patients in both local and English language respectively. And for analysis SPSS software has been used.

KEYWORDS: Clinical literacy, Clinical Issues & Clinical Terminology

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Original Article

1. INTRODUCTION

Clinical literacy is the state of a literacy, where one can understand or to provide knowledge on their or any others 'diseases / disorders and its control. Clinical literacy management is to create awareness among people on patients diseases/disorders and treatment.

In the present study the researcher focused on the awareness of clinical literacy on general literates and illiterates of urban and rural patients, whether they are good enough to know and understand about themselves and family members. Clinical literacy includes various aspects like diseases, disorders, first aid, diagnosis, medication, drug dosages, its reactions, medical terminology, and dietary precautions etc.

1.1. Research Gap:

Due to increased patient rush in hospitals, though technology upgraded the rate of deaths or recoveries not decreased, it is the need of the hour to know what is happening around us is a basic requirement. And we are observing, the Government also emphasize in recent days on clinical education among people. There are number of studies in healthcare issues, hospital management, but very limited research is available in this regard. Clinical literacy is also a new term in general so that the researcher would like to find out the significant impact among the public with the help of present study.

1.2. Statement of the Problem:

The present study reveals the public how it is helpful to every one's life and understands what impact on us.

2. OBJECTIVES OF THE STUDY:

- To examine the awareness levels among the patients towards clinical literacy.
- To find out the differences in the perceptions if any between urban and rural patients about Clinical literacy.
- To suggest suitable ways to improve clinical literacy levels in public.

2.1. Hypotheses of the Study:

- **$H_0$1**: There is no significant difference in the perceptions among the patients on clinical literacy awareness.
- **$H_1$1**: There is a significant difference in the perceptions among the patients on clinical literacy awareness.
- **$H_0$2**: There is no significant difference in the perceptions between urban and rural patients about literacy on medical services.
- **$H_1$2**: There is a significant difference in the perceptions between urban and rural patients about literacy on medical services.
- **$H_0$3**: There is no significant difference in the perceptions between urban and rural patients about association with medical staff.
- **$H_1$3**: There is a significant difference in the perceptions between urban and rural patients about association with medical staff.

3. RESEARCH METHODOLOGY:

The researcher constructed a sample frame of 2000 patients in 10 days, based on average visitors to the government hospitals in and around Vijayawada. The researcher has taken one urban and one rural hospital near Vijayawada area in A.P. Out of which 10 percent i.e., 200 respondents are selected as a sample on random basis.Around 100 respondents are daily population for both hospitals each, among them the researcher selected 10 respondents from each day from both urban and rural area hospitals.

3.1. Occupation Wise Classification among Patients:

Table 1 shows the Classification of the respondents based on occupation. It is observed that, out of a total of 200 respondents in both urban and rural of Vijayawada, 59 respondents are farmers; 72 respondents are employees and 69 respondents are self employed.

Table 1: Classification of the Respondents Based on Occupation

Occupation	Urban	Rural
Farmers	15	44
Employees	45	27
Self employed	40	29

3.2. Correlation:

Table 2 shows it is clear that in all occupations, almost perfect Negative correlation (-0.99) is observed between Urban and rural people with respect to Occupation.

Table 2: Correlation

Occupation	Urban	Rural
Urban	1	
Rural	-0.99883	1

3.3. Qualification Wise Classification of the Respondents:

Table 3 shows the Classification of the respondents based on qualification. It is observed that, out of a total of 200 respondents in both urban and rural of vijayawada, 60 respondents are studied up to SSC; 64 respondents are having qualification up to UG, 55 respondents are having qualification up to PG, and only 10 respondents are above PG.

Table 3: Classification of the Respondents Based on Qualification

Qualification of Respondent	Urban	Rural
Upto SSC	20	40
Upto UG	37	27
Upto PG	33	23
Above PG	10	10

3.4. Correlation:

Table 4 shows it is clear that in different qualifications of the respondents a very low positive correlation (0.34) is observed between Urban and rural people with respect their qualification.

Table 4: Correlation

	Urban	Rural
Urban	1	
Rural	0.344978	1

3.5. Income Level of the Patients

Table 5 shows the Classification of the respondents based on the income levels. It is observed that, out of a total of 200 respondents in both urban and rural of Vijayawada, 21 respondents are having less than 1 lakh of income; 33 respondents are having an income of 1 lakh to 2 lakhs, 93 respondents are having an income levels from 2 lakhs to 5 lakhs, and 53 respondents are having above 5 lakhs of income.

Table 5: Classification of the Respondents Based on the Income Levels

Income Levels	Urban	Rural
Less than 100000	15	6
100000200000	15	18
200000500000	30	63
above 500000	40	13

3.6. Correlation:

Table 6 it is clear that in different income levels of the respondents a very low positive correlation (0.28) is observed between Urban and rural people with respect their income levels.

Table 7 shows it is observed that 138 respondents out of a sample of 200 are less aware about Disease/Disorder and its symptoms; 132 out of 200 are less aware about First aid/diagnosis requirements; 112 and 104 respondents out of a sample of 200 are not aware about Medication, dosages and their reactions and Dietary precautions.

Table 6: Correlation

	Urban	Rural
Urban	1	
Rural	0.284747	1

Table 7: Level of Awareness on Various Medical Issues among the Respondents

Statements	Level of awareness					Total
	Very High	High	Normal	Low	Very Low	
Disease / Disorder and its symptoms	10	24	28	90	48	200
First aid / diagnosis requirements	12	32	24	88	44	200
Medication, dosages and their reactions	20	36	20	112	12	200
Dietary precautions	28	40	16	104	12	200
Total	**70**	**132**	**88**	**394**	**116**	**800**

3.7. Chi-Square Tests

Table 8 shows the chi-square results about the awareness levels on diseases, diet and medication. The chi-square value is 31.813 with p-value 0.001. The relation between the statement of awareness and the level of awareness is significant. That is the awareness about various statements differs significantly.

Table 9 shows the comparison of awareness levels about clinical literacy in both urban and rural respondents. Out of a sample of 214 urban respondents majority (106) respondents felt low awareness levels on clinical literacy. Similarly, Out of a sample of 186 rural respondents majority (91) respondents felt low awareness levels on clinical literacy.

Table 8

	Value	Df	A symp. Sig. (2-Sided)
Pearson Chi-Square	31.813[a]	12	.001
Likelihood Ratio	33.094	12	.001
Linear-by-Linear Association	13.627	1	.000
N of Valid Cases	800		

a. 0 cells (0 %) have expected count less than 5. The minimum expected count is 8.75.

Table 9: Level of Awareness among Urban and Rural Respondents

Area	Level of awareness					Total
	Very High	High	Normal	Low	Very Low	
Urban	21	35	21	106	31	214
Rural	14	31	23	91	27	186
Total	35	66	44	197	58	400

3.8. Chi-Square Tests

Table 10 shows the chi-square results about the awareness levels on diseases, diet and medication in both urban and rural is shown to know the association. The chi-square value is 1.197 with p-value 0.879. The relation between the statement of awareness and the area of the respondent is not significant. That is the awareness about various statements did not influenced by the area of the respondents. Hence Null hypothesis-1 is accepted

Table 11 it is observed that 134 respondents out of a sample of 200 are perceived that they do not have liberty in choosing the second opinion with another doctor also in sparing time by the doctors in completing the information about patient condition. Similarly, the respondents are equally perceived about sharing information before and after the treatment. Majority of the respondents (110 out of a sample of 200) are perceived disagreement with the statement "forcing that doctor for diagnosis, pharmacy and surgeries".

Table 12 the comparison of awareness levels on liberty in medical services among the respondents in Urban and Rural Patients. Out of the responses of 520, urban respondents majority (322) respondents felt disagreement on liberty in choosing medical services. Similarly, Out of the responses of 480 rural respondents majority (294) respondents felt disagreement on liberty in choosing medical services.

Table 13 the Descriptive statistics on liberty in medical services among the respondents. The mean of the perceptions of urban patients on liberty in medical services among is 2.6774 with a standard deviation of 0.80991. The mean of the perceptions of rural patients on liberty in medical services among is 2.3602 with a standard deviation of 0.3602.

Table 14 the significant differences of the perceptions of both urban and rural patients are analyzed and shown with t-test. The data is satisfied with normality. So, parametric test (t-test) is suitable to apply. The t-value in comparing the perceptions of both Urban and Rural patients is 1.284 with p-value 0.20. Here, the p-value is more than to 0.05.Therefore, it is not significant. Therefore, it is concluded that the perceptions of both urban and rural patients are same about the liberty in medical services. So, Null hypothesis-2 is accepted.

Table 15 Level of perception on various medical aspects among the respondents. It is observed that 140 respondents out of a sample of 200 are perceived that the conduction of more medical camps is required. 140 respondents out of a sample of 200 are agreeing that the Counseling implementation is required / mandatory. 160 respondents out of a sample of 200 are agreeing that the government emphasis/participation should be more. Majority of (170) respondents out of a sample of 200 are agreeing that the knowledge on medical issues is mandatory in primary schooling for everyone.

Table 17 the comparison of awareness levels on various medical aspects among the respondents in Urban and Rural Patients. Out of the responses of 378, urban respondents majority (282) respondents felt agreement on various medical services which are mentioned in the above table. Similarly, Out of the responses of 422responses from rural respondents majority (328) respondents felt agreement on various medical services which are mentioned in the above table.

Table 18 the Descriptive statistics on comparison of awareness levels on various medical aspects among the respondents in Urban and Rural Patients. The mean of the perceptions of Urban patients on medical aspects is 4.132 with a standard deviation of 0.452. The mean of the perceptions of Rural patients on various medical aspects medical services is 4.011 with a standard deviation of 0.623.

Table 19 the significant differences of the perceptions of both urban and rural patients are analyzed and shown with t-test. The data is satisfied with normality. So, parametric test (t-test) is suitable to apply. The t-value in comparing the perceptions of both urban and rural patients is -2.341 with p-value 0.120. Here, the p-value is more than to 0.05.Therefore, it is not significant. Therefore, it is concluded that the perceptions of both urban and rural patients are same about various medical aspects.

Table 20 shows Level of perception on association with various medical staff among the respondents is shown in the above table. It is observed that 120 respondents out of a sample of 200 are perceived that they do not have good association with doctors. 110 respondents out of a sample of 200 are perceived that they do not have good association with Radiographer/ Diagnostician. 100 respondents out of a sample of 200 are perceived that they do have good association with

Pharmacist. 106 respondents out of a sample of 200 are perceived that they do not have good association with Counselors but 100 respondents out of a sample of 200 are perceived that they do have good association with Nurses and caretakers.

Table 21 the comparison of Level of agreement on association with different medical staff among the respondents in Urban and Rural respondents is shown in the above table. Out of the responses of 484, urban respondent's majority (219) respondents felt they do have association with different medical staff which is mentioned in the above table. Similarly, Out of the responses of 516 responses from rural respondents majority (274) respondents felt disagreement on association with medical staff which is mentioned.

Table 22 the Descriptive statistics on comparison of Level of agreement on association with different medical staff among the respondents in Urban and Rural areas. The mean of the perceptions of Urban patients on association with medical staff is 3.983 with a standard deviation of 0.613. The mean of the perceptions of Rural patients on association with medical staff is 2.642 with a standard deviation of 0.761.

Table 23 the significant differences of the perceptions of both urban and rural patients are analyzed about the association with medical staff with t-test. The data is satisfied with normality. So, parametric test (t-test) is suitable to apply. The t-value in comparing the perceptions of both urban and rural patients regarding the association with medical staff is -2.380 with p-value 0.018. Here, the p-value is less than to 0.05.Therefore, it is significant. Therefore, it is concluded that the perceptions of both urban and rural patients are different about association with medical staff. So, Null hypothesis-3 is failed to accept.

Table 10

	Value	Df	Asymp. Sig. (2-Sided)
Pearson Chi-Square	1.197[a]	4	.879
Likelihood Ratio	1.201	4	.878
Linear-by-Linear Association	.098	1	.754
N of Valid Cases	400		

a. 0 cells (0 %) have expected count less than 5. The minimum expected count is 16.28.

Table 11: Level of Awareness on Liberty in Medical Services among the Respondents

Statement	Level of Agreement					Total
	SA	A	N	D	SD	
Liberty in choosing hospital / doctor for second opinion	24	30	12	84	50	200
Doctors spare time for complete information about condition	26	30	10	82	52	200
Doctors allow you for sharing information before and after the treatment	40	32	16	72	40	200
Forcing you for diagnosis, pharmacy, surgeries	40	32	18	70	40	200
Taking decisions about medication, dietary advices.	30	40	4	50	76	200
Total	**160**	**164**	**60**	**358**	**258**	**1000**

Table 12: Level of Awareness on Liberty in Medical Services among the Respondents in Urban and Rural Patients

Area	Level of Agreement					Total
	SA	A	N	D	SD	
Urban	84	82	32	180	142	520
Rural	76	82	28	178	116	480
Total	**160**	**164**	**60**	**358**	**258**	**1000**

Table 13: Significance Testing by t-test

Area	N	Mean	Std. Deviation	Std. Error Mean
Urban	200	2.6774	0.80991	.15959
Rural	200	2.3602	0.92486	.19039
Total	**400**			

Table 14: Independent Samples Test

		Levine's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Liberty in medical services among the respondents	Equal variances assumed	.099	0.753	1.284	544	0.200
	Equal variances not assumed			1.277	495.29	0.202

Table 15: Level of Perception on Various Medical Aspects among the Respondents

Statement	Level of Agreement					Total
	SA	A	N	D	SD	
Conduction of more medical camps is required.	100	40	40	8	12	200
Counseling implementation is required / mandatory	90	50	24	20	16	200
Government emphasis/participation should be more	100	60	22	8	10	200
Mandatory in primary schooling for everyone	120	50	20	6	4	200
Total	**410**	**200**	**106**	**42**	**42**	**800**

Table 16: Level of Agreement on Various Medical Aspects among the Respondents in Urban and Rural Respondents

Area	Level of Agreement					Total
	SA	A	N	D	SD	
Urban	182	100	54	20	22	378
Rural	228	100	52	22	20	422
Total	**410**	**200**	**106**	**42**	**42**	**800**

Table 18: Significance Testing by t-test

Area	N	Mean	Std. Deviation	Std. Error Mean
Urban	200	4.132	0.452	0.112
Rural	200	4.011	0.623	0.311
Total	**400**			

Table 19: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Awareness levels on various medical aspects	Equal variances assumed	4.134	0.073	-2.341	544	0.120
	Equal variances not assumed			-2.328	489.22	0.110

Table 20: Level of Perception on Association with Different Medical Staff

Statement	Level of Agreement	Total

	SA	A	N	D	SD	
Association with doctors	20	40	20	40	80	200
Association with Radiographer / Diagnostician	30	30	30	30	80	200
Association with Pharmacist.	50	50	40	40	20	200
Association with Nurses and caretakers	50	50	40	40	20	200
Association with Counselors	22	22	50	54	52	200
Total	**172**	**192**	**180**	**204**	**252**	**1000**

Table 21: Level of Agreement on Association with Different Medical Staff among the Respondents in Urban and Rural Respondents

Area	Level of Agreement					Total
	SA	A	N	D	SD	
Urban	98	112	92	94	88	484
Rural	74	80	88	110	164	516
Total	**172**	**192**	**180**	**204**	**252**	**1000**

Table 22: Significance Testing by t-test

Area	N	Mean	Std. Deviation	Std. Error Mean
Urban	200	3.983	0.613	0.132
Rural	200	2.642	0.761	0.112
Total	**400**			

Table 23: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	Df	Sig. (2-tailed)
association with different medical staff among the respondents in Urban and Rural	Equal variances assumed	.040	.842	-2.380	552	.018 **
	Equal variances not assumed			-2.371	497.36	.018

4. DISCUSSIONS

From the study, it is observed that, the farmers are low in urban area, and employees are low in rural area. Highest qualification is UG in urban area, where as SSC is highest in rural area. It is clear that the awareness about various statements differs significant among patients, but not significant between urban and rural patients. The awareness about various statements did not influenced by the area of respondents. Majority of the respondents felt low awareness levels on clinical literacy. The respondents are equally perceived about sharing information before and after the treatment. Majority of the respondents are perceived disagreement with the statement "forcing that doctor for diagnosis, pharmacy and surgeries".

According to the descriptive statistics on liberty in medical services among the respondents the mean of the perceptions of urban patients on liberty in medical services is 2.6774 with a standard deviation of 0.80991. The mean of the perceptions of rural patients on liberty in medical services among is 2.3602 with a standard deviation of 0.3602. So, both urban and rural patients are almost equally perceived about liberty in medical services.

The mean of the perceptions of urban patients on medical aspects is 4.132 with a standard deviation of 0.452. The mean of the perceptions of rural patients on various medical aspects 4.011 with a standard deviation of 0.623. Both urban and rural patients are almost equally perceived about liberty in medical aspects such as Conduction of more medical camps, Counseling implementation, Government emphasis/participation and Mandatory in primary schooling about medical knowledge.

Regarding the comparison of Level of agreement on association with different medical staff among the respondents, out of the responses of 484, urban respondent's majority (219) respondents felt they do have association with different medical staff. Similarly, Out of the responses of 516 responses from rural respondents majority (274) respondents felt disagreement on association with medical staff which are mentioned in the above table.The mean of the perceptions of Urban patients on association with medical staff is 3.983 with a standard deviation of 0.613. The mean of the perceptions of rural patients on association with medical staff is 2.642 with a standard deviation of 0.761. Therefore, it is observed that urban patients are having better association with medical staff than rural patients. \

5. SUGGESTIONS

- It is suggested that Clinical literacy practices are necessary for irrespective of literacy levels, and area.
- It is suggested that governing bodies, and educational institutions take mandatory steps to create minimum awareness on Clinical literacy among public.
- It is also suggested that all clinical related members, associations extend their association with patients, as well as general public to improve Clinical literacy awareness.
- It is also necessary to provide timely information by using technology.

6. CONCLUSIONS

Literacy is different from illiteracy; where both are quite different from clinical literacy. It is not based on education, and area. It is a conscious awareness among people where certain efforts are required to have Clinical Literacy. Clinical literacy management is a management concept how to improve literacy levels towards Clinical area among public.

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Customer Perceptions on E-Banking services: A Comparative study of select public and Private sector banks in Visakhapatnam city

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Abstract

Purpose – This paper aims to know the perceptions of the respondents on various technological factors which influence E-Banking like ATM services, Internet banking services, telephone banking services and Mobile banking services and their implications on banking operations of both public and private sector banks.

Methodology – The study is based on both primary and secondary data collected from both ICICI and SBI banks. In the case of primary data, a total of 500 questionnaires are administered among e-banking customers of SBI and ICICI, Visakhapatnam. ANOVA, the t-test is used to analyze the data.

Findings – In case of a number of transactions per month, quality of currency notes and the location ATMs, the respondents are very much satisfied; Around 20.0 percent of respondents are neither satisfied nor dissatisfied (neutral). The reasons for dissatisfaction or neutral may be a lack of awareness about Internet banking, illiteracy, lack of enough experience in using or no need to use Internet banking and the inability to make use of technology. The respondents from ICICI are more satisfied than SBI in mobile banking and reward points. Also, there are significant differences are found in the usage of technological services in SBI and ICICI

Originality/value – This study examines the perceptions of technological services of E-Banking which are important to know to prove better services in the banking sector.

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Keywords – Technological services, E-Banking, Mobile Banking, Internet Banking, ATM services

Paper Type – Empirical paper

INTRODUCTION

Enterprises face the ever-changing competitive environment with the rapid globalization of the Indian economy. Enterprises are implementing strategies aimed at creating a competitive edge in terms of product differentiation, quality , speed, service , and cost based on increased customer value. In the post-liberalization period, with Indian economy deregulation, the financial services sector is witnessing a complete metamorphosis and technology playing a very important role in that process. India has been one of the fastest adopters of information technology in all sectors of the economy over the past decade; there is one among this banking sector , particularly because of its ability to provide organizations around the world with a software solution. Information technology offers excellent support to India's banking to most build technology in the areas of mobile banking, telephone banking , online banking, and electronic commerce. It technology is also helping to expand primarily through mergers and acquisitions that communications and technology can achieve. Technology plays a major role in increasing customer service effectiveness, courtesy, and speed. India is also aiming for digitalization. So an ever-increasing importance for e-banking. It's said it is the E-Banking era.

It is more effective to use the Internet than to use other delivery channels as banks are searching for an expanded consumer base. Different categories of marketing are successful in reaching consumers in various demographic groups and should reach the consumer base. Banks are not in a position to look to their competitors towards their customers. Interestingly, delivery online will offer the best suited customized services that every customer needs. Mass customization effectively takes place through Online Banking. Customization is a method that can reduce costs and resources compared to daily time. Digital banking means less staff members compared to other banking networks, lower demands on resources. Online banking offers an easy

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and convenient way to handle finance that is conveniently available 24 hours a day , seven days a week. Moreover the information is up-to - date.

While E-Banking offers many advantages, the major concern with E-Banking is security. Many of the customers don't trust the E-Banking services because they think it's a public network because lacks protection and privacy. Some security issues are hacking, sharing personal details with other banks and agencies, theft of information that is very confidential, etc. Basically, the truth is that the banks offer best practices in defense. There is only one thing that is less information on the security concerns of the E-Banking services. They 're identification and authentication, firewalls and encryption. Throughout this process, the online address will take internet address, then request login-id and password to authorize / access the user to his / her account, then a message will be encrypted between customers and online banks, so that a hacker would not be able to read the message even if the message is intercepted over the internet.

Internet banking is offering lot of services with a single mouse click. Still some of the customers will go with traditional banking only because of security and privacy. But there are many advantages when the customer shifts from the traditional method of banking to e-banking. The major advantages are convenience, availability, transaction speed, efficiency, effectiveness, cheaper alternative.

Because of their advantages over conventional banking, e-banking is growing. The growth of e-banking is possible primarily through internet penetration. Internet usage in India is experiencing tremendous growth. The percentage of internet usage in the year 2000 is only 0.5 per cent of the total population. By 2014, this has increased to 18 per cent. And it is expected to cross 34.8 per cent by 2016. According to the NASSCOM report, Internet users in India are estimated to be 730 million by 2020 and the Internet users in Rural India will be 280 million by 2018.

Theoretical Background

Electronic banking is a high-order system , consisting of many channels of distribution. E-banking isn't just a tool for banking; it's an internet-based network that uses high-speed internet

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access for continuous services. The most general form of electronic banking, however, is Online banking, that is Internet banking. One may explain the word electronic banking in several ways. Electronic banking is a means of banking that can provide banking information of any kind through a computer / telephone / mobile / other media. We may assume that, at higher rates, customers can access their bank accounts to transact banking services. We can also claim that in advanced stage, it is called internet / online banking as it offers various services such as accessing account information, transfer of funds, exchanging transactions, online purchasing of financial products with a single mouse click through 24 X 7. Within the literature the terms Online banking and online banking are sometimes used to refer to the same things. The Internet is the principal platform for online banking nowadays. Basically, electronic banking can be done across the mediums such as internet , telephone, and mobile personal computers. It is important to note, Daniel (1999), that Internet Banking is different from PC Home Banking. The obvious difference is that Internet Banking is browser-based, whereas Desktop Home Banking allows customers to install a Bank-assigned software program on their Computer. In addition, PC Home Banking allows customers to do their banking services only on PCs which have the assigned software package installed, such as Intuit, Inc.'s Quicken and Microsoft Corp. 's Money.

Many researchers have done research on E-Banking. So, different researchers defined in different ways. But, the common thought of the authors is, internet offers many services through online. Many of the customers access these with smart devices (Suriya, Mahalakshmi & karthik, 2012).

Karjaluoto et al. (2002a) indicated that the Internet, accessed via personal computer, is the principal electronic distribution platform in banking. Telephone banking, TV-based banking, and regulated network are not playing such a major role in today 's banking. In 2002 Karjaluoto predicted that with mobile devices the banking with personal computers will be transformed into wireless. Consequently, as Wah (1999) points out, electronic banking should not always be on a computer screen. It can be on a cell phone's tiny computer, or some other wireless unit. Customers can check their bank account balances and transaction history with these wireless apps, initiate purchases or orders to buy and sell securities and even send an e-mail to their banks.

Many developed and developing countries have agreed that E-Banking is a revolution in

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banking sector and it plays a significant role in banking industry (Daniel, 1999; Jayawardhena and Foley, 2000). The customers who use internet banking for financial services will be more benefited. They can have numerous different services through internet banking. Daniel estimated that internet banking is a major threat for traditional banking. He also, think that in near future the branch banking may be disappear.

There's also been some discussion about traditional banks disappearing. The Internet banking future is looking really good. This would be important to see what happens to conventional banks with branches as Internet banking becomes more common. Wah (1999) argues that, in the future, traditional banks will not disappear. Instead, the new technologies would position them in banking services to a new level. She believes that this modern technology will help even conventional banks and will be able to provide for their clients in a more effective, profitable and enjoyable way. She also argues that customers find Internet banking playful. However, there is relatively little evidence about the playfulness of Internet banking.

Various forms of E-Banking:

Intense pressure has forced banks to reconsider their way of doing business. To make them more competitive and cost-effective, they must redesign and develop their goods and services. The banking activities can be performed here by means of different technological instruments. For automation, different banking operations can be accessed at the door-step at reduced cost. More and more consumers are using online banking products and services, and since a bigger segment of banks would be made up of computer-educated customers in the future, banks will be able to provide these consumer products and services that allow them to do their banking electronically. If they fail to do this they will, simply, not survive.

Automated Teller Machine (ATM): The ATM was launched in mid-1970 as one of the first electronic banking devices. It offered consumers the opportunity to withdraw or deposit cash, review account balances, move money and details on review statements. This took some time before consumers became acquainted with the ATM, as with any modern product, and began to embrace it as an acceptable means of doing their banking.

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Electronic Funds Transfer (EFT): Another electronic banking device that allows the movement of funds from any branch of a bank to any other branch of any bank in the shortest time possible.

Telephone banking: Another facility that the banks have. A customer will ring out a bank and request a phone call for some operation. It's fast to become one of the most successful items, though. From the ease of their own home or office, the user will perform a variety of transactions; however, from wherever they have access to the internet. The customer can check information on balances and statements, transfer funds from one account to another and pay certain bills and other statements or books of cheques.

Mobile Computer Banking: Transactions using a personal computer and high speed internet access can be performed in this form of banking. Any banking process can be reached here via a computer without having to visit the bank branch. Whichever service the customer can use from home is accessible in the house. They also have the ability to download information in some cases, and process it in their own software for financial management.

Home Banking: Under home banking, the client is served at his residence and a variety of regular transactions do not allow the customer to enter the bank's premises. Any banking service the consumer wants can do from home. A client, for example, can access all financial details from home; he / she can contact the bank by phone etc. If the customer needs to finish the transaction, he wishes to see his account to have a receipt from his account, he may need to use a Laptop. The home banking service can be narrowly split into two categories, one without the use of the information system and the other with the IT. If a client calls the bank o the phone no special equipment is needed and the telebanking service is given.

Internet Banking: Internet banking is an improvement over PC banking. There are several differences between PC banking and internet banking. The major difference in these two is high accessibility with internet banking. The bank can set up their system, much the same as PC banking. It is accessible to anyone using the internet, not just the bank's customers. One of the

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main reasons electronic banking products were introduced was that the banks were losing their market share. Electronic banking has assisted the banks in retaining their customers and their market share by reducing costs in many areas, especially those associated with providing service to the customer and to enhance their image. Most banks are trying to get customers to use electronic banking because it saves them money. If a customer comes into a branch to perform a routine task such as checking a balance or withdrawing funds, it passes on a cost to the bank. The cost of providing these routine transactions in a traditional branch environment is far greater than providing the same service by electronic means.

E-banking services

Bill payment service: The banks provide the various payment operations. These diverge from bank to bank. The banks may have links with numerous other firms to provide such services in this sense. Which include payment of different bills such as power, telephone bills, mobile bills, train tickets, travel tickets, insurance premiums etc. to pay for these bills, a simple one-time biller register can be made. Payments online can be made once certain instructions have been set. It is quick to pay the bills, it takes less time, it is more surprisingly true that the banks are reluctant to charge for certain services.

Funds transfer: Any amount can be moved from one account to another from the same bank or from some other. Customers in India can transfer money to anywhere. It is important to note the account number of Payee, his bank and the branch after signing in to the account. The movement of funds will then be carried out in a fraction of seconds with very small fees. Nevertheless, in conventional system, it can take a long time to pass money and you need to visit the branch. In ICICI's terms , the main common resources of them are electronic bill payments and fund transfer facilities.

Credit card customers: For various reasons, credit card users can use the online services. They can apply for a loan with online credit card payment history, they can ask to increase the credit limit electronically, they can pay any bill that requires credit card charge, they can ask for any fee, they can interrupt the payment, they can obstruct the fee, they can complain about any unwanted momentum through internet.

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Railway pass: Indian railways have renewals of railway passes with ICICI branch. Anyone can register online for or upgrade their local train passes. The pass is delivered at the customer's doorstep. But the facility is being provided by the bank in the small cities. The bank authorities say, they will also spread the facility to the other cities. The service is currently available in Pune, Thane, Mumbai, Surat, Nasik. For this transaction, the ICICI bank charges a minimum amount of Rs. 10 + 12.24 per cent of service tax.

Investing through Internet Banking: A customer can open a savings bank account, a fixed deposit, a current account, demat accounting. Any of the above accounts can be opened, and purchases can be made electronically. Digital is very useful in making stock market trades simple. Today buyers with interlinked demand account and financial account are able to exchange conveniently in the equity market and the balance will be debited directly from their respective bank accounts and the shares will be credited to their demand account.

Recharging a prepaid phone: Every time the balance in the prepaid mobile is over we used to run to the shop. But nowadays the prepaid accounts are easy to reload. Only supplement the prepaid mobile cards by logging in to the Internet banking network. Through simply choosing the name of the operator, entering the telephone number and the recharge period, the phone is back in service within minutes.

Shopping at your fingertips: leading banks have ties to various shopping websites such as flipkart, Amazon etc. through online shopping, a consumer can find a wide range of items at a reasonable price, at a convenient time. The customer can browse through online, compare and pay the money. Because of their 24 X 7 availability and wherever online business and online transactions are becoming very common. We may claim that internet banking is not only 'healthy to have,' but 'need to have.' Online banking is essential in many developed and developing countries, as it is the choice and the cheapest way of delivering services.

Both the financial institutions and consumers benefit from e-banking. A commercial bank should sell the best goods, with easy service, full security features and should be up-to - date to succeed in this competitive environment. It is important to know the effect of online banking as regards technical infrastructure in order to provide the best infrastructure. The researcher therefore

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attempted to assess the customer's understanding of technical factors that drive bank customers towards e-banking. Following the aforementioned debate, the hypothesis proposed is

H_{01}: There is no significant difference between the level of usage of different banking facilities like ATM, Mobile banking, PC Banking, Tele Banking of SBI and ICICI.

H_{02}: There is no significant difference between the nature of e-banking services like ATM/Debit card, credit card, mobile banking, online banking, and Telebanking services and their overall e-banking services.

Methodology

The study is based on both primary and secondary data. The major objective of this study is to know the perceptions of technological services of E-Banking in public and private sector banks. Hence, the primary data has been collected from the customers who use e-banking services of SBI and ICICI, Visakhapatnam. In the case of primary data, a total of 500 questionnaires are administered among e-banking customers of SBI and ICICI, Visakhapatnam. The secondary data is collected from Articles, Journals, Various websites and annual reports of State Bank of India and ICICI.

Sampling and Statistical Techniques

This study has used a convenience sampling technique to collect primary data. Convenience sampling is a statistical method of drawing representative data by selecting people because of the ease of their volunteering or selecting units because of their availability or easy access. There are both advantages and disadvantages with convenience sampling. The major advantage with convenience sampling is the free availability and quick response in the collection of data. The major drawback is less accuracy. Sometimes, it may not represent the population and it might be biased. Under this study, the researcher directly meets the customers according to their convenience and collects the data. Thus in this study, there is a finite number of population and their convenience is known.

According to the records, there are 44,800 and 42,160 customers using net banking facility at main branches of SBI and ICICI respectively. The sample according to the sample determining formula at 95 percent of confidence level and 6.2 percent of permissible error is

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248.46 for SBI and 248.38 for ICICI. So, 250 customers each from SBI and ICICI (rounding to the nearest ten) is the sample. Data analysis is done using SPSS (Statistical Package for Social Science) version 20.0. The data has been analyzed with the help of required statistical tools such as descriptive statistics, frequency tables, percentage, ANOVA, t-tests and logistic regression analysis.

Reliability and Validity

The reliability and validity of cronbach's alpha is verified. Extensive literature reviewed was done on the basis of defining a total of 4 parameters with 17 parameters with a graded likert scale of 5. Then, before being finalised, a small group of respondents was pre-tested to maximize the reliability and validity of the questionnaire. The reticent questions were removed based on the feedback and the results of the feedback. The alpha value of cronbach greater than 0.70 usually reflects the validity of the measure, and is statistically appropriate.

S.No	Dimension	No. of items	Cronbach's Alpha value
1	ATM services	4	0.89
2	Internet banking services	5	0.91
3	Telephone banking services	4	0.81
4	Mobile banking services	4	0.83

Discussions and Implications

Perceptions of the respondents on technological services like ATM services, online banking services, telephone banking services and mobile banking services are analyzed and shown below.

1. Satisfaction of customer on various ATM Services

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In general, the customers are satisfied with the functioning of ATMs except in the case machine break-down. As far as promptness in delivering the card to customers, banks are very efficient. Banks generally choose a convenient and centrally located area for their ATMs. A number of transactions per month are restricted by all the banks. The quality of currency notes is also good in general.

Table-1: Perceptions on ATM services

ATM services	Name of the Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied	Total
Promptness of card delivery	SBI	39 (15.6)	168 (67.2)	28 (11.2)	10 (4.0)	5 (2.0)	250 (100)
	ICICI	112 (44.8)	105 (42.0)	24 (9.6)	7 (2.8)	2 (0.8)	250 (100)
Number of transactions	SBI	24 (9.6)	177 (70.8)	09 (7.6)	28 (11.2)	12 (4.8)	250 (100)
	ICICI	33 (13.2)	160 (64.0)	24 (9.6)	32 (12.8)	1 (0.4)	250 (100)
Quality of currency notes	SBI	30 (12)	160 (64)	51 (20.4)	9 (3.4)	--	250 (100)
	ICICI	50 (20.0)	108 (43.2)	49 (19.6)	31 (12.4)	12 (4.8)	250 (100)
Conveniently located	SBI	48 (19.2)	136 (54.4)	50 (20.0)	12 (4.8)	4 (1.6)	250 (100)
	ICICI	51 (20.4)	116 (46.4)	40 (16.0)	26 (10.4)	17 (6.8)	250 (100)

Source: Primary data, Note: Figures in parentheses indicates the percentage

The above table shows that all the respondents of SBI and ICICI are very much satisfied with the ATM services. The majority of respondents of both the banks are either extremely satisfied or satisfied. They account for more than 80.0 percent in the case of promptness of delivering the ATM card to them. 70.0 to 80.0 percent of respondents are either extremely satisfied or satisfied in the case of a number of transactions per month, quality of currency notes and the location ATMs as shown in the above table.

2. Satisfaction of customers on various Internet banking services

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Internet banking services are very useful to customers and are having many advantages when compared with traditional banking such as availability of account information, e-payments, fund transfers, installment payments, e-statements, etc. at any time during 24 hours according to the convenience of the customer.

Table-2: Perceptions on Net Banking services

Net Banking	Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied	Total
Account information & Balance inquiry	SBI	58 (23.6)	107 (42.8)	59 (23.6)	21 (8.4)	5 (2.0)	250 (100)
	ICICI	84 (33.6)	125 (50.0)	30 (12.0)	9 (3.6)	2 (0.8)	250 (100)
E-payments	SBI	47 (18.8)	118 (47.2)	68 (27.2)	15 (6.0)	2 (0.8)	250 (100)
	ICICI	57 (22.8)	139 (55.6)	43 (17.2)	09 (12.8)	2 (0.8)	250 (100)
Fund transfers	SBI	50 (20.0)	160 (64)	32 (12.8)	6 (2.4)	2 (0.8)	250 (100)
	ICICI	43 (17.2)	120 (48.0)	51 (20.4)	30 (12.0)	6 (2.4)	250 (100)
Installment payments	SBI	44 (17.6)	149 (59.6)	50 (20.0)	7 (2.8)	--	250 (100)
	ICICI	46 (28.4)	110 (44.0)	51 (20.4)	27 (10.8)	16 (6.4)	250 (100)
E-statements	SBI	43 (17.2)	138 (55.2)	47 (18.8)	19 (17.6)	3 (1.2)	250 (100)
	ICICI	44 (17.6)	143 (57.2)	25 (10.0)	22 (8.8)	16 (6.4)	250 (100)

Source: Survey, Figures in parentheses indicate percentages

The satisfaction of the customers on Net banking services is presented in the table above. It can be observed from the table that the majority of the respondents of both SBI and ICICI (70.0 to 80.0 percent) are very much satisfied with the various services of Net banking. A very negligible percentage of respondents (10.0 to 15 percent) is dissatisfied with these services. Around 20.0 percent of respondents of all the 500 respondents neither satisfied nor dissatisfied (neutral). The reasons for dissatisfaction or neutral may be a lack of awareness about Internet banking, illiteracy, lack of enough experience in using or no need to use Internet banking and the inability to make use of technology.

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As observed from the table the number of respondents who are satisfied with the availability of account information and E-payments is more with ICICI (209 and 196 respectively) when compared with the respondents of SBI (165 and 165 respectively). In the case of funds transfer and installment payments, it is reversed. More respondents of SBI (210 and 193 respectively) are satisfied whereas the figures in the case ICICI are 163 and 156 respondents respectively. And, an almost equal number of respondents from SBI (181 respondents) and ICICI (187 respondents) are satisfied with the service of e-statements.

3. Satisfaction of customers on various Telephone Banking Services

Telephone banking is gaining momentum slowly. The private banks are leading in Telephone banking. Hence, an attempt is made in this study to understand the satisfaction of customers on these services. Table exhibits the customers' satisfaction on various aspects of Telephone Banking. Major problems of Telephone banking are connecting to the line in the case of IVRS, options to get proper department, getting to customer executive and content of the information. In spite of these problems, the majority of respondents of SBI and ICICI are satisfied with the telephone banking services.

76.8 percent of SBI and 66.0 percent of ICICI respondents are either extremely satisfied or satisfied with the connectivity of a telephone line of the bank. Approx, 74 percent of SBI, 58 percent of customers are satisfied with the service 'reasonable number of voice prompts'. 72 percent of SBI, 60 percent of ICICI are satisfied with the instructions given by the banks.72 percent of SBI, 62 percent of ICICI are satisfied with additional options provided by the banks. Comparatively, SBI customers showed more satisfaction levels with telephone banking services than ICICI.

Table-3: Perceptions on telephone banking

Telephone Banking	Name of the Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied	Total
Connectivity of Telephone Line	SBI	48 (19.2)	144 (57.6)	48 (19.2)	04 (1.6)	6 (2.4)	250 (100)
	ICICI	59 (23.6)	138 (55.2)	32 (12.8)	15 (6.0)	6 (2.4)	250 (100)
Reasonable	SBI	36	150	40	16	8	250

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no of voice prompts		(18.8)	(47.2)	(27.2)	(6.0)	(0.8)	(100)
	ICICI	36 (14.4)	111 (44.4)	70 (28.0)	26 (10.4)	7 (2.8)	250 (100)
Clarity and quality of information	SBI	35 (14.0)	147 (58.8)	41 (16.4)	19 (7.6)	8 (3.2)	250 (100)
	ICICI	35 (14.0)	115 (46.0)	49 (19.6)	34 (13.6)	17 (6.8)	250 (100)
Additional options in IVRS	SBI	46 (18.4)	135 (54.0)	51 (20.4)	14 (5.6)	4 (1.6)	250 (100)
	ICICI	43 (17.2)	111 (44.4)	54 (21.6)	22 (08.8)	20 (8.0)	250 (100)

Source: Survey, Figures in parentheses indicates percentage

4. Satisfaction of customers on various Mobile Banking Services

The share of Mobile banking in the overall E-banking scenario is very important. This is due to the increasing use of smartphones by people. Moreover, banks are encouraging their customers to use mobile banking applications on their smartphones. Customers are also interested in using mobile banking applications as they are very convenient. Though they are several advantages of mobile banking some of the important services such as reward points for using the mobile application, mobile recharge, SMS alerts from the bank and transaction status are considered to understand the satisfaction of the customers as shown in the above table.

The majority of total respondents (500) are very much satisfied with all the services of mobile banking. But, it is observed from the table that the respondents who are satisfied with the services of mobile banking are more among ICICI customers. 74.0 percent of ICICI respondents are satisfied with the reward points. But, respondents of SBI who are satisfied in this regard accounts for 60.8 percent only. As observed from the Table, there is the same trend in the case of mobile recharge, SMS alerts, and transaction status.

Table-4: Perceptions on Mobile banking services

Mobile Banking	Name of the Bank	Extremely satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied	Total
Reward points	SBI	48 (17.6)	108 (43.2)	53 (21.2)	27 (10.8)	18 (7.2)	250 (100)
	ICICI	46 (18.4)	139 (55.6)	32 (14.4)	26 (10.4)	3 (1.2)	250 (100)

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Mobile recharge	SBI	43 (17.2)	126 (50.4)	53 (21.2)	18 (7.2)	10 (4.0)	250 (100)
	ICICI	47 (18.8)	140 (56.0)	35 (28.0)	18 (7.2)	10 (4.0)	250 (100)
SMS alerts about bank services	SBI	48 (14.0)	108 (58.8)	52 (16.4)	30 (7.6)	12 (3.2)	250 (100)
	ICICI	49 (14.0)	131 (46.0)	32 (19.6)	28 (13.6)	10 (6.8)	250 (100)
Transactions status	SBI	41 (18.4)	136 (54.0)	39 (20.4)	22 (5.6)	12 (1.6)	250 (100)
	ICICI	63 (17.2)	123 (44.4)	38 (21.6)	20 (08.8)	06 (8.0)	250 (100)

Source: Survey, Figures in parentheses indicates percentage

5. Satisfaction of customers on the service channels of E-banking - Comparison between SBI and ICICI

After knowing the satisfaction of respondents on the service channels of E-Banking in earlier pages an attempt is made to compare between the satisfaction of SBI customers and ICICI customers using the statistical tool, t-test in the table below. The table enlightens us about the overall satisfaction of the customers of SBI and ICICI. SBI customers are a little more satisfied than ICICI customers with the ATM services as the mean scores of satisfaction of SBI customers is 30.60 whereas that of ICICI customers is 27.42. But, the test statistic value of t for the responses of customers, 9.4837**, and the p-value, 0.00002 show that there is no much difference between the overall ATM services in SBI and ICICI as it is significant at 0.01 level.

Table-5: Perceptions on E- banking services

E-Banking Services	Name of the Bank	N	Mean	Standard Deviation	Standard Error	t- value	P-Value
ATMs services	SBI	250	30.60	3.017	0.166	9.4837**	0.00002
	ICICI	250	27.42	4.552	0.186		
Net banking Services	SBI	250	28.14	3.238	0.222	3.2699**	0.00115
	ICICI	250	27.11	4.178	0.280		

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Telephone Banking Services	SBI	250	23.41	3.654	0.217	5.4126**	0.00000
	ICICI	250	22.03	4.111	0.247		
Mobile Banking Services	SBI	250	22.94	3.098	0.213	1.8963	0.05852
	ICICI	250	22.02	3.883	0.256		

** $p<0.05$, Source: Survey, Figures in parentheses indicates the percentage

In the case of other services, Net banking and Telephone banking also there is no much difference between the E-banking services of SBI and ICICI as mean scores of satisfaction of customers of both the banks are more or less same at the significant level, 0.05. The p-values of ATM services, Net banking services, telephone banking services are respectively 0.00, 0.00, and 0.00 which are less than to 0.05. So there are significant differences in these services of SBI and ICICI. But, in the case of Mobile banking, though the mean scores of satisfaction of both the banks are somewhat similar the p-value (0.05852) is greater than the significant level, 0.05. This indicates that there is no difference in the Mobile banking services provided by SBI and ICICI.

6. Logistic regression to compare the technological services provided by SBI and ICICI

Logistic regression is a predictive analysis which is used to forecast the dependent variable which is having dichotomous variable. The major objective of logistic regression is to explain the relationship between one dependent binary variable and one or more nominal, ordinal, interval or ratio level independent variables. The major assumptions of logistic regression are (i) the dependent variable should be dichotomous. (ii) There should be no outliers. (iii) There should be no high multi-collinearity among the predictors. To know which technological factors are impacting the two selected banks.

Cox and Snell model to predict the impacting factors on E-banking:

To predict the factors which influence E-banking, logistic regression is used the summary of the model is shown in the below table. Here dependent variable is E-banking practice (either ICICI or SBI), whereas the independent variables are ATM services, NET banking services, Telephone

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banking services and mobile banking services. The estimated variances with model are shown with cox & snell R square and Nagelkerke R square. The values 0.38, 0.45 are representing the covered variance on dependent variable. This is to understand that the summarized model is covering the variance of the dependent variable from 38 percent to 45 percent.

Table-6: Model summary of variance of dependent & independent variables

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	337.614[a]	0.38	0.45

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

In the following table the contribution of each independent variable to the model and its statistical significance is shown. To know this, wald test applied. The wald test is used to determine statistical significance for each of the independent variable.

Table-7: Statistical significance by Wald test.

Dimensions	B	S.E.	Wald	Df	Sig.
BANK	-.304	.291	1.090	1	.297
ATM services	.090	.060	2.249	1	.134
NET Banking services	-.062	.046	1.822	1	.0177 **
Telephone banking services	.086	.050	3.026	1	.002 **
Mobile Banking services	-.056	.046	1.493	1	.222
Constant	.466	1.144	.166	1	.683

** Significance at 0.05

The statistical significance of the test is found in the ‘sig.’ Column. The two independent variables ‘NET banking services’ and ‘telephone banking services’ are found to be significant (p-values are 0.0177, 0.002 respectively which are less than to 0.05. another two independent factors ‘ATM services’ and ‘mobile banking services’ are not significant because the p-values are greater than to 0.05 (0.134, 0.222). Therefore, it is found that there are significant differences between ICICI and SBI in Net banking and telephone banking services whereas there are no significant differences between ICICI and SBI in the usage of ATM services and mobile banking services.

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Conclusion

The respondents are using technological services in E-Banking. The major problem with electronic banking is security. The majority of respondents want to do online transactions. But due to insecurity, somehow they are not doing online transactions. So it is suggested that to develop appropriate technologies for encryption of data for secured transactions and also access control, data recovery plans should be used to protect all sensitive, high-risk e-banking systems, servers, databases, and applications. After that, it is needed to create awareness about security features among the people.

Nowadays, criminals are using innovative software to hack the confidential information. They transfer cash, valuable business information from one account to another with their logic. These create an unbearable loss to the customers and also to the bank. Hence, banks must do their best to educate and warn their customers. Both private and public sector banks should educate their customers regarding safe banking transactions, use of technology, advantages of technology in the banking sector with different educational, cultural, age, health, social and ethical backgrounds for the use of efficient e-banking services.

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RESISTANCE TO ORGANIZATIONAL CHANGE (A STUDY WITH REFERENCE TO PUBLIC-SECTOR ENTERPRISE (PSE) UNDER THE MINISTRY OF STEEL IN VISAKHAPATNAM, ANDHRA PRADESH, INDIA)

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ABSTRACT

Purpose: Resistance to organizational change is a complex issue facing management in the complex and ever-evolving organization of today. This paper tried to analyse the perception of the respondents on the factors that resists organizational change. Resistance to organizational change includes employee's resistance to change and organizational resistance to change. This paper analyses the perception of the respondents on the dimensions i.e., employee's resistance to change and organizational resistance to change.

Methodology: The study is based on both secondary and primary data collected from the select Public Sector Enterprise in (PSE), Visakhapatnam. The research study analysed the perceptions of 650 executives in the select public sector enterprise (PSE) in Visakhapatnam on individual and organizational resistance to change. Percentages, Chi-square and ANOVA tests are used to analyse the data.

Findings: Employees' resistance to change in the select PSE in Visakhapatnam found to be 35.77 per cent, which is medium. PSE is managing employee resistance during any changes in organization, it can be observed from the affirmative response of about 64.23 per cent respondents of the total sample.

Organizational resistance to change in the select PSE in Visakhapatnam i.e. 16.6 per cent, it reveals that PSE is thorough in examining and adopting the changes in the organization from time to time to survive in the market competition, it can be observed from the affirmative response of about 83.35 per cent respondents of the total sample.

Originality/value: The present study identifies the factors that resists organizational change, which helps the organizations in the present global competition to manage employees and organizational resistance to change and enables organizational change successfully.

KEYWORDS: Resistance to Organizational Change, Individual Resistance, Organizational Resistance, Need, Objectives, Methodology, Findings and Suggestions.

Paper Type: Empirical Paper

I. INTRODUCTION

Organizational change is an activity of transformation or modification of something in organizational system. The main purpose of this activity is to make improvements of organizational performances. Managing resistance to change is a crucial a part of the success of all change efforts in each company. Dealing with resistance in large part will depend upon your ability to acknowledge the important sources or causes of resistance to change. Managers will need to be aware that there will be always persons or organization itself will resist the proposed changes. Because of that, efficiency and effectiveness of the change process are going to be in direct relation with resistance to change and successful managing resistance to change.[1]

NEED FOR THE STUDY

Resistance to organizational change is a complex issue facing management in the complex and ever-evolving organizations of today. In present global scenario organizations need to be more flexible so that they can adapt changes according to market requirements. It is difficult for organizations to avoid change for their growth and development in the present global competition. Some people like, Tendai Masunda (2015) did research on topic 'An Evaluation of Resistance to Organisational Change and its Effects on Employee Productivity: The Case of Telecom Namibia', Mbongeni Andile Mdletye, Jos Coetzee, and Wilfred Isioma Ukpere (2014) on 'The Reality of Resistance to Change Behaviour at the Department of Correctional Services of South Africa', V. Swarnalatha (2014) on 'A Study on Employee Resistance towards Organizational Change with Special Reference towards Prosper Exports, Tirupur, India', Justin Bateh, Mario E. Castaneda and James E. Farah (2013) on 'Employee Resistance to Organizational Change' in

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USA, Rosemond Boohene, Asamoah Appiah Williams (2012) on ‘Resistance to Organisational Change: A Case Study of Oti Yeboah Complex Limited’ in Ghana, and Robyn Thomas Cynthia Hardy (2011) on ‘Reframing resistance to organizational change’ in UK are some of the researchers conducted research studies in India and abroad Much research has not been done in India especially in Andhra Pradesh related to ‘Resistance to Organizational Change’. Keeping this in mind the present study makes an attempt to understand the factors that resist the change in the organization. No research work has been done on the Resistance to Organizational Change with reference to a large Public-Sector Enterprise (PSE) under the Ministry of Steel in Visakhapatnam. Therefore, to fill up the gap this topic has taken for the research study. The results of the study may be helpful to the business organizations to diminish the resistance to change in the organization.

OBJECTIVES OF THE STUDY

The major objective of the research is to study the Resistance to Organizational Change. In doing so, the study will seek to fulfil the following objectives.

1. To analyse perceptions of the respondents on resistance to organizational change in the select public sector enterprise in Visakhapatnam.
2. To suggest some practical measures to reduce the resistance to change in the organization.

RESEARCH METHODOLOGY

Unit of Analysis

The study was on “Resistance to Organizational Change (With Reference to select public sector enterprise, Visakhapatnam)”. The select public sector enterprise in Visakhapatnam was the unit of analysis for this study.

Method of Data Collection

Keeping the objectives of the study in mind, the following methodology has been adopted for conducting the present study, both primary and secondary source of data have been used for this study.

Secondary Data

The secondary data has been collected from different text books journals, magazines, periodicals, different websites, administrative records, annual reports, management reports, organization personnel manual, and special project reports.

Primary Data

The study focuses on perceptions of employees with regard to Resistance to Organizational Change. A well-structured questionnaire was used for collecting data from target respondents. The views and opinions on broad issues have been collected from selected employees from various departments of the organization. The source of primary data are the executives from Top Management, Middle Management, Frontline Management and Supervisory level who are working in the different departments of select PSE, Visakhapatnam.

Population and sample

The study is mainly focused on Executives working in the PSE, thus exits 6,505 number of total employees.

The sample size is calculated after conducting the pilot study, using the results obtained from the pilot study and by using the below formula we have selected the sample size as 650.

$$n = \frac{\left(\dfrac{P[1-P]}{\dfrac{A^2}{Z^2} + \dfrac{P[1-P]}{N}} \right)}{R}$$

Where:

n = sample size required
N = number of people in the population
P = estimated variance in population, as a decimal: (0.5 for 50-50, 0.3 for 70-30)
A = Precision desired, expressed as a decimal (i.e., 0.03, 0.05, 0.1 for 3%, 5%, 10%)
Z = Based on confidence level: 1.96 for 95% confidence, 1.6449 for 90% and 2.5758 for 99%
R = Estimated Response rate, as a decimal

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Assume that the estimated variance in the population as P=50%=0.5, and precision desired is assumed to be A=5%=0.05, and the confidence level assumed is at 99%, then by the normal table value Z=2.58. Basing on the pilot study the response rate is found to be R=0.93. Thus, by substituting all the constraints of the sample size is 649.3(Approximately 650). Thus the sample size is approximately 10% to the total population.

Sampling Technique

Probability-Proportional-to-Size ('PPS') sampling, in which the selection probability for each element is set to be proportional to its size measure, probability proportion to size is a sampling procedure under which the probability of a unit being selected is proportional to the size of the unit.

For selecting the sample respondents, a multi stage stratified random sample technique has been adopted. In the first stage, the select public sector enterprise has been chosen purposively for studying the organizational change and development. In the second stage, the total executives of PSE hold 6,505 permanent employees has been divided into four strata viz., Top level Management, Middle level management, Front line management and Supervisory level basing on their nature of job. Since the exact size of the population of each stratum is known, a sample of 10 per cent of the total population from each stratum has been drawn randomly, in the third stage, which constitutes a total sample of 650. The details of the sample design have been presented in table

Table: 1 Sample Design

S.No	Stratum	Cadre	Size of the population	Sample of 10 % of the total population
1.	**Stratum – I**	Top level Management	469	46
	Stratum – II	Middle level Management	2157	216
	Stratum – III	Frontline Management	3039	304
	Stratum – IV	Supervisory level	840	84
Grand total			**6505**	**650**

Hypothesis: The following hypothesis is formulated for testing the relationship between the variables.

H_0: There would be no significant impact of resistance on organizational change

II. PERCEPTIONS OF THE RESPONDENTS ON ORGANIZATIONAL CHANGE

SOCIO ECONOMIC BACKGROUND OF THE RESPONDENTS

The socio-economic background of the respondents has a significant bearing upon the attitude towards behaviour of the employees at the work place. There is a need to understand the personal background of the employees. The objective of this section is to analyse the personal background of the respondents in terms of their personal data like qualification, age, respondent's monthly income, cadre in the organization and work experience etc.

Gender:

Table:2 Distribution of Respondents According to their Gender

Gender		Cadre				
		Top Management	Middle Management	Front Line Management	Supervisory level	Total
	Female	8	40	54	16	118
		17.4%	18.5%	17.8%	19.0%	18.2%
	Male	38	176	250	68	532
		82.6%	81.5%	82.2%	81.0%	81.8%
Total		46	216	304	84	650
		100.0%	100.0%	100.0%	100.0%	100.0%

Chi-square: 0.114, P-value: 0.990, Source: Field Study

Since the p-value (0.990) of the chi-square test (0.114) is greater than 0.05, the level of significance so it is concluded that there is no significant association between gender and cadre i.e., gender has no significant impact on cadre at 5% level of significance.

Analysis: The above table furnishes the Gender-wise distribution of the respondents by their cadre in PSE. It is observed from the data that a vast majority of 81.8 percent of the respondents are male while the remaining 18.2 percent are female respondents. Further, in cadre top management 82.6 percent respondents are male and 17.4 percent are female, in middle management 81.5 percent respondents are male and 18.5 percent are female, in frontline management 82.2 percent respondents are male and 17.8 percent are female whereas at supervisory level 81.0 percent are male and the remaining 19.0 percent is female.

It can be concluded from the table that as the select PSE works round the clock and appointing women at shop floor is constraint because women cannot work in shift system involving physical stress and strain. As such there are few women in the plant, which is proved in our study also. In the select PSE women are more in administrative jobs.

Age: Table:3 Distribution of Respondents by their Age

Age	Cadre				
	Top Management	Middle Management	Front Line Management	Supervisory level	Total
31-40 Years	0 0%	2 0.9%	174 57.2%	14 16.7%	190 29.2%
41-50 years	2 4.3%	122 56.5%	130 42.8%	70 83.3%	324 49.8%
More than 50 years	44 95.7%	92 42.6%	0 0%	0 0%	136 20.9%
Total	46 100.0%	216 100.0%	304 100.0%	84 100.0%	650 100.0%

Source: Field Study

Analysis: From the table it is clear that, 49.8 percent of the respondents fall between 41-50yrs of age, 29.2 percent of the respondents are in the age between 31 -40 yrs and 20.9 percent of the respondents are more than 50years of age. It can be concluded that half of the respondents of the study is in the age between 41-50yrs and above, who are experienced and had good knowledge in their work.

Educational Qualification:

Table:4 Distribution of Respondents According to their Educational Qualifications

Educational Qualifications	Cadre				
	Top Management	Middle Management	Front Line Management	Supervisory level	Total
Under Graduation	14 30.4%	6 2.8%	28 9.2%	68 81.0%	116 17.8%
Post Graduation	32 69.6%	210 97.2%	276 90.8%	16 19.0%	534 82.2%
Total	46 100.0%	216 100.0%	304 100.0%	84 100.0%	650 100.0%

Chi-square: 282.052, P-value: .000, Source: Field Study

The chi-square value and its corresponding p-value make note that there is a significant association between educational qualification and cadre of the employees i.e., the majority of the respondents are in higher cadre if they acquire highest degree and the difference is statistically significant at 5% level.

Analysis: For the convenience of analysis, it has been sorted that the respondents into four categories according to their Educational qualifications viz., Up to SSC/ITI, Intermediate/Diploma, Degree and Post Graduate. It is observed from the data that a majority 82.2 percent of the respondents possess post-graduation, while 17.8 percent respondents are

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undergraduate holders. It is revealed that 69.6 percent of the respondents from top management are post graduates and 30.4 percent respondents are under graduates, 97.2 percent of the respondents from middle management are post graduates and 2.8 percent respondents are under graduates, 90.8 percent of the respondents from frontline management are post graduates and 9.2 percent respondents are under graduates, where as 19.0 percent of the respondents from supervisory level are post graduates and 81.0 percent respondents are under graduates.

It is interesting to note that post graduates are considerably very high in number in total sample. The employees with higher qualification and experience are an asset to the organisation. It also helps the individual to get better positions even after their retirement also.

Monthly Salary * Cadre

Table:5 Distribution of Respondents According to their Monthly Salary

Present Monthly Salary in Rupees		Cadre				Total
		Top Management	Middle Management	Front Line Management	Supervisory level	
	Below 40,000	0	0	76	84	160
		0%	0%	25.0%	100.0%	24.6%
	41,000-60,000	0	0	98	0	98
		0%	0%	32.2%	0%	15.1%
	61,000-80,000	0	64	130	0	194
		0%	29.6%	42.8%	0%	29.8%
	Above 81,000	46	152	0	0	198
		100.0%	70.4%	0%	0%	30.5%
Total		46	216	304	84	650
		100.0%	100.0%	100.0%	100.0%	100.0%

Source: Field Study

Analysis: As income plays a vital role in any organization, the researcher has classified the monthly income into four categories. The table-6.1.9 represents the details of the income particulars of the respondents who figured in the sample. It is divulged from the data that 30.5 percent respondents of the sample are earning an annual income of above Rs 81,000 followed by 29.8 percent respondents who receive between Rs. 61,000-80,000 per month. The monthly income of 24.6 percent respondents is below 40,000 whereas 15.1 percent respondents are in between Rs.41, 000 - 60,000.

Respondents in each cadre have different designations, based on their designations the salary structure varies between the respondents of the same cadre.

Nature of Job * Cadre

The nature of an employee's work is best defined the sort of work that he does. This can show the essential daily tasks that he carries out as a part of his job. An employee's work can be evaluated with the nature of the work performed. Evaluating an employee for his/her work is done relative to their position within the company. At this juncture it is important to know the nature of the Job of the respondents.

Table:6 Distribution of Respondents by their Nature of Job

Nature of Job		Cadre				Total
		Top Managemen	Middle Managemen	Front Line Managemen	Supervisory level	
	Both office job and site/field work	16	98	176	20	310
		34.8%	45.4%	57.9%	23.8%	47.7%
	Mostly Office Job	30	114	126	22	292
		65.2%	52.8%	41.4%	26.2%	44.9%
	Mostly Site/Field Work	0	4	2	42	48
		0%	1.9%	0.7%	50.0%	7.4%
Total		46	216	304	84	650
		100.0%	100.0%	100.0%	100.0%	100.0%

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Source: Field Study

Analysis: The table designates that the distribution of cadre of the respondents by their nature of the job involved. It is clear from the above table analysis, out of the total sample 47.7 percent of the respondents are involved in both office job and site work. 44.9 percent respondents are involved in only office job. Only 7.4 percent respondents are involved in site/ field work.

Work Experience * Cadre

Table: 7 Distribution of Respondents by their Work Experience

Total Work Experience		Cadre				Total
		Top Management	Middle Management	Front Line Management	Supervisory level	
	6-10 years	0	0	76	4	80
		0%	0%	25.0%	4.8%	12.3%
	11- 15 years	0	0	228	80	308
		0%	0%	75.0%	95.2%	47.4%
	More than 20 years	46	216	0	0	262
		100.0%	100.0%	0%	0%	40.3%
Total		46	216	304	84	650
		100.0%	100.0%	100.0%	100.0%	100.0%

Source: Field Study

Analysis: The above table explains the experience of the respondents. The data indicates that a majority 47.4 percent of the respondents had 11 to 20 years of experience while 40.3 percent respondents had more than 20 years of work experience, where as 12.3 percent respondents had 6 to 10 years of the experience. Further, cadre wise, in top and middle management cadre 100 percent of respondents had more than 20 years of experience, in middle management cadre 75.0 percent of respondents had 11 to 20 years of experience and 25 percent had 6 to 10 years of experience, in supervisory level cadre 95.2 percent of respondents had 11 to 20 years of experience and 4.8 percent of the employees had only 6 – 10 years of experience. The experience of its employees enriches the quality of output of an organization. The organization under study has been fortified with the gainful experience in all the cadres. With this experience the respondents would increase the productivity of the organisation. It is advantageous to the select PSE for having more experienced work force.

III. PERCEPTIONS OF THE RESPONDENTS ON RESISTANCE TO ORGANIZATIONAL CHANGE

Data was gathered from the employees through a structured Questionnaire aimed at various aspects as a part of the study. Qualitative data were gathered from target respondents focusing on the following two main dimensions measured in a well-structured questionnaire for collecting data, processing, analysing and arriving at conclusions.

1. Employees resistance to change
2. Organization resistance to change

The following table describes the average values and the standard deviation values of each and every dimension related to the Organizational Change that prevails in PSE.

Table: 8 Descriptive Statistics of the Dimensions

Descriptive Statistics	Mean	SD
Employee resistance to change	3.0177	.40625
Organizational resistance to change	2.5865	.39347

Source: Field Study

The table indicates the average scores and the standard deviation of two dimension of resistance to organizational change. The average value of employee resistance to change is greater than the organizational resistance to change.

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DIMENSIONS OF RESISTANCE TO ORGANIZATIONAL CHANGE

NOTE: In the following analysis the respondents' opinions on the first two points of the scale i.e. Very High, High are taken as the Negative responses of the dimensions, whereas respondents' opinions on the remaining three points i.e. Moderate, Low and Very Low are taken as the Positive face of the dimensions.

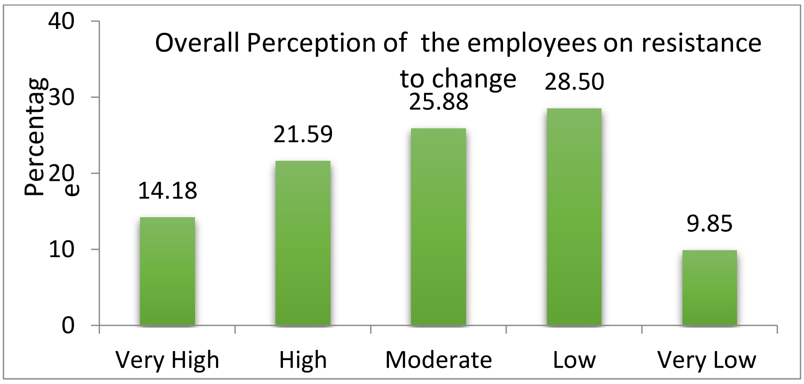
Table: 9 Respondents Opinion on the Dimension 'Employee Resistance to Change'

Statements related to Employee resistance to change	VH	H	M	L	VL
Employees' resistance to any changes in the area which they work (Inconvenience)	3.7	3.4	20.6	45.5	26.8
Resistance due to fear of the unknown/surprise changes	28.9	46.2	1.8	20.0	3.1
Resistance due to mistrust on changes	1.2	6.5	15.7	58.2	18.5
Resistance due to loss of job security/control	1.8	29.5	19.4	44.6	4.6
Resistance due to bad timing	17.5	24.3	50.8	1.5	5.8
Threat to interpersonal relations	23.4	26.5	41.2	3.7	5.2
Increasing workload	36.0	20.6	17.2	23.1	3.1
Management strategies to overcome the employee resistance during change	0.9	15.7	40.3	31.4	11.7
Overall Perception	14.18	21.59	25.88	28.50	9.85

VH= Very High, H=High, M=Moderate, L=Low, VL = Very Low
Source: Field Study

Analysis: The furnishes the overall opinion of the respondents on the dimension "Employees resistance to change" in PSE. It is observed from the data that an average, 28.50 percent respondents of the sample have expressed 'low' for the statements of the said dimension while 25.88 percent respondents have expressed 'Moderate'. Only 9.87 percent respondents have stated 'very low' as their opinion. However, 21.59 percent and 14.18 percent of the respondents have expressed 'high' and 'very high' to the statements in the dimension employee resistance to change. From this analysis it can be concluded that the employee's resistance to change in the organization is found to be 35.77per cent, which is medium. PSE managing employee resistance during any changes in organization, it can be observed from the affirmative response of about 64.23 percent respondents of the total sample.

Figure: 1 Respondents Opinion on the Dimension 'Employee Resistance to Change'



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The figure depicts the overall opinion of the respondents on the dimension 'Employees resistance to change' in the organization. During any changes in any organization minimum resistance will be exhibited by the employees in the organization, it can be managed by the management effectively unless the resistance to change is very severe or maximum. As the organization is a large public-sector organisation with huge manpower, more than 60 percent of the respondents of the total sample agreed with the minimum to the statements in the dimension employees' resistance to change in PSE.

Table:10 Respondents Opinion on the Dimension 'Organizational Resistance to Change'

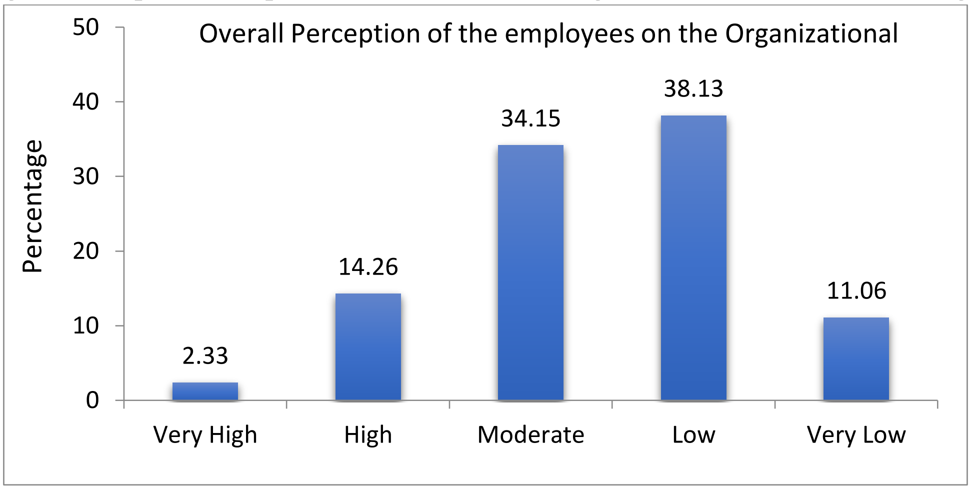
Statements related to Organizational Resistance to Change	**VH**	**H**	**M**	**L**	**VL**
Organizational resistance to any changes in the organization	0.9	5.5	8.0	42.8	42.8
Resistance due to structural inertia	3.7	20.6	39.1	32.3	4.3
Limited focus of change	4.0	16.6	28.9	45.8	4.6
Group inertia	3.4	4.9	41.8	36.9	12.9
Threat to expertise	4.9	32.3	33.5	24.0	5.2
Threat to established power relationships	0.6	8.9	40.6	44.9	4.9
Threat to established resource allocations	0.6	6.2	31.1	57.2	4.9
Organization strategies to overcome organizational resistance to adopt change	0.6	19.1	50.2	21.2	8.9
Overall Perception	2.34	14.26	34.15	38.14	11.06

VH= Very High, H=High, M=Moderate, L=Low, VL = Very Low

Source: Field Study

Analysis: The furnishes the overall opinion of the respondents on the dimension "Organizational resistance to change" in the PSE. It is observed from the data that an average, 38.14 percent respondents of the sample have expressed 'low' with the statements of the said dimension while 34.15 percent respondents have expressed 'Moderate'. Only 11.06 percent respondents have stated 'very low' as their opinion. However, 14.26 percent and 2.34 percent of the respondents have expressed 'high' and 'very high' to the statements in the dimension Organizational resistance to change. From this analysis it can be concluded that the organizational resistance to change is found to be 16.6 per cent, which is minimum. PSE thoroughly examining the changes needed in the organization which makes to survive in the market competition, it can be observed from the affirmative response of about 83.35 percent respondents of the total sample.

Figure: 2 Respondents Opinion on the Dimension 'Organizational Resistance to Change'



The figure revealed the overall opinion of the respondents on the dimension 'Organizational resistance to change' in the PSE. It is one of the big competitors in the steel industries, it should be always thorough in examining the future markets and changes with global market competition, more than 80 percent of the respondents of the total sample agreed with the minimum to the statements in the dimension Organizational resistance to change in PSE.

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Table: 11 ANOVA TEST FOR RESISTANCE TO CHANGE BY CADRE

Dimension	Cadre	n	Mean	SD	F-Value	P-Value	Decision
Employee resistance to change	Top Management	46	2.96	.34	4.276	0.005 *	Significant
	Middle Management	216	2.96	.40			
	Front Line Management	304	3.07	.44			
	Supervisory level	84	3.10	.27			
Organizational resistance to change	Top Management	46	2.69	.35	5.118	0.002	Significant
	Middle Management	216	2.59	.44			
	Front Line Management	304	2.57	.36			
	Supervisory level	84	2.43	.33			

Very High (5), High (4), Moderate (3), Low (2), Very Low (1)

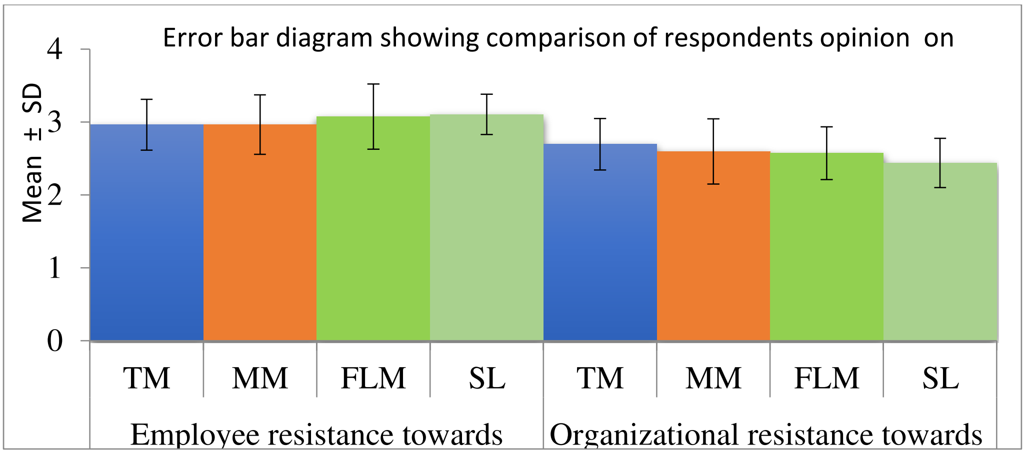
Source: Field Study

Analysis: From the table and the error bar diagram, it is observed that the opinion score of the respondents on the factor "resistance to change" at PSE, is found to be significant at 0.05 level according to their cadre. There is significant impact of resistance on organizational change according to the cadre. The opinion of the respondents on the two dimensions related to the resistance factor is not unanimous by their cadre. Further, it is affirmative as can be observed from the Figure. The supervisory level cadre employees have significantly positive opinion when compared with other three cadres followed by Front line management with regard to the dimension "Employee resistance to change". Whereas for the dimension "Organizational resistance to change", Top management employees have given optimistic opinion when compared with other three cadres of employees followed by Middle management. Further the scores are nearer to "3" and some are below "3" which reveals that, on an average the responses obtained for this factor is not that much of optimistic.

The factor shows that there is 'moderate' resistance to change in the PSE. It reveals that Employees and Organization are exhibiting some moderate resistance to change in the organization, which is quite common in any organization. It can be considered as a positive sign because resistance to change is moderate rather than very high in the organization. It can be managed or reduced through proper coping strategies.

The P-values of the two dimensions is found to be significant at 0.05 level. In other words, the respondents, notwithstanding their cadre, have expressed dissimilar opinion on the aspects of this dimension and it is nearer to neutral level as can be observed from the Figure below.

Figure: 3 Error bar diagram



IV. Discussion and implications

The study observed that a vast majority of the respondents are male while few people are female (Table:1). However, in PSE women are more in office jobs. It is observed from the study that a majority of the respondents are post graduates (Table:2), when compare to graduates. The chi-square value and its corresponding p-value (0.000) make note that there is a significant association between educational qualifications and cadre of the employees i.e., the majority of the respondents in the higher cadre are with highest qualification and the difference is statistically significant.

The study shows that half of the respondents are involved in both office job and site work. Remaining respondents are involved in only office job (Table:6). The study mentioned that a majority of the respondents have 11 to 20 years of work experience while next most of the respondents are having more than 20 years work experience (Table:7). Since almost all the employees in the sample have an experience of more than 6 years, they may be ready to accept the changes in the PSE to face challenges in the global competition. It is advantageous to have more experienced work force.

The study observed that the opinion score of the respondents on the factor "***Resistance to change***" at PSE, is found to be significant according to their cadre. There is significant impact of resistance on organizational change according to the cadre. The opinion of the respondents on the two dimensions are not unanimous by their cadre. The P-values of the two dimensions are found to be significant (Table:11). The supervisory level cadre employees are significantly positive in their opinion when compared with other three cadres followed by front line management with regard to the dimension "Employee resistance towards change". Whereas, for the dimension "Organizational resistance towards change", top management employees have given optimistic opinion when compared to other three cadres of employees followed by Middle management.

It is evident from the study that the 'Employees' resistance to change' in the PSE found to be medium (Tabel:9). PSE managing employee resistance during any changes in organization, it can be observed from the high affirmative response of the respondents. Resistance from employees is the major disruption because of which change initiatives in most of the organizations fail. In any public or private sector organizations, minimum resistance is quite common during organizational change. It can be reduced by the management effectively, unless the resistance to change is very severe or maximum. From the study it is revealed that, majority of the respondents expressed that employee resistance to change is minimum to the factors, fear of the unknown/surprise changes, bad timing, threat to interpersonal relations, and increasing workload. Employee resistance to change is high due to the factors, inconvenience in the area they work**,** mistrust on changes and loss of job security/control. In this particular aspect it is suggested that Management of PSE should implement coping strategies like communicating and educating the employees regarding the change, continuous action learning, co-optation, involving the employees in the change program, facilitation and support to the employees, introducing stress management, negotiation with the employees and practicing soft coercion tactics to counter the resistance in the organization.

The study observed from the analysis, that the 'Organizational resistance to change' in the PSE is minimum (Table:10). It reveals that PSE is thorough in examining and adopting the changes in the organization from time to time to survive in the market competition, it can be observed from the high affirmative response of the respondents of the total sample. Organizational resistance to change makes organization static that makes organizations fail to change with the market competition. In present scenario every organization needs to change to survive in the market or else die! It is observed from the study that majority of the respondents expressed positive opinion i.e., "organizational resistance to change is minimum in the organization", still a minority of the respondents expressed negative opinion i.e., organizational résistance is high in the plant due to the factors, structural inertia, limited focus of change and threat to expertise. In this background, it is suggested that PSE management should maintain dynamic structure and should focus on the changes taking place in the Globalization**.** PSE should take necessary steps to get expertise to minimize organizational resistance to change.

V. CONCLUSION

Resistance to change in the Public-Sector Enterprise is moderate, which is quite common in any organization irrespective to public and private sectors. The management should formulate a policy further to reduce the percentage of respondents with negative attitude towards the Organizational Change. The Policy may include the programmes like change awareness programmes, counselling programmes, rewards and recognitions, special trainings, workshops, seminars and so on, to reduce resistance to change in the organization. Business Organizations should always keep itself ready to accept the challenges to change with global competition to excel in the world market. It will make the organization to stand in the business leader position in the cut throat business competition.

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Human Resource Development Practices In Private Telecom Sector.

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Abstract :

In the present changing scenario Human resource development practices play very important role, for employee's point of view as well as development of whole organization. The study in the project enables us to an understanding of the environment, encompasses, influences of different HRD practices, also impact of technological changes in the private Telecom Sector. This study might find to be with the high percentage of respondents with both Technological changes with respect of HRD practices. This study also addresses the feeble impact between technological changes and performance as variable for HRD as dependent variable, it might be because most of the respondent were having less work experience. Decision making authority, have to give more opportunities to their employees for personnel growth & development also threw recognition for good work done. This can be achieved throw widening their areas of responsibility larger delegation of authority, adequate feedback & incentives for good work.

Hence forth the present study was aimed to analyze some of the HRD Practices to find out which ones can help telecom industry in Visakhapatnam to combat the future challenges on the basis of the variables Training and development , Performance Apprasial ,Counseling, Career Planning and development,. Might be the HRD practices which receives a good response from the respondents may be the quality of work life , Welfare measures, Organizational Development, training and development , reward s and participation because of the effective use technology in the private telecom sector. Career planning, Reward and Recognition and welfare activities, performance appraisal and exit policy beyond statutory requirement. These areas need to be further worked upon for the improvement of job satisfaction and commitment of the employees towards their respective organizations so that the global challenges can meet confidently.

Keywords: Training and development , Performance Apprasial , Career Planning and development,.

INTRODUCTION

Human resource management is in an evolutionary phase and HR function is transforming from the routine to strategic activities. The traditional structure of HR function is different from the line HR structure. Presently, HR professionals are considered as the core of workforce management, especially in their contribution to strategy. Each practice has its own line of importance and this can be clearly explained by the widely accepted definition of Flippo (1984) who said that Personnel Management is "the planning, organizing, directing and controlling of the procurement, development, compensation, integration, maintenance and separation of human resources to the end that individual, organizational and societal objectives are accomplished". While planning, organizing, directing and controlling are considered as Managerial Functions, procurement, development, compensation, integration, maintenance and separation are considered as Operative Functions. While the Managerial Functions are common to all Managers, the skill required in managing all these functions are transferred to various operative areas, due to which the manager's effectiveness will improve the organization's effectiveness. The studies though made in limited number by different researchers, clearly establish that the use of technology will positively influence the HRM practices and improve the employee's efficiency and effectiveness. Due to immense changes in the organizational structure, there came the necessity for integrated strategies and new ways of managing the human resources in promoting technology innovation, organizational change, and entrepreneurship.

Leonard Nadler in the year 1970 published a book " Developing Human Resources" in which the term "Human Resource Development"(HRD) was coined . The term human resources refers to talents, skills, energies and knowledge of the people that are working in an organization and who realizes their potentials to the creation and realization of the organization's mission, vision, values and goals. Whereas the term development refers to a process of active learning from experience leading to systematic and purposeful development of the whole person, body, mind and spirit. Thus, HRD is the integrated use of training, organizational and career development efforts to improve individual , group and organizational effectiveness. On the other hand, Role of technology, particularly in the modern times, has become an integral part of the day to day activities of the organizations. Technology impacts an Industry multi dimensionally but subject to efficient implementation of it. Further, the development of technology has its impact on Industrial sector not only in terms of tremendous rise in productivity of labour, output per a man day but also in the implementation of different functional practices. In India telephone users with1.183 billion subscribes out of which 1.161 billion the mobile subscribes and 21.29 million fixed line subscribes as on may 2019. It is necessary to remember that the India's telecommunication network is the second largest in the world. In fact the major sectors of the Indian telecommunication industry are telephone, internet and television broadcast industry in the country which is in an ongoing process of transformation into next generation. An extensive system of modern network elements such as digital telephone exchanges, mobile switching centres, media gateways and signalling gateways at the core, interconnected by a wide variety of transmission systems using fibre-optics or microwave radio relay networks.

REVIEW OF LITERATURE:

Nicholas Born et al.(2015) concluded that work environment is transforming to contemporary work environment rapidly due to the advancement of technology, globalization and changing organizational structure. So, in order to prepare for future work and to stabilize the business, it is necessary to have a new skill set this is only possible with the help of implementing technology within the work environment.

Robert C.Merchant Jr. (2015) has made a study on role and importance of career development programs in developing and retaining employees. The career development programs include counseling and training of the employees. Where counseling provides employees with an opportunity to define career goals and to create plans within the organization realities. The career development programs will assist to retain the most valued resource. If the organization is able to assist all employees in meeting their needs, then both employees and the department will benefit in the long run.

The success of career development can be measured through employee satisfaction, development of employees through promotion and lower turnover. On the other side, the failure of career development can be measured by conducting timely exit interviews.

Cisco(2015), Dreher, S.(2014), Mc Kintosh, S.(2012) commented that the organizations in order to survive in this global arena, it is necessary to develop new skills and once it decides for developing new skills, it has to create teams who are responsible for imparting skills, implementation, evaluation and growth of training programs.

Eggers and Hagel (2012) added that updating of firm and introduction of new technologies into the workplace requires updating of advanced skills, from floor operators to white collar workers. So it is noticed that acquiring the workers with advanced skill is not criteria but they should regularly renew with the skills.

Andeniji and Osibanjo(2012) expressed that career development usually reduces the cost of recruitment and training of new employees in the organization.

Hameed & Waheed (2011) have concluded that Employee development can boom organization's performance. By developing employees, employee learning , skill growth , self direction and employee attitude enhance organization's performance.

Benedicta and Appiah, (2010) stated that there is a positive relationship between training and employee performance. Training generates benefits for the employee as well as the organization by positively influencing employee performance through the development of employee knowledge, skills, ability, competencies, and behavior.

Kramer, Jenkins and Katz (2007) stated that Information Communication Technology is playing a prominent role in our modern life. Apart from many more advantages like improving productivity, providing instant connectivity and access to information it is also reducing the cost of doing business. Many big IT firms are investing heavily in human capital aiming to develop future employees (customer) through technical literacy program and moreover, there is a shortage of technical and engineering skills in the labor force.

Mishra and Bhardwaj (2002) have highlighted the nature of HRD Climate over different levels of managers in the private organization that which are located in eastern part of Indi. In their study they have concluded the climate conditions in private organizations are good and satisfactory.

STATEMENT OF PROBLEM:

In globalization era, telecom industry is playing an important role in infrastructure development and is in expansion phase. The technological change has a greater impact on modern life and is difficult to measure. The daily routines of an organization are pillared around the technology in use. The technology has a dual impact on the human resources; it makes skills obsolete and also impacts career growth. Sometimes the technology increases human capabilities and at times makes knowledge outdated. Thus, the role played by technological changes may be both positive and negative. A paradigm shift with respect to technology is taking place all over the world, the technological changes redefine the process of activities in the organization. The outcome of empirical studies clearly outlines the impact of technological changes on the industry. The economic perspective of technology is a major area of study. The economic consequences of technological changes and the influence of economic environment on such changes are both positive and negative for an Organization. The society point of view to study technological changes is adopted by many sociologists. The major objectives of National Telecom Policy 1999 have highlighted that the telecom that they 1. encourage the development of telecommunication facilities especially in the remote , hilly and tribal areas. 2.

To facilitate affordable and effective telecommunication, for all. 3. One most important objective is that they want to continuously upgrade the Indian telecommunication sector and provide an equal opportunity for all doing business in India . The success of the objectives are due to the upgradation of technology.

The foregoing reviews clearly brings into light that a number of studies have been put forward by several authors regarding the HRD practices at different levels of management in organizations and the Telecom market has been witnessing growth which is manifold for last few years. Many private players have entered the economy thereby increasing the level of competition. In the competitive scenario it has become a challenge for each company to adopt practices that would help the organization stand out in the market. The competitiveness of a company of an organization is measured through the quality of products and services offered to costumers that are unique from others. Thus the best services and products offered to the customers are result of genius brains working behind them. Human Resource in this regard has become an important function in any organization. All practices of marketing and finances can be easily emulated but the capability, the skills and talent of a person cannot be emulated. Hence, there is a need and importance should be given to the improve the level of efficiency and effectiveness of the employees through some HRD practices. HRD Climate and general practices of HRD had been studies in different industries in different areas around the globe but no study has been conducted in private sector telecom companies in Visakhapatnam .So, in this regard a study is going to take up to study and understand the of role of HRD practices on the technological changes in private sector telecom companies.

OBJECTIVES OF THE STUDY :

1. To study the policies and objectives of Private telecom organizations.
2. To assess and evaluate the impact of training on performance of an employees.
3. To study the influence of technology on Human Resource Development Practices in Telecom sector.

HYPOTHESIS OF THE STUDY:

1. $H_0 1$: There is a significant relationship between Training and Development practices and the performance /skill of employee.

2. $H_0 2$: There is no significant difference on the employee performance with respective technology .

SCOPE OF THE STUDY :

The present study confines to Three aspects of HRD practices such as Training and development , Performance Apprasial , Career Planning and development, in Private telecom organizations. The study covers the opinions of the employees with respect to technological changes and its influence on HRD practices that which includes details of training policy, different training programmes attended ,performance appraisal policy, the process and methods, counselling methods and procedure. The study also covers opinions of the employees in respect of HRD activities.

The scope of the study is confined to the private sector telecom organizations of Visakhapatnam.

METHODOLOGY:

The proposed study seeks to adopt both quantitative and qualitative research methodologies in a complementary manner. To begin with a critical review of theoretical and empirical literature related to technological changes and work environment on HRD practices in telecom sector will be carried out. This is followed by analysis of available secondary data and documents. Primary data is collected from general discussions. The respondents were contacted personally outside workplaces. The target population for the study is Visakhapatnam region for finding the HRD practices in telecom sector. For analysing the quantitative data, statistical techniques like percentages are going to compute and draw the inferences.

The annual growth rates are going to trace year-to-year changes in respect of time series data. For assessing the degree of satisfaction of employee towards HRD programmes, the level of satisfaction of employees is going to ascertained on 5 point likert-style for analysing the qualitative data relating to the opinions and satisfaction of employee's. The statistical techniques like percentages, frequency tables, are performed with the help of SPSS Package. The sample size for the study is 90.

DISCUSSION:

I. $H_0 1$: Training and Development practices have influence on the performance /skill of employee.

i. Training and Development:

ITI endeavours to train its employees in areas of emerging areas of knowledge and skill, to offset technological obsolescence and gain competitive edge in their services. Accordingly, training programmes and workshops were organized in New Technologies. These training programmes were conducted by the premier institutions like IIM's, IIT's and also People Capability Maturity Model (PCMM), Project Management Maturity Model (PMMM) were conducted.

Further the training programmes were also conducted in-house on Technical, Quality, IT , Soft Skills, Stress Management, Safety , awareness programmes on Health, Environment, Energy Management, Time Management , Vigilance awareness etc. were conducted.

Table No:1

Sr.No	Training and Workshops
1	3D Printing technology
2	Smart grid
3	Smart Energy Meter
4	G-PON
5	PLB HDPE pipes
6	OFC networks
7	Smart City/ IoT and 5G technologies

Source: Annual report of the department of telecommunications Ministry of communications government of India new Delhi, 2018-1019.

ii. Employee Training: In-house and External Nominations:

Table No:2

No. of Training Programmes	No. Trained			No. of Training Man-days Achieved			Total Expenditure (Rs.)
	Exe.	Non-Exe.	Total	Exe.	Non-Exe.	Total	
101	1336	373	1709	2823	463	3286	64,66,076.00

Source : Annual report of the department of telecommunications Ministry of communications government of India new Delhi, 2018-2019.

From the above table it is well understood that the department of telecommunications have provided 101 training programmes in the year 2018-19 for both the executives and non -executives with the total expenditure of Rs. 64,66,076.00.

iii . Distribution of respondents' Opinions on Training and Development

Table No:3

S.No	Items	Mean	SD	PS
1.	Supervisor efforts to know your strengths and Weakness before and after training.	3.64	0.99	66.1
2.	The practices or techniques used in T&D.	3.99	0.74	74.7
3.	Are Satisfied with the training programme.	3.56	1.10	64.0
4.	Content and material of training programme	3.46	1.05	61.5
5.	Regularity of the programme.	3.62	0.92	65.4
6.	Enhancement of skills after training .	3.91	0.90	72.74

Source: Primary data

It is understood that from the table that the 61.5% is the percentage score constitutes that employees are satisfied with the content and materials of the training programme whereas 64% of the respondents are stated the training programmes are satisfied. Maximum employees i.e. 74.7% expressed that the practices or techniques used in training and development programmes were excellent. Thus 72.7% of the employees have stated that the training has increased the performance of the employees and in the future this this may lead to commitment and satisfaction in the employees. Therefore the hypothesis-I proved and it is accepted.

iv. Percentage of Respondents' Opinions on Items of Career and Growth

Table No:4

S.No	Items	Mean	SD	PS
1.	Fairness in promotion system	4.07	0.82	76.83
2.	Experience is considered	3.94	0.77	73.41
3.	Career counselling done for better prospects.	3.94	0.77	73.41
4.	Free to communicate with management about your career plans.	3.99	0.74	74.70
6.	Number of promotions in this organization.	3.90	0.82	72.62

Source: Primary Data

Form the above table it is well understood that 76.83% of the respondents have stated that there is fairness in promotion system whereas 74.70% have stated that the employees are free to communicate with management about their career. Hence forth the career counselling and growth is good in case of telecom sector .

II. **H_02 :There is no significant difference on the employee performance with respective technology** .

Influence of technology on the performance of the employee. /Performance Indicator.

Table No:5

IMPACT OF TECHNOLOGY ON THE PERFORMANCE Details of Achievements for the Last Three Years (Rs.Crore)				
Sl.No.	Product/Project	Performance (2016-17)	Performance (2017-18)	Provisional Performance 2018-19 (Un-Audited)
1.	NFS Cable Laying	700.16	267.11	269.92
2.	MSP	190.00	200.11	434.33
3.	Defense /ASCON	181.135	127.00	121.51
4.	MLLN,MLLN AMC/SSTP	154.85	185.66	72.48
5.	GSM-WZ Project/AMC	81.11	34.46	27.61
6.	GSM-SZ/AMC	76.25	153.32	46.08
7.	NPR/SECC Projects	70.59	122.03	0.00
8.	NGN/CS/Ph	35.86	3.55	3.54
9.	OCB AMC Business	32.86	28.05	20.23
10.	G-PON	22.51	391.96	51.61
11.	Misc. Services	19.77	7.80	4.22
12.	Data Centre	19.13	17.88	17.64
13.	Banking /Div. Prod/ Cont. Mfg.	11.23	7.25	16.64
14.	SMPS & Repair	5.73	5.81	11.55
15.	SATCOM & PCM MUX, CDOT AN RAX	5.24	15.21	8.01
16.	GSM-MTNL	2.44	0.00	0.00

Note : The Performance includes Taxes.

Source : Retrieve from Annual report of the department of telecommunications Ministry of communications government of India new Delhi, 2018-1019

From the above table it is well understood that the performance in the product / project like MSP , Banking /Div. prod/ Cont. Mfg, SMPS & repair of different years were improved and this shows that the technology have a greater impact on the performance of the employees. Hence forth the $H_0 2$ is rejected.

CONCLUSION:

Since the objective of the present study is to analyze the perception of the selected respondents with regard to the use of technology in implementing the HRD practices in the selected telecom organization . SPSS Version 14, minitab-14 and Ms-Excel 2007 are used for analyzing the data and present in percentiles, averages, deviations etc. In the present changing scenario Human resource development practices play very important role, for employee's point of view as well as development of whole organization. The study in the project enables us to an understanding of the environment, encompasses, influences of different HRD practices, also impact of technological changes in the private Telecom Sector. This study finally highlights that there is relationship between the training , performance ,job satisfaction and employee commitment.

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Review Article

AN OPTIMAL THREE-STEP METHOD FOR SOLVING NON-LINEAR EQUATIONS

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Abstract
In this study, a new three step iterative method to solve the numerical solution of non-linear equation is proposed. For this new method, we discussed the convergence analysis and tested with several problems to show the efficiency of this method over the existing methods.

Keywords: Iterative Method, Non-linear Equation, Newton's Method, Convergence Analysis.

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INTRODUCTION

There are several methods available in literature for finding a root of transcendental equations. Solving non linear equation is very important in Numerical analysis and has many applications in science and engineering.
As we know that Newton's method (NR) is a well known method to obtain the solution of non linear equation

$$h(t) = 0 \quad (1.1)$$

and is given by

$$t_{n+1} = t_n - \frac{h(t_n)}{h'(t_n)} \quad (1.2)$$

$$n = 0, 1, 2, . . .$$

This method converges quadratically and its efficiency index is $\sqrt{2} = 1.414$.
Unfortunately some of the qudrature based methods are expansive when it comes to implementation because they involve the evaluation of many numbers of functions and function derivatives at every iteration point. This disadvantage result to limitation in the applicability of some of these quadrature based methods.
A fifth order Newton type method (FANG) proposed by Fang [3] is given by

$$\left.\begin{aligned} z_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ x_{n+1} &= z_n - \frac{5h'^2(t_n)+3h'^2(z_n)}{h'^2(t_n)+7h'^2(z_n)} . \frac{h(z_n)}{h'(t_n)} \end{aligned}\right\} \quad (1.3)$$

A third order iterative method (CH) proposed by Chun [1] is

$$\left.\begin{aligned} z_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ x_{n+1} &= t_n - \frac{1}{2}\left(3 - \frac{h'(z_n)}{h'(t_n)}\right)\frac{h(t_n)}{h'(t_n)} \end{aligned}\right\}$$

(1.4)

A third order Newton- Steffensen's method (SM) proposed by Sharma [2] is given by

$$\left.\begin{aligned} z_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ x_{n+1} &= t_n - \frac{(h(t_n))^2}{h'(t_n)(h(t_n) - h(z_n))} \end{aligned}\right\} \quad (1.5)$$

A fifth order method (ZANG) proposed by Zhonyong [5] is

$$\left.\begin{aligned} z_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ x_{n+1} &= z_n - \left(1 + \left(\frac{h(z_n)}{h(t_n)}\right)^2\right)\frac{h(z_n)}{h'(z_n)} \end{aligned}\right\} \quad (1.6)$$

In section II, the new three step iterative is derived and its convergence is carried out in section III. In section IV, various comparisons are given with other optimal schemes.

FIFTH ORDER CONVERGENT METHOD

Consider t^* is an exact root of "(1.1)" where $y(t)$ is continuous and has well defined first derivatives. Let t_n be the root of n[th] approximation of "(1.1)" and is

$$t^* = t_n + \varepsilon_n \quad (2.1)$$

where ε_n is the error.

Thus, we get

$$h\left(t^*\right)=0 \qquad (2.2)$$

Writing $h\left(t^*\right)$ by Taylor's series about t_n, we have

$$h\left(t^*\right)=h\left(t_n\right)+\left(t^*-t_n\right)h'\left(t_n\right)+\frac{\left(t^*-t_n\right)^2}{2!}h''\left(t_n\right)+\ldots$$

$$h\left(t^*\right)=h\left(t_n\right)+\varepsilon_n h'\left(t_n\right)+\frac{\varepsilon_n^2}{2!}h''\left(t_n\right)+\ldots \quad (2.3)$$

Here higher powers of ε_n are neglected that to from ε_n^3 onwards. Using "(2.2)" and "(2.3)", we have

$$\varepsilon_n^2 h''\left(t_n\right)+2\varepsilon_n h'\left(t_n\right)+2h\left(t_n\right)=0$$

$$\varepsilon_n=\left[-2h'\left(t_n\right)\pm\sqrt{4h'\left(t_n\right)-8h\left(t_n\right)h''\left(t_n\right)}\right]\div 2h''\left(t_n\right)$$

$$\varepsilon_n=-\frac{2h\left(t_n\right)}{h'\left(t_n\right)}\frac{1}{\left[1+\sqrt{1-2\mu}\right]} \qquad (2.4)$$

$$\text{where } \mu=\frac{h\left(t_n\right)h''\left(t_n\right)}{\left[h'\left(t_n\right)\right]^2}$$

Replacing t^* by x_{n+1}, t_n by x_n and putting "(2.4)" in "(2.1)", we have

$$x_{n+1}=x_n-\frac{2h\left(x_n\right)}{h'\left(x_n\right)+\sqrt{\left(2h'\left(z_n\right)-h'\left(x_n\right)\right)h'\left(x_n\right)}} \qquad (2.5)$$

where μ can be rewritten as

$$\mu=\frac{h'\left(x_n\right)-h'\left(z_n\right)}{h'\left(x_n\right)} \qquad (2.6)$$

$$\text{and } z_n=x_n-\frac{h\left(x_n\right)}{h'\left(x_n\right)}.$$

We develop the algorithm by taking "(1.2)" as the first step and "(2.5)" as second step and Newton's variant as a third step.

Algorithm

The iterative scheme is computed by x_{n+1} as

$$\left.\begin{aligned}
z_n&=t_n-\frac{h\left(t_n\right)}{h'\left(t_n\right)}\\
w_n&=t_n-\frac{2h\left(t_n\right)}{h'\left(t_n\right)+\sqrt{\left(2h'\left(z_n\right)-h'\left(t_n\right)\right)h'\left(t_n\right)}}\\
x_{n+1}&=w_n-\frac{h\left(w_n\right)}{h'\left(z_n\right)}
\end{aligned}\right\} \qquad (2.7)$$

The method "(2.7)" is called as Fifth order convergent method (FOCM), requires 2 functional evaluations and 2 of its first derivatives.

CONVERGENCE CRITERIA

Thoerem: Let $x_0\in D$ be a single zero of a sufficiently differentiable function y for an open interval D. If x_0 is in the neighborhood of x^*. Then the algorithm "(2.1)" has fifth order convergence.

Proof: Let the single zero of "(1.1)" be x^* and

$$x^*=t_n+\varepsilon_n$$

Thus, $h\left(x^*\right)=0$

By Taylor's series, writing $h\left(x^*\right)$ about x_n, we obtain

$$h\left(t_n\right)=h'\left(x^*\right)\left(\varepsilon_n+c_2\varepsilon_n^2+c_3\varepsilon_n^3+c_4\varepsilon_n^4+\ldots\right) \qquad (3.1)$$

$$h'\left(t_n\right)=h'\left(x^*\right)\left(1+2c_2\varepsilon_n+c_3\varepsilon_n^2+4c_4\varepsilon_n^3+\ldots\right) \qquad (3.2)$$

Dividing "(3.1)" by "(3.2)", we obtain

$$\frac{h\left(t_n\right)}{h'\left(t_n\right)}=\begin{pmatrix}\varepsilon_n-c_2\varepsilon_n^2-\left(2c_3-2c_2^2\right)\varepsilon_n^3-\\ \left(3c_4-7c_2c_3+4c_2^3\right)\varepsilon_n^4+\ldots\end{pmatrix} \qquad (3.3)$$

From first step of FOCM, we get

$$z_n=x^*+\omega_n$$

where

$$\omega_n=c_2\varepsilon_n^2+\left(2c_3-2c_2^2\right)\varepsilon_n^3+\left(3c_4-7c_2c_3+4c_2^3\right)\varepsilon_n^4+..$$

$$2h'\left(z_n\right)-h'\left(t_n\right)=h'\left(x^*\right)\begin{pmatrix}1-2c_2\varepsilon_n+\left(4c_2^2-3c_3\right)\varepsilon_n^2+\\ \left(8c_2c_3-8c_2^3-4c_4\right)\varepsilon_n^3+\\ O\left(\varepsilon_n^4\right)+\ldots\end{pmatrix}$$

$$\sqrt{\left(2h'\left(z_n\right)-h'\left(t_n\right)\right)h'\left(t_n\right)}$$
$$=h'\left(x^*\right)\left(1-2c_2c_3\varepsilon_n^3-o\left(\varepsilon_n^4\right)\right) \qquad (3.4)$$

Applying "(3.2)" and "(3.4)", we have

$$h'\left(t_n\right)+\sqrt{\left(2h'\left(z_n\right)-h'\left(t_n\right)\right)h'\left(t_n\right)}$$

$$=2h'\left(x^*\right)\begin{pmatrix}1+c_2\varepsilon_n+\frac{3}{2}c_3\varepsilon_n^2+\left(2c_4-c_2c_3\right)\varepsilon_n^3\\ +\left(\frac{5}{2}c_5-c_2c_4+3c_2^4c_3-\frac{9}{4}c_3^2\right)\varepsilon_n^4+\ldots\end{pmatrix}$$

$$\left(h'\left(t_n\right)+\sqrt{\left(2h'\left(z_n\right)-h'\left(t_n\right)\right)h'\left(t_n\right)}\right)^{-1}$$

$$= \frac{1}{2h'\left(x^*\right)}\left(\begin{array}{l} 1 - c_2\varepsilon_n + \left(-\frac{3}{2}c_3 + c_2^2\right)\varepsilon_n^2 + \\ \left(-2c_4 - c_2^3 + 4c_2c_3\right)\varepsilon_n^3 + o\left(\varepsilon_n^4\right) + \ldots \end{array}\right)$$

(3.5)

Using "(3.1)" and "(3.5)", we obtain

$$\frac{2h\left(t_n\right)}{\left(h'\left(t_n\right) + \sqrt{\left(2h'\left(z_n\right) - h'\left(t_n\right)\right)h'\left(t_n\right)}\right)}$$

$$= \left(\varepsilon_n - \frac{1}{2}c_3\varepsilon_n{}^3 + \left(-c_4 + \frac{3}{2}c_2c_3\right)\varepsilon_n{}^4 + \ldots\right)$$

From second step of FOCM

$$w_n = x^* + k_n$$

Where $k_n = \frac{1}{2}c_3\varepsilon_n{}^3 + \left(c_4 - \frac{3}{2}c_2c_3\right)\varepsilon_n{}^4 + \ldots$

Now

$$\frac{h\left(w_n\right)}{h'\left(z_n\right)} = \left(-\frac{1}{2}c_3\right)\varepsilon_n{}^3 + \left(-c_4 + \frac{3}{2}c_2c_3\right)\varepsilon_n{}^4$$

$$+\left(\begin{array}{l} c_3c_2^2 + \frac{9}{4}c_5 - 4c_2c_4 + 3c_2^4c_3 \\ +3c_2c_3 + \frac{1}{2}c_2^2c_3 - \frac{3}{2}c_3^2 \end{array}\right)\varepsilon_n{}^5 \ldots$$

$$x_{n+1} = x^* + \left(\begin{array}{l} c_3c_2^2 + \frac{9}{4}c_5 - 4c_2c_4 + 3c_2^4c_3 \\ +3c_2c_3 + \frac{1}{2}c_2^2c_3 - \frac{3}{2}c_3^2 \end{array}\right)\varepsilon_n^5 + \ldots$$

Thus, we derived the convergence of this method which is of fifth order and its efficiency index is $\sqrt[4]{5} = 1.4953$.

NUMERICAL EXAMPLES

We consider the some examples considered by Jayakumar [4] and compared our method with NR,CH, SM, FANG and ZANG methods. The computations are carried out by using mpmath-PYTHON and the number of iterations for these methods are obtained for comparisons such that

$\left|x_{n+1} - x_n\right| < 10^{-201}$ and $\left|h(x_{n+1})\right| < 10^{-201}$.

The test functions and simple zeros are given below

$$h_1(x) = \sin(2\cos x) - 1 - x^2 + e^{\sin\left(x^3\right)},\ x^* = -0.78489$$

$$h_2(x) = xe^{\left(x^2\right)} - \sin^2 x + 3\cos x + 5,\ x^* = -1.20764$$

$$h_3(x) = \sin x + \cos x + x,\ x^* = -0.4566$$

$$h_4(x) = (x+2)e^x - 1,\ x^* = -0.44285$$

$$h_5(x) = x^2 + \sin\left(\frac{x}{5}\right) - \frac{1}{4},\ x^* = 0.40999$$

Table IV(a): Analogy of Efficiency

Methods	P	N	EI
NR	2	2	1.414
CH	3	4	1.442
SM	3	3	1.442
FANG	5	4	1.495
ZANG	5	4	1.495
FOCM	5	4	1.495

Where P is the convergence order, N is the number of functional values per iteration and EI is the Efficiency Index.

Table IV (b): Analogy of Different Methods

h	Method	x_0 *n er fv*	x_0 *n er fv*
h_1	NR	-1.45 10 1.6(201)	-1.3 10 1.6(201)
	CH	4.1(201)	4.1(201)
	SM	DIVERGENT	7 1.6(201) 4.1(201)
	FANG	DIVEREGENT	7 7.3(201) 2.4(201)
	ZANG	6 7.3(201) 4.1(201)	5 3.2(201) 4.1(201)
	FOCM	DIVERGENT	5 4.9(201) 4.1(201)
		6 3.2(201) 4.1(201)	5 3.2(201) 4.1(201)
h_2	NR	-1.2 8 6.8(200)	-1 10 3.1(200)
	CH	1.3(198)	6.4(199)
	SM	6 3.1(200) 6.4(200)	8 3.1(200) 6.4(199)
	FANG	6 9.7(201) 6.4(199)	7 9.7(201) 6.4(199)
	ZANG	4 3.7(200) 6.4(199)	5 3.7(200) 6.4(199)
	FOCM	4 9.4(200) 6.4(199)	10 1.6(201) 4.1(201)
		4 6.2(200) 6.4(199)	5 3.7(200) 1.3(198)
h_3	NR	-0.5 8 7.7(201)	1.25 12 7.7(201)
	CH	1.8(200)	1.8(200)
	SM	6 2.4(201) 5.3(201)	7 7.7(201) 1.8(201)
	FANG	DIVERGENT	7 6.1(201) 1.8(200)
	ZANG	4 4.8 (201) 5.3(201)	6 5.3(201) 5.3(201)
	FOCM	4 6.9(201) 5.3(201)	DIVERGENT
		4 4.8(201) 5.3(201)	6 4.8 (201) 5.3(201)
h_4	NR	-1 11 6.9(201)	0.4 11 2.4(201)
	CH	1.1(200)	4.1(201)
	SM	DIVERGENT	8 2.4(201) 4.1(201)
	FANG	7 8.1(202) 4.1(201)	DIVERGENT
	ZANG	6 4.4(200) 1.1 (201)	6 4.8 (201) 4.1(201)
	FOCM	6 5.9(200) 4.1(201)	6 4.1(201) 1.1(200)
		5 4.8(201) 4.1(201)	5 4.8(201) 4.1(201)
h_5	NR	1.5 11 2.1(201)	1.8 11 7.7(201)
	CH	2.2(201)	7.7(201)
	SM	8 2.1(201) 2.2(201)	8 2.1(201) 2.2(201)
	FANG	7 4.1(202) 2.2(201)	6 5.7(201) 7.7(201)
	ZANG	6 5.7(201) 2.2(201)	6 5.7(201) 7.7(201)
	FOCM	6 9.6(200) 2.2(201)	6 6.5(201) 2.2(201)
		5 4.1 (201) 2.2(201)	5 4.1(201) 2.2(201)

Where x_0 is the initial approximation, *n* is the number of iterations, *er* is the error and *fv* is the functional value.

CONCLUSION

In this method we developed new fifth order convergent method with efficiency index 1.495. It requires two functional evaluations and two of its first derivatives. Table IV(a) compares the efficiency of different methods and the computational results in table IV(b) shows the dominance of FOCM over NR, CH, SM, FANG and ZANG methods.

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A NEW TWO-STEP SIXTH-ORDER ITERATIVE METHOD WITH HIGH-EFFICIENCY INDEX

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ABSTRACT. There are many sixth-order iterative methods to solve the non-linear equations. Here we develop a new two-step iterative method to solve the non-linear equation. For this new method, convergent analysis shows the sixth order convergence and finally, we tested with several problems to show the efficiency of the method over the existing methods.

1. INTRODUCTION

Many complications in engineering and science require solving a nonlinear scalar equation. There are several methods available in the literature for finding the root of non -linear equations.

Newton's method (NR) is one of the well-known methods [2] to obtain the zero of a non-linear equation

$$h(t) = 0\,, \tag{1.1}$$

and is given by

$$t_{n+1} = t_n - \frac{h(t_n)}{h'(t_n)}\,, \quad n = 0, 1, 2, \dots\,, \tag{1.2}$$

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This method converges quadratically and its efficiency index is $\sqrt{2} = 1.414$.

A sixth-order Iterative method (NT) proposed by Neta [1] is given by,

$$\begin{aligned} y_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ z_n &= y_n - \frac{h(t_n)h(y_n)}{h(t_n) - 2h(y_n)h'(t_n)} \\ x_{n+1} &= z_n - \frac{h(t_n) - h(y_n)h(z_n)}{h(t_n) - 3h(y_n)h'(t_n)} . \end{aligned}$$

A sixth-order convergent method (SG) proposed by Sharma and Guha [2] is given by

$$\begin{aligned} y_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ z_n &= y_n - \frac{h(t_n)h(y_n)}{h(t_n) - 2h(y_n)h'(t_n)} \\ x_{n+1} &= z_n - \frac{h(z_n) + h(y_n)h(z_n)}{h(z_n) + 3h(y_n)h'(t_n)} . \end{aligned}$$

A Newton-type method with sixth-order convergent (PG) proposed by Parhi and Gupta [7] is given by

$$\begin{aligned} y_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ z_n &= t_n - \frac{2h(t_n)}{h'(t_n) + h'(y_n)} \\ x_{n+1} &= z_n - \frac{h'(t_n) + h'(y_n)h(z_n)}{3h'(y_n) - h'(x_n)h'(t_n)} . \end{aligned}$$

A new sixth-order method (MF) proposed by Rafiullah [4] is given by

$$\begin{aligned} y_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ z_n &= y_n - \frac{h(t_n)(h'(t_n) - h'(y_n))}{2(h'(t_n))^2} \\ x_{n+1} &= z_n - \frac{2(h'(t_n)h(z_n)}{4h'(t_n)h'(y_n) - (h'(t_n))^2 - (h'(y_n))^2} . \end{aligned}$$

A sixth-order Newton-type method (YC) proposed by Ham and Chun [9] is given by

$$\begin{aligned} y_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ z_n &= x_n - \frac{h(t_n)}{2}\left(\frac{1}{h'(t_n)} + \frac{1}{h'(y_n)}\right) \\ x_{n+1} &= z_n - \frac{2(h'(t_n)h(z_n)}{h'^2(t_n) - 4h'(t_n)h'(y_n) + h'^2(y_n)} . \end{aligned}$$

In section 2, we derived the new two-step iterative method and in section 3, its convergence is carried out. In section 4, various comparisons are given with other schemes.

2. Sixth Order Convergent (SRK) Method

Consider t^* is an exact root of (1.1) where $h(t)$ is continuous and has well defined first derivatives. Let t_n be the root of nth approximation of (1.1) and is

$$t^* = t_n + \epsilon_n , \tag{2.1}$$

where ϵ_n is the error. Thus, we get

$$h(t^*) = 0 . \tag{2.2}$$

Writing $h(t*)$ by Taylor's series about t_n, we have

$$h(t^*) = h(t_n) + (t^* - t_n)h'(t_n) + \frac{(t^* - t_n)^2}{2!}h''(t_n) + \ldots$$

$$h(t^*) = h(t_n) + \epsilon_n h'(t_n) + \frac{\epsilon_n^2}{2!}h''(t_n) + \ldots \tag{2.3}$$

Here higher powers of ϵ_n are neglected that to from ϵ_n^3 onwards. Using (2.2) and (2.3) , we have

$$\epsilon_n^2 h''(t_n) + 2\epsilon_n h^{'}(t_n) + 2h(t_n) = 0$$

$$\epsilon_n = [-2h'(t_n) \pm \sqrt{4h'(t_n) - 8h(t_n)h''(t_n)}] \div h''(t_n) . \tag{2.4}$$

On substituting t^* by t_{n+1} in (2.1) and from (2.4), we get $t_{n+1} = t_n - \frac{2h(t_n)}{h'(t_n)}\left(\frac{1}{1+\sqrt{1-2\mu}}\right)$, where, $\mu = \frac{h(t_n)h''(t_n)}{[h'(t_n)]^2}$. Here, the second derivative is considered by Solaiman and Hashim [5] and is given by

$$h''(t_n) = \frac{2}{t_n - 1 - t_n}[3\frac{h(t_n-1) - h(t_n)}{t_n - 1 - t_n} - 2h'(t_n) - h'(t_n - 1)]\,. \tag{2.5}$$

We develop the algorithm by taking (1.2) as the first step and (2.5) as the second step.

2.1. **Algorithm.** The iterative scheme is computed by as x_{n+1}

$$\begin{aligned} z_n &= t_n - \frac{h(t_n)}{h'(t_n)} \\ x_{n+1} &= z_n - \frac{2h(z_n)}{h'(z_n)}(\frac{1}{1+\sqrt{1-2\mu}})\,, \end{aligned}$$

where, $\mu = \frac{h(z_n)h''(z_n)}{[h'(z_n)]^2}$ and

$$h''(z_n) = \frac{2}{t_n - z_n}[3\frac{h(t_n) - h(z_n)}{t_n - z_n} - 2h'(z_n) - h'(t_n)]\,. \tag{2.6}$$

This method (2.6) requires 2 functional evaluations and 2 of its first derivatives.

3. Convergence Criteria

Theorem 3.1. *Let $t_0 \in D$ be a single zero of a sufficiently differentiable function h for an open interval D. If is in the neighborhood of t^*. Then the algorithm (2.6) has sixth-order convergence.*

Proof. Let the single zero of (1.1) be t^* and $t^* = t_n + \epsilon_n$. Thus, $h(t^*) = 0$. By Taylor's series, writing $h(t^*)$ about t_n, we obtain

$$h(t_n) = h'(t^*)(\epsilon_n + c_2\epsilon_n^2 + c_3\epsilon_n^3 + c_4\epsilon_n^4 + ...) \tag{3.1}$$

$$h'(t_n) = h'(t^*)(1 + 2c_2\epsilon_n + c_3\epsilon_n^2 + 4c_4\epsilon_n^3 + ...)\,. \tag{3.2}$$

Dividing (3.1) by (3.2), we get

$$\frac{h(t_n)}{h'(t_n)} = (\epsilon_n - c_2\epsilon_n^2 - (2c_3 - 2c_2^2)\epsilon_n^3 - (3c_4 - 7c_2c_3 + 4c_2^3)\epsilon_n^4 + ...)$$

Now, $z_n = t_n - \frac{h(t_n)}{h'(t_n)}$, we get $z_n = t^* + \omega_n$, where $\omega_n = c_2\epsilon_n^2 + (2c_3 - 2c_2^2)\epsilon_n^3 + (3c_4 - 7c_2c_3 + 4c_2^3)\epsilon_n^4 + ...$ Here

$h''(z_n) = h'(t^*)(2c_2+2(3c_2c_3-c_4)\epsilon_n^2-4(3c_2^2c_3-c_4)\epsilon_n^2-4(3c_2^2c_3-3c_3^2-c_2c_4+c_5)\epsilon_n^3+...)$

and x

$$\frac{h(z_n)}{h'(z_n)} = L_1\epsilon_n^2 + L_2\epsilon_n^3 + L_3\epsilon_n^4 + ... \tag{3.3}$$

where, $L_1 = c_2$, $L_2 = (2c_3 - 2c_2^2)$, $L_3 = (3c_2^3 - 7c_2c_3 + 3c_4)$. From $\mu = \frac{h(z_n)h''(z_n)}{[h'(z_n)]^2}$, we get

$$2\mu = P_1\epsilon_n^2 + P_2\epsilon_n^2 + P_3\epsilon_n^3 + ... , \tag{3.4}$$

where, $P_1 = 4c_2^2$, $P_2 = 4(6c_2c_3^2 - 2c_3c_4 - 6c_2^3c_3 + c_2^2c_4)$, $P_3 = 2(-8c_2^2c_3 + 4c_2c_4 + 2c_2^4)$. From (3.4), on simplification

$$(1 + \sqrt{1 - 2\mu})^{-1} = 2(1 + M_1\epsilon_n^2 + M_2\epsilon_n^3 + M_3\epsilon_n^4 + ..), \tag{3.5}$$

where $M_1 = c_2^2$, $M_2 = 6c_2c_3^2 - 2c_3c_4 - 6c_2^3c_3 + c_2^2c_4$, $M_3 = -4c_2^2c_3 + 4c_2c_4 + 6c_2^4$. Using (3.3) and (3.5) , we get

$$\frac{2h(z_n)}{h'(z_n)}\left(\frac{1}{1 + \sqrt{1 - 2\mu}}\right) = L_1\epsilon_n^2 + L_2\epsilon_n^3 + L_3\epsilon_n^4 + L_4\epsilon_n^5 + (L_1M_3 + L_3M_1 + L_2M_3)\epsilon_n^6 + 0(\epsilon_n^7) .$$

Now from (2.6) , we have $x_{n+1} = (L_1M_3 + L_3M_1 + L_2M_3)\epsilon_n^6 + 0(\epsilon_n^7)$. Thus, we derived the convergence of this method which is of sixth-order and its efficiency index is $\sqrt[4]{6} = 1.565$. □

4. ITERATIVE METHOD

We consider some examples proposed by Vatti [8] and Mylapalli [6] and compared our method SRK with NR, NT, SG, PG, MR, and YC methods. The computations are carried out by using mpmath-PYTHON and the number of iterations for these methods is obtained for comparisons such that $|x_{n+1} - x_n| < 10^{-201}$ and $|h(x_{n+1})| < 10^{-201}$.

The test functions and simple zeros are given below:

$$
\begin{aligned}
h_1(x) &= \sin(2cosx) - 1 - x^2 + e^{\sin(x^3)}\,, t^* = -0.784895 \\
h_2(x) &= \sin x + \cos x + x\,, t^* = -0.456624 \\
h_3(x) &= x^2 + \sin(\frac{x}{5}) - \frac{1}{4}\,, t^* = 0.409992 \\
h_4(x) &= \cos x - x\,, t^* = 0.739085 \\
h_5(x) &= x^3 - 10\,, t^* = 2.154434 \\
h_6(x) &= e^x + \cos x\,, t^* = 1.746139 \\
h_7(x) &= \sin^2 x - x^2 + 1\,, t^* = 1.465577 \\
h_8(x) &= e^{\sin x} - x + 1\,, t^* = 2.630664\,.
\end{aligned}
$$

Table-IV(a): ANALOGY OF EFFICIENCY

Methods	P	N	EI
NR	2	2	1.414
NT	6	4	1.565
SG	6	4	1.565
PG	6	4	1.565
MR	6	4	1.565
YC	6	4	1.565
SRK	6	4	1.565

Where P is the convergence order, N is the number of functional values per iteration and EI is the Efficiency Index.

Where x_0 is the initial approximation, n is the number of iterations, er is the error, and fv is the functional value.

5. Conclusion

In this method, we introduced a new two-step sixth-order convergent method with efficiency index 1.565. Table IV(a) compares the efficiency of different methods and the computational results in table IV(b) show the dominance of SRK over the three-step methods of NR, NT, SG, PG, MR, and YC in terms of the number of iterations.

h	Method	x_0	n	er	fv	x_0	n	er	fv
h_1	NR	-1	9	1.6(201)	4.1(201)	-1.5	DIVERGENT		
	NT		5	0	4.1(201)		7	0	4.1(201)
	SG		5	8.1(201)	4.1(201)		8	1.6(201)	2.4(201)
	PG		4	3.2(201)	4.1(201)		6	3.2(201)	4.1(201)
	MR		5	2.4(201)	4.1(201)		DIVERGENT		
	YC		6	4.1(201)	4.1(201)		8	4.1(201)	4.1(201)
	SRK		4	2.4(201)	4.1(201)		6	2.4(201)	4.1(201)
h_2	NR	0.1	9	2.4(201)	3.3(201)	-1	8	2.4(201)	3.3(201)
	NT		5	0	3.3(200)		4	4.5(201)	1.8(201)
	SG		5	1.2(201)	3.3(201)		5	1.2(201)	3.3(201)
	PG		5	3.3(201)	1.8(201)		4	4.9(201)	3.3(201)
	MR		5	4.9(201)	3.3(201)		4	3.3(201)	3.3(201)
	YC		7	0	1.8(199)		7	0	3.3(198)
	SRK		4	3.2(201)	3.3(201)		4	5.7(201)	1.8(200)
h_3	NR	0.2	10	2(201)	2.2(201)	1	10	2(201)	2.2(201)
	NT		5	0(201)	2.2(201)		5	4.9(201)	7.7(201)
	SG		6	5.8(201)	7.7(201)		6	1.2(201)	2.2(201)
	PG		5	5.7(201)	2.2(201)		5	5.7(201)	7.7(201)
	MR		5	4.0(201)	2.2(201)		5	5.7(201)	2.2(201)
	YC		6	2.2(201)	2.2(201)		7	0	2.2(201)
	SRK		4	2.8(201)	2.2(201)		4	2.8(201)	2.2(201)
h_4	NR	1.4	9	1.6(201)	2.4(200)	2	9	1.6(201)	2.4(201)
	NT		5	0	2.4(201)		5	0	2.4(201)
	SG		5	3.2(201)	2.4(201)		3	8.1(201)	2.4(201)
	PG		5	6.5(201)	2.4(201)		5	3.2(201)	2.4(201)
	MR		5	4.1(201)	2.4(201)		5	2.4(201)	2.4(201)
	YC		7	0	2.4(201)		7	0	2.4(201)
	SRK		4	2.4(201)	2.4(201)		4	6.5(202)	1.3(200)
h_5	NR	1.9	9	1.6(200)	2.2(199)	3	9	1.6(200)	2.0(199)
	NT		4	6.2(200)	1.2(198)		5	0	2.1(201)
	SG		5	6.5(201)	2.1(199)		6	1.0(200)	2.1(201)
	PG		4	3.2(200)	2.1(199)		5	3.2(200)	2.1(199)
	MR		5	3.2(201)	2.1(201)		5	3.2(201)	2.1(201)
	YC		6	2.1 (201)	2.1(201)		7	0	1.2(198)
	SRK		4	2.2(200)	2.1(199)		3	2.0 (201)	2.1(199)
h_6	NR	1	8	4.9(201)	6.5(201)	2.9	8	4.9(201)	6.5(201)
	NT		5	0	6.5(201)		6	0	6.5(201)
	SG		3	3.2(201)	6.5(201)		6	3.2(201)	6.5(201)
	PG		5	9.7(201)	6.5(201)		5	9.7(201)	6.5(201)
	MR		5	9.7(201)	6.5(201)		7	9.7(201)	6.5(201)
	YC		7	0	6.5(201)		8	0	6.5(201)
	SRK		4	6.5(201)	6.5(201)		5	6.5(201)	6.5(201)

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SOLVENT EFFECT ON PROTONATION EQUILIBRIA OF L-METHIONINE AND L-CYSTEINE IN NEUTRAL SURFACTANT MEDIUM

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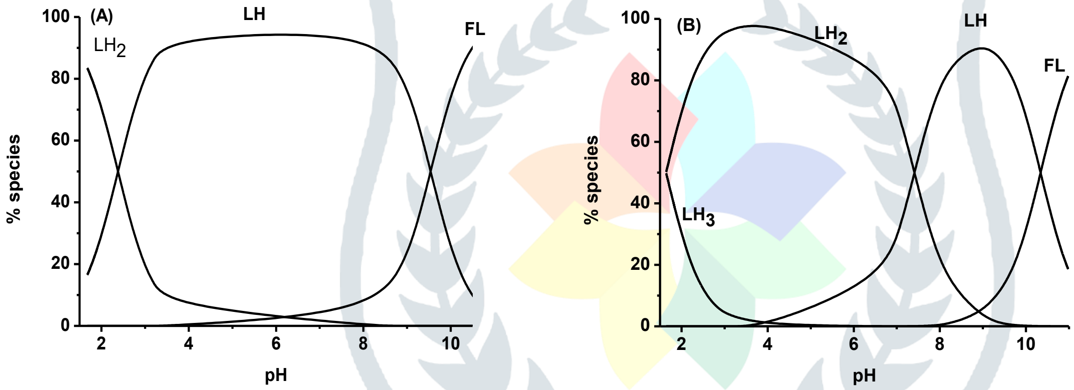
Abstract: The impact of Triton X-100 on the protonation equilibria of L-methionine and L-cysteine has been studied in various concentrations (0.5-2.5% v/*v*) of TX-100 solution maintaining an ionic strength of 0.16 mol dm^{-3} at 303K using a pH-metric method. The protonation constants have been calculated using the computer program MINIQUAD75 and the best fit models are arrived based on statistical grounds employing crystallographic R factor, $\chi 2$, skewness and kurtosis. These protonation constants values have been found to shift in micellar media as compared to those in pure water. The differences in the values have been attributed to the solvent properties of the interfacial and bulk phases involving contribution from the micellar surface potential. The trend of log values of step-wise protonation constants with mole fraction of the medium have been explained based on electrostatic and non-electrostatic forces operating on the protonation equilibria. Distribution of species, protonation equilibria and effect of influential parameters on the protonation constants has also been presented.



Species distribution diagrams of (A) Met and (B) Cys in 1.0% v/v Triton X-100 water mixture

Indexterms- **Protonation equilibria, , Triton X-100, L-methionine, L-cysteine, MINIQUAD75.**

I. INTRODUCTION

L-Methionine: (Met) Methionine and cysteine may be considered to be the principal sulfur-containing amino acids because they are 2 of the canonical 20 amino acids that are incorporated into proteins. Both methionine and cysteine play critical roles in cell metabolism. Met is among the most hydrophobic of the amino acids. Most of the methionine residues in globular proteins are found in the interior hydrophobic core; in membrane-spanning protein domains. Met is often found to interact with the lipid bilayer. Met also belongs to a group of compounds called lipotropics, or chemicals that help the liver process fats (lipids). Levine et al. [1] regard these methionine residues as endogenous antioxidants in proteins.

L-Cysteine: (Cys) Cysteine is a naturally occurring, sulfur-containing amino acid that is found in most proteins in small quantities. The sulfur atom of cysteine is involved in formation of the sulfhydryl group which is very reactive. Cys is an important amino acid which, when protonated at low pH, has three acidic hydrogens: carboxyl (—COOH), amino (—NH_3^+), and thiol (—SH): Cys is 'biogenic' amino acid which is linked by peptide bonds form polypeptides and proteins. Cys is abundant as L-form. Cys can be easily oxidized to form a dimer containing disulfide bridge between two cysteines. Such dimer is known as cystine. Cys is a precursor to glutathione, which is instrumental in protecting against exposure to environmental toxins, especially heavy metals. Cys play a role in the treatment of cobalt toxicity, diabetes, psychosis, cancer and seizures.

Triton X-100 : It is an non-ionic surfactant that has a hydrophilic polyethylene oxide chain (on average it has 9.5 ethylene oxide units) and an aromatic hydrocarbon lipophilic or hydrophobic group. The hydrocarbon group is a 4-(1,1,3,3-tetramethylbutyl)-phenyl group. Triton X-100 is a commonly used detergent in laboratories [2]. Triton X-100 (TX100) is one of the most widely used non-ionic surfactants for lysing cells to extract protein and other cellular organelles or to permeabilize the living cell membrane for transfection (3–5). However, if large amounts are added or the cells are subject to prolonged exposure to TX100, the cells die (6–9). This toxicity of TX100 molecules arises because of the disrupting action of its polar head group on the hydrogen bonding present within the cell's lipid bilayer, leading to the destruction of the compactness and integrity of the lipid membrane. The insertion of detergent monomer into the lipid membrane begins at low concentrations. This leads to a disruption of cellular structure and eventual over permeabilization of the cell membrane at concentrations above the critical micelle concentration (CMC) from the bilayer–micelle transition. All members of this family (Triton X100, Triton X114, Nonidet P40 [NP-40], Igepal® CA-630) are quite similar and differ only in their average number (n) of monomers per micelle (9.6, 8.0, 9.0, and 9.5, respectively) and in the size distribution of the PEG-based head group [10].

Solvent effect on protonation equilibria of L- Methionine and L-Cysteine in Triton X-100-water mixtures has been investigated. An insight into the protonation equilibria is also helpful in understanding the metal-ligand equilibria associated with these ligands.

II. EXPERIMENTAL

2.1 Materials

Solutions of 0.05M L- Met (Hi-media), 0.05M L-Cys (Hi-media), 0.2M Hydrochloric acid (Merck, India), 0.4M of sodium hydroxide (Merck, India) and Triton X-100 (Hi-media) were prepared in triple-distilled deionised water. Sodium chloride (Merck, India) of 2.0 M was prepared to maintain the ionic strength in the titrand .The acid and base solutions were standardised by standard methods. The concentration of the alkali was determined by titrating it with standard oxalic acid and potassium hydrogen phthalate solutions, while the normality of hydrochloric was determined using the standardised sodium hydroxide and the primary standard borax solutions. To assess the errors that might have crept into the concentrations, the data were subjected to analysis of variance of one way classification (ANOVA) using the computer program COST (Rao *et al.*, 2005). The strength of the prepared carbonate-free sodium hydroxide solution was determined by titrating it against hydrochloric acid solution using the Gran plot method (Gran, 1988)

2.2 . Alkalimetric titrations

The pH measurements of the proton–ligand system were carried out in aqueous media containing varying compositions of surfactant (TX-100) in the range of 0.5–2.5% v/v maintaining an ionic strength of 0.16 M with sodium chloride at 303.0 ± 0.1 K using a Digital pH meter ELICO-LI120 type (readability 0.01). Potassium hydrogen phthalate (0.05 M) and borax (0.01 M) solutions were used to calibrate the pH meter. In each titration, the titrand consisted of approximately 1 mmol of hydrochloric acid. The amounts of the Met, Cys (ligands) in the titrand are in the range of 0.25–0.50 mmol. The glass electrode was equilibrated in a well stirred surfactant–water mixture containing inert electrolyte for several days. At regular intervals, the strong acid was titrated against alkali to check the complete equilibration of the glass electrode. The details of experimental procedure and titration assembly used in our laboratory have been given elsewhere (Latha *et al.*, 2007).

2.3 Modeling Strategy

The approximate protonation constants of Met and Cys were calculated with the computer program SCPHD [11] and from the secondary formation functions. The data were pruned using a non-linear least-squares computer program MINIQUAD75 [12]. The reliability of the protonation constants were verified from the statistical parameters and by introducing errors in the concentrations of the ingredients. The best set of protonation constants were selected based on chemical validation.

III. Results and Discussion

The best fit model having the type of species and protonation constants together with certain statistical parameters are given in table I. The values of low standard deviation (SD) in log β and Ucorr (sum of the squares of deviations in concentrations of ligand and hydrogen ion at all experimental data points corrected for degree of freedom) show that the experimental data can be depicted by the model. For an ideal normal distribution, the values of kurtosis and skewness should be three and zero, respectively. The values of kurtosis in table 1 signify that the residuals form leptokurtic patterns. The skewness values (-0.05 and 0.42) explain that the residuals form a part of normal distribution and therefore, least squares method is applicable to the present data. The acceptability of the model is more apparent from the low crystallographic R-values. These statistical parameters show that the best fit model describes the acido-basic equilibria of Met and Cys in neutral surfactant medium.

Table I: BEST FIT CHEMICAL MODELS OF PROTONATION EQUILIBRIA OF L-METHIONINE AND L-CYSTEINE IN TRITON X-100-WATER MIXTURES Temp= 303 K, Ionic strength=0.16 mol dm^{-3}.

% v/v TX-100	logβ_1(SD)	log β_2(SD)	log β_3(SD)	NP	U_{corr}x10^8	Skewness	Kurtosis	χ^2	R-factor
	METHIONINE (pH range 1.60-10.50)								
0	8.93(07)	11.17(09)	---	54	26.23	0.42	5.45	5.93	0.0410
0.5	9.51(05)	11.47(06)	---	76	21.25	-0.35	2.95	27.16	0.0222
1.0	9.54(05)	11.92(06)	---	76	22.10	-0.46	2.48	7.37	0.0229
1.5	9.53(07)	11.82(11)	---	33	38.30	-0.10	2.50	2.61	0.0555
2.0	9.60(05)	12.42(07)	---	53	18.55	-3.23	20.24	20.49	0.0298
2.5	9.77(05)	12.53(07)	---	48	18.56	-0.05	3.25	9.33	0.0299
	CYSTEINE (pH range 2.0-10.80)								
0	10.53(02)	18.67(01)	20.53(09)	60	14.13	-0.83	6.41	22.67	0.0241
0.5	10.25(05)	17.74(04)	19.56(16)	70	19.71	-0.91	2.48	38.51	0.0586
1.0	10.34(04)	17.85(03)	19.39(11)	91	73.54	-0.82	2.70	51.49	0.0477
1.5	11.49(03)	17.97(02)	20.67(17)	69	55.98	-0.73	4.20	35.91	0.0525
2.0	10.27(03)	17.90(01)	19.85(02)	103	76.38	0.39	3.38	27.01	0.0372
2.5	11.07(03)	18.32(02)	20.88(11)	63	46.35	-0.61	2.16	31.59	0.0439

U_{corr}=U/(NP-m), where m=number of species; NP=Number of experimental points; SD=standard deviation

3.1 Secondary Formation Functions

The stepwise protonation constants and number of equilibria can be determined from the secondary formation functions such as average number of protons bound per mole of ligand ($\bar{n}$H). The pH values at half integral of $\bar{n}$H correspond to the protonation constants of the ligand and the number of half integrals in the pH range of the study corresponds to the number of equilibria. Two half integrals (0.5 and 1.5) in the case of Met (Figure 1A) emphasise the presence of two protonation deprotonation equilibria in the pH range of present study. Three half integrals (0.5, 1.5, and 2.5) versus pH in the case of Cys(Figure 1B) confirm the presence of three protonation–deprotonation equilibria. The maximum value of Met and Cys in the formation curve of (Figure-1A and 1B) is two and three respectively which clearly shows that has Met and Cys two, three bound protons per molecule in the pH range of present study. The plots of **a** versus pH are given in Figure 2. The negative values of **a** correspond to the number of moles of free acid present in the titrand and the number of associable protons. The positive values of **a** indicate the number of dissociable protons in the ligand molecules. The maximum value of **a** in Figure 2(A) is +1, which indicates that L- Met has one dissociable carboxyl proton. The corresponding value for Cys in Figure 2(B) is 2, which clearly infers that Cys has two dissociable protons one carboxyl proton and one from HS proton.

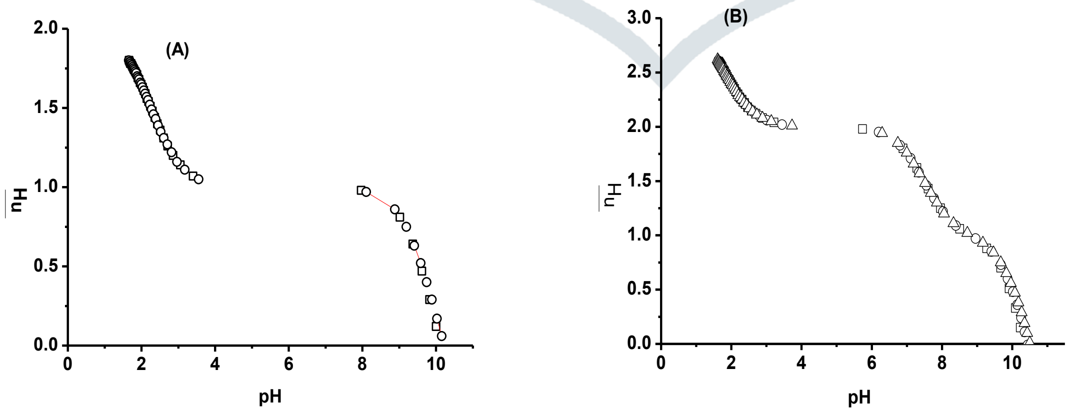


Figure 1: Plots of $\bar{n}_H$ versus pH of (A) Met and (B) Cys: ( )□25, (○) 0.375, and (Δ) 0.50 mmol, respectively. in 0.5% v/v Triton X-100 water mixture respectively

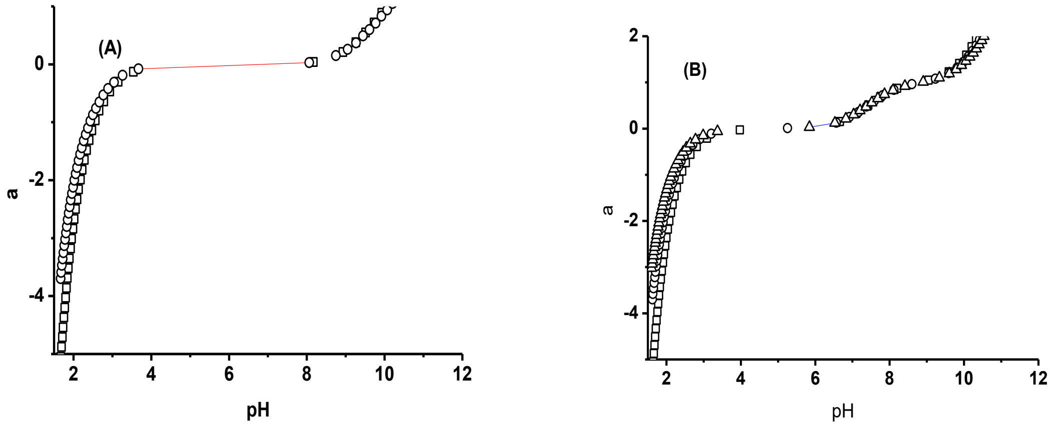


Figure 2: Variation of a versus pH in 1.0 % v/vTritonX-100 water mixture; of (A) Met and (B) Cys(□) 0.25, (○) 0.375, and (Δ) 0.50 mmol, respectively. In 1.0% v/v Triton X-100 water mixture respectively.

3.2 Distribution Diagrams

Typical distribution plots produced by DISPLOT [13] using protonation constants from the best fit models are shown in Figure 3. Representative plots show the existence of LH_2, LH, FL in the case of Met and LH_3, LH_2, LH in the case of Cys in 2.0-10.0 pH ranges. LH form of Met is present to an extent of 90% in the pH range 3.0-9.0 and LH_2 form of Cys is present to an extent of 90% in the range 3.0-6.0. The present study is useful to understand (i) the role played by the active site cavities in biological molecules, (ii) the type of complex formed by the metal ion and (iii) the bonding behaviour of the protein residue with the metal ion. The species refined and the relative concentrations under the present experimental conditions represent the possible forms of these amino acids in the biological fluids.

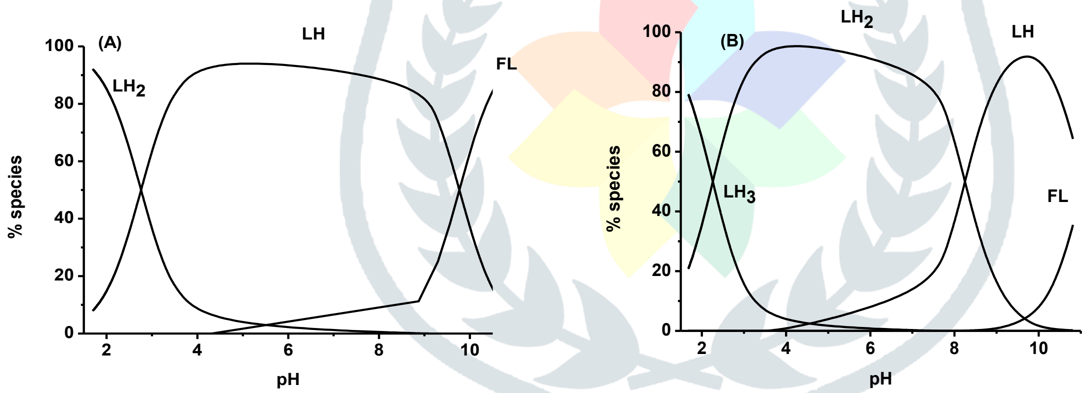


Figure3: Species distribution diagrams of (A) Met and (B) Cys in 2.5% v/v TritonX-100-water mixture

3.3 Effect of systematic errors on best fit model:

Any variation in the concentrations of ingredients like alkali, mineral acid and ligand affects the magnitudes of protonation constants. Such parameters are called influential or dangerous parameters. The results of a typical system given in Table II emphasize that the errors in the concentrations of alkali and mineral acid affect the protonation constants more than that of the ligand.

Table II Effect of systematic errors in influential parameters on the protonation constants of met and cys in 1.0% v/v triton x-100-water mixture

Ingredient	% Error	log β_{mlh} (SD)				
		Met		Cys		
		11	12	11	12	13
	0	9.54(05)	11.92(06)	10.34(04)	17.85(03)	19.39(11)
Alkali	-5	9.87(13)	11.34(05)	Rejected	17.98(18)	19.45(12)
	-2	Rejected	11.56(04)	10.56(05)	17.45(02)	19.10(14)
	+2	9.34(15)	11.77(16)	10.87(15)	Rejected	19.87(10)
	+5	9.95(32)	Rejected	11.05(18)	18.06(21)	19.67(08)
Acid	-5	9.66(32)	12.10(14)	10.45(23)	17.87(43)	Rejected
	-2	9.45(34)	11.86(22)	Rejected	17.56(34)	19.55(33)
	+2	Rejected	12.23(32)	10.66(18)	17.98(28)	19.86(24)
	+5	10.15(24)	Rejected	10.98(19)	18.04(06)	20.16(22)
Ligand	-5	9.66(16)	12.05(32)	10.56(25)	17.98(32)	19.78(19)
	-2	9.34(25)	11.78(35)	10.76(08)	18.02(15)	19.34(18)
	+2	9.45(32)	11.54(17)	10.88(17)	17.93(15)	19.98(35)
	+5	9.88(16)	11.78(19)	10.75(43)	18.05(26)	20.17(16)

3.4 Effect of Micelles :

TritonX-100 is a non-ionic surfactant. In this medium the charged species are expected to be destabilised. The protonation of neutral ligands like phenols[14] and carboxylic acids has increased due to the destabilisation of the charged phenolate and carboxylate ions. Aniline has decreased protonation constants because of the destabilisation of the charged anilinium cation in the low-polarity medium of the micelle. Always such a simple trend need not be observed in non-ionic micellar media as electrostatic factors are relatively less important compared to the non-electrostatic forces. The effect of surfactant on protonation equilibria was recognised long back [15]. The apparent shift in the magnitude of protonation constants in micellar media compared to aqueous solutions was attributed to the creation of a concentration gradient of protons between the interface and the bulk solutions [16]. The presence of micelles is known to alter the dielectric constant of the medium, which has a direct influence on the protonation-deprotonation equilibria [17-19]. The variation of protonation constants with solvent depends upon two factors, viz., electrostatic and non-electrostatic interactions. Born's classical treatment holds good in accounting for the electrostatic contribution to the free energy change [20]. According to this treatment, the energy of electrostatic interaction or the logarithm of step-wise protonation constant (log K) should vary linearly as a function of the mole fraction of the medium. The log K values in the present study are linearly increasing (Figure 4) with increasing mole fraction of the medium in both the amino acids.

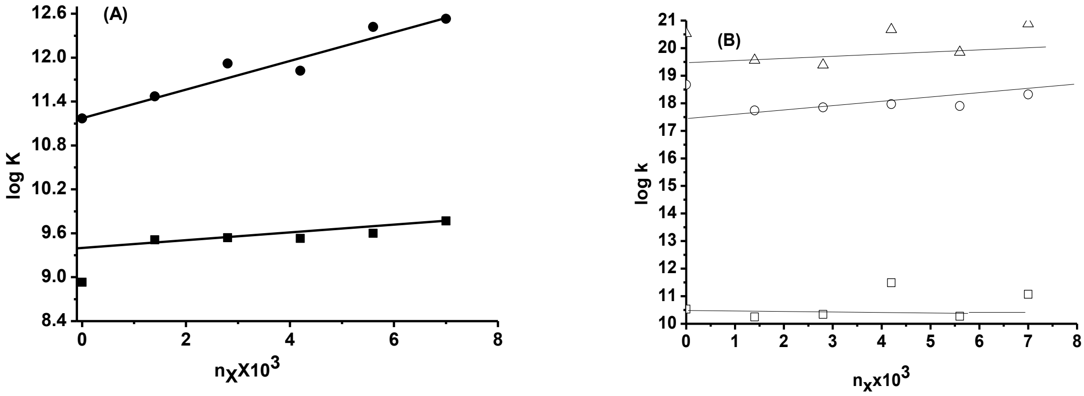
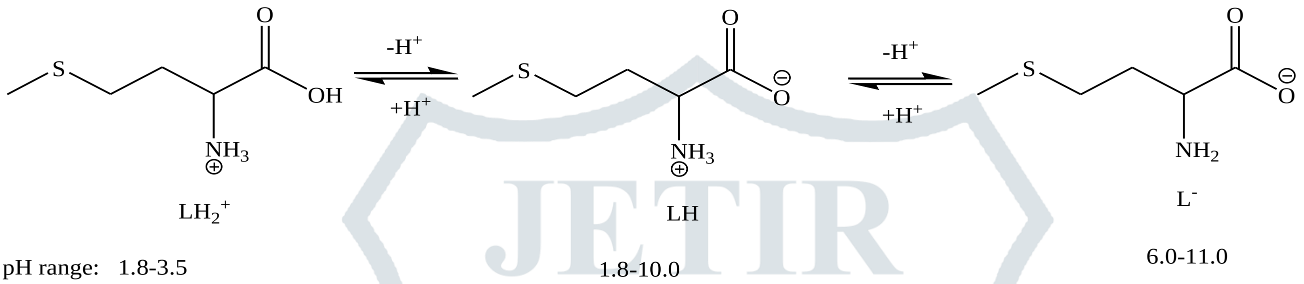
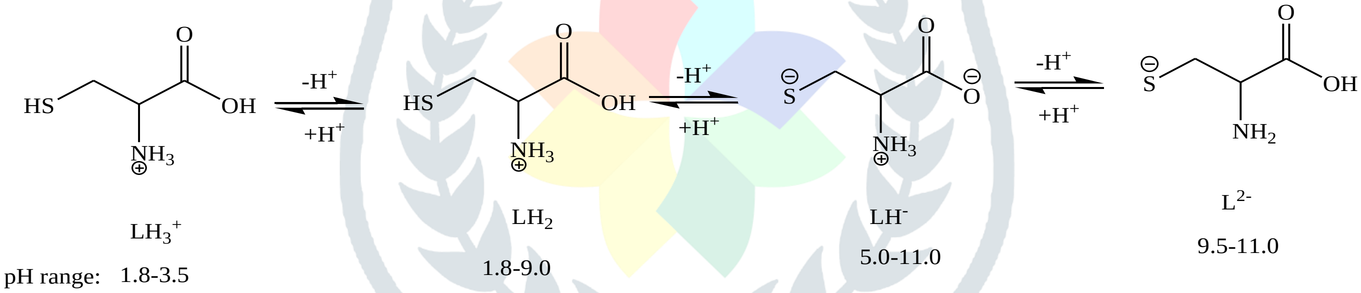


Figure 4: Variation of stepwise protonation constant (log K) with mole fraction of TritonX-100 in TritonX-100 –water mixtures. (A) L- Met (□) logK1, (○) logK2, (B) L-Cys (□) logK1, (○) logK2, (Δ) log K3.



Protonation-deprotonation equilibria of L-methionine



Protonation-deprotonation equilibria of L-cysteine

IV. CONCULSIONS

1. L-Methionine forms LH_2^+ at low pH and gets deprotonated with the formation of LH and L^- respectively with increase in pH.
2. Cysteine forms LH_3^+ at low pH and gets deprotonated with the formation of LH_2^+, LH and L^{2-} respectively with increase in pH.
3. The change of log values of protonation constants of L- Methionine and L-Cysteine linearly increases with increasing mole fraction of CTAB-water mixtures which indicate the dominance of electrostatic forces in the protonation-deprotonation equilibria and hydrogen bonding.
4. Alteration in the concentrations of components like acid and ligand affects the protonation constants more than that of the change in alkali.

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Alignment Modifications for the Link Canal by Adopting Remote Sensing and Verified by using MCDM (TOPSIS) Method

S.V.J.S.S Rajesh, B.Pardhasaradhi

Abstract In our country every year some of the regions are facing with heavy rainfall and the other regions are facing with lack of rain. As a part heavy rainfall regions are suffered with floods and the huge amount of the water is run off into the sea. At the same time the less rain fall regions are suffered with droughts and famines. To avoid all such type of problems NWDA (National Water Development authority) kept a proposal of interlinking of rivers. While the rivers are linking with one another there is some disturbance will be occur for the environment i.e, reserve forests, hilly terrains and human habitats will be affected. To minimize the degradation we suggested some diversions for the proposed (PENNAR TO CAUVERY) link canal. These suggestions are made through the remote sensing and verified through a mathematical tool. In identifying the diversions for a canal there is a multiple diversions have to face. From the multiple diversions the best alternative path was identified by using of TOPSIS (technique for order preference by similarity to ideal solution) method which gives the strength to the remote sensing assessment. Here we made eleven suggestions for the alignment. Through these modifications 25 villages and 5 tribal villages are benefitted. 39 sq.km. Reserve forest is going to be protected. 58 sq.km. hilly terrain is also benefitted without getting damage.

Keywords River linking, study area, command area.

I. INTRODUCTION

India has large amount of water resources, but their distribution is uneven due to the temperature differences and geological settings. Uneven rainfall and sudden down pore has been a regular phenomenon since more than a decade in the country. As a result, some regions are affected by frequent droughts and at the same time other parts are reeling under floods. In the very near future, water will become a scarce resource due to increasing thrust of population and industrial growth. Therefore, water should be harnessed at macro and micro levels with most scientific and efficient manner. Long distance inter-basin transfer of water from surplus basins to water deficit basins had been mooted in our country in order to reduce the imbalance in the water availability between various regions by K.L. Rao, in the year 1975 [1]. The Erstwhile union minister of irrigation, Central Water Commission (CWC) proposed national perspective plan (NPP) proposal for water resource development and later the Centre established NWDA in 1982 to give concrete shape to NPP by conducting scientific studies on inter-linking of rivers. A National Perspective Plan was formulated in the year 1980 by the Union Ministry of Irrigation and the Central Water Commission identifying a number of inter-basin water transfer links in respect of both Himalayan Rivers and Peninsular Rivers of the country. The inter-linking system of Mahanadi – Godavari – Krishna – Pennar – Cauvery – Vaigai – Gundar is one of the four parts of the Peninsular Rivers Development Component of the NPP. Amongst the Peninsular Rivers, as per National Water Development Agency studies show, the Mahanadi and the Godavari have sizeable quantum of water surplus after meeting the existing and projected requirements within the basins. It is, therefore, proposed to divert the surplus waters of the Mahanadi and the Godavari rivers to the water-short Krishna, the Pennar, the Cauvery and the Vaighai basins located towards south peninsula. Many researchers discussed on harvesting excess water in a basin and its pros and corns at length (Reddy [2]; Biyani & Gupta [3]; Radhakrishna [4]; Sharma [5]; Jain, Vijay Kumar & Panigraphy[6]; PrakasaRao et al, [7], [8], [9]; Bhaskar et.al, [10]).

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II. STUDY AREA

The study area of the Pennar (Somasila)-Cauvery (Grand Anicut) link canal is
17215.68 km2 which corresponds to the link canal and the command area. It is covered in 53 SOI sheets of 1:50,000 scales. The canal is bounded between 10˚43'57"N - 14˚36'52"N latitude and 78˚44'2"E - 80˚18'12"E longitude. Figure 1 shows the link canal (Center line), study area buffer of 20 km on both sides and the proposed command area. The Pennar-Palar-Cauvery Link Project lies in Andhra Pradesh and Tamil Nadu states. The existing Somasila dam is located just downstream of the confluence of Cheyyeru River and Kallettivagu River with Pennar River. Grand Anicut is located on the border of Tiruchchirappalli and Thanjavur districts of Tamil Nadu.

A. . Weighted Normalized Decision Matrix

III. METHODOLOGY

A. Submission of the paper

The proposed river link maps of peninsular component are downloaded from NWDA department site http:// nwda.gov.in/nwda/proposals/feasibility in jpg format.

These link canal alignment maps are geo-rectified prior to demarcation of study area for each link. In GIS, a buffer zone is generated at a width of 10 km on either side of the canal alignment to demarcate effective study area covering 20 km corridor in addition to the command area proposed under each link forms the present study area. The shaded part of the figure in each link indicates the command area proposed. Prior to digitization, the SOI maps of 1:50,000 scales have been scanned and geo- referenced in poly conic projection system. Later the maps have been registered to real world co-ordinates using ERDAS IMAGINE 9.1 software. Total 85 topo-sheets are studied and prepared subset maps per the study area polygon to each link canal (Fig.1). Topo-sheet mosaics are prepared for each link canal and topographical features are discussed as under after overlay of link alignment and area polygon. LISS-III images of IRS-P6 satellite data are Geo-referenced utilizing SOI data base. The study includes topography, drainage, geology and geomorphology with remote sensing data update in detail for each area of the canals. Land use/land cover, rocky outcrops and forest cover changes are derived from LISS-III data.

The process of finding the best alternative in a set of feasible alternatives is called as decision-making. In this, the problems which are taken into account from several criteria are named as multi-criteria decision making (MCDM) problems. In other words, decision-making frequently happens in a fuzzy environment where the available information is uncertain. So, In such situation, one of the well known MCDM method is presented named as TOPSIS (technique for order preference by similarity to ideal solution). TOPSIS method was first presented by Hwang and Yoon [11] . Moreover, the negative ideal is the one of worst attribute value. Chen and Hwang [12], developed the concept of TOPSIS using fuzzy numbers and also reviewed on existing methods which resolve fuzzy MCDM problems.

B. Construction of Fuzzy decision Matrix

Suppose that $A_1, A_2, ..., A_n$ be the n alternatives and $C_1, C_2, ..., C_n$ be the m criteria. Each alternative is evaluated with respect to m criteria. Let $D = \left[\tilde{x}_{ij}\right]_{m\times n}$ be the decision matrix where $\tilde{x}_{ij}$ be the i^{th} ($i = 1, 2, ..., m$) alternative with respect to j^{th} criteria ($j = 1, 2, ..., n$). Also $\tilde{x}_{ij}$ be the linguistic trapezoidal fuzzy number which represents as $\tilde{x}_{ij} = \left(a_{ij}, b_{ij}, c_{ij}, d_{ij}\right)$

The following matrix represents the decision matrix of each alternative with respect to each criteria:

$$D = \begin{array}{c} \\ A_1 \\ A_2 \\ \dots \\ A_m \end{array} \begin{array}{c} \begin{array}{cccc} C_1 & C_2 & \dots & C_n \end{array} \\ \begin{bmatrix} \tilde{x}_{11} & \tilde{x}_{12} & \dots & \tilde{x}_{1n} \\ \tilde{x}_{21} & \tilde{x}_{22} & \dots & \tilde{x}_{2n} \\ \dots & \dots & \tilde{x}_{ij} & \dots \\ \tilde{x}_{m1} & \tilde{x}_{m2} & \dots & \tilde{x}_{mn} \end{bmatrix} \end{array}$$

where A_i is the i^{th} alternative with respect to each criteria C_j (j^{th} criteria)

C. Normalized Decision Matrix

The Normalized fuzzy decision matrix can be represented as;

$$\tilde{Q} = \left[\tilde{r}_{ij}\right]_{m\times n}$$

where $\tilde{r}_{ij} = \left(\frac{a_{ij}}{d_j^+}, \frac{b_{ij}}{d_j^+}, \frac{c_{ij}}{d_j^+}, \frac{d_{ij}}{d_j^+}\right)$

here $d_j^+ = \max_i d_{ij}$

D. Weighted Normalized Decision Matrix

Considering the different significance of each criteria, the weighted normalized fuzzy decision matrix can be represented as;

$$\tilde{V} = \left[\tilde{v}_{ij}\right]_{m\times n} \quad i = 1, 2, ..., m \ ; \ j = 1, 2, ..., n.$$

Where

$$\tilde{v}_{ij} = \tilde{r}_{ij} \times \tilde{w}_j$$

and $\tilde{w}_j = \left(w_{j1}, w_{j2}, w_{j3}, w_{j4}\right)$, $j = 1, 2, ..., n.$ is the fuzzy weight of each criterion.

E. Determine Fuzzy positive and Negative Ideal solutions

According to the weighted normalized fuzzy decision matrix, normalized positive trapezoidal fuzzy number can be approximate by the elements $\tilde{v}_{ij}$. Then, the FPIS (Fuzzy Positive Ideal Solution) A^+ FNIS (Fuzzy Negative Ideal Solution) A^- can be *defined as;*

$$A^+ = \left(\tilde{v}_1^+, \tilde{v}_2^+, ..., \tilde{v}_n^+\right)$$

$$A^- = \left(\tilde{v}_1^-, \tilde{v}_2^-, ..., \tilde{v}_n^-\right)$$

where

$$\tilde{v}_j^+ = \max_i \left\{v_{ij4}\right\}$$

and $\tilde{v}_j^- = \min_i \{v_{ij1}\}, i = 1, 2, ..., m \; ; \; j = 1, 2, ..., n$. In the index, v_{ij1} and v_{ij4} are the first and fourth numbers in the trapezoidal fuzzy number, respectively

F: Distance of each alternative from Fuzzy positive and negative Ideal solutions

Let $\tilde{A} = (a_1, b_1, c_1, d_1)$ and $\tilde{B} = (a_2, b_2, c_2, d_2)$ be trapezoidal fuzzy numbers then the traditional distance between them is;

$$d_v(\tilde{A}, \tilde{B}) = \sqrt{\frac{1}{6}\left[(a_1 - b_1)^2 + 2(a_2 - b_2)^2 + 2(a_3 - b_3)^2 + (a_4 - b_4)^2\right]}$$

Now, the distance of each alternative from A^+ and A^- can be calculated as;

$$d_i^+ = \sum_{j=1}^{n} d_v(\tilde{v}_{ij}, \tilde{v}_j^+), i = 1, 2 ..., m,$$

$$d_i^- = \sum_{j=1}^{n} d_v(\tilde{v}_{ij}, \tilde{v}_j^-), i = 1, 2 ..., m$$

where $d_v(\tilde{v}_{ij}, \tilde{v}_j^+)$ and $d_v(\tilde{v}_{ij}, \tilde{v}_j^-)$ is the distance between the trapezoidal fuzzy numbers

G: Calculate the closeness coefficient of each Alternative

The closeness coefficient of each alternative is denoted by cc_i and is defined as;

$$cc_i = \frac{d_i^-}{d_i^- + d_i^+}$$

H :Best Alternative

According to the coefficient cc_i value, the larger closeness coefficient has a higher level ranking order. So the best alternative has the maximum closeness coefficient cc_i.

IV. ENVIRONMENT IMPACT

An attempt is made to evaluate positive and negative impacts on infrastructure, settlements, land use / land cover, soils, forest and landforms in the study area due to the construction of the link canal. Quantifications are arrived at in each sphere by integrating data sets in GIS environment.

In addition to the above study, water logging areas and seepage zones are demarcated by integrating the thematic maps soils, slope and lineaments.

The link canal stretches between Somasila and Cauvery spanning a length of 483 km. running across the districts of Nellore and Chittoor in Andhra Pradesh and through Chengal pattu, North Arcot, South Arcot, Tiruchuralpalle and Thanjavur districts in Tamil Nadu. The location of the command area proposed is in Chengal Pattu and South Arcot districts. 53 SOI maps at a scale of 1: 50,000 and a total area of17,215 sq.km. is covered under the study area.

Alignment modification:

The canal passes through hilly terrains, reserve forest, crop lands as well as human habitats, causing greater damage to the mentioned above and to the environment equally. Inorder to overcome this problem, diversions at certain places have been suggested so that, damage to human habitats and reserve forest is reduced to the minimum.

Table-1.0

Path-1	(25,26.8,29.48,34)
Path-2	(24,25.4,26.68,27.2)
Path-3	(26,27.5,29.1,32)

The Normalized fuzzy decision matrix can be represented as;

$$\tilde{Q} = [\tilde{r}_{ij}]_{m \times n}$$

$$\left(\frac{25}{34}, \frac{26.8}{34}, \frac{29.48}{34}, \frac{34}{34}\right) = (0.73, 0.78, 0.86, 1)$$

$$\left(\frac{24}{34}, \frac{25.4}{34}, \frac{26.68}{34}, \frac{27.2}{34}\right) = (0.70, 0.74, 0.78, 0.80)$$

$$\left(\frac{26}{34}, \frac{27.5}{34}, \frac{29.1}{34}, \frac{32}{34}\right) = (0.76, 0.80, 0.85, 0.94)$$

Weighted Normalized Decision Matrix(7,9,9,9)

$$(0.73, 0.78, 0.86, 1) \times (7, 9, 9, 9) = (5.14, 7.09, 7.80, 9)$$

$$(0.70, 0.74, 0.78, 0.80) \times (7, 9, 9, 9) = (4.94, 6.72, 7.06, 7.2)$$

$$(0.76, 0.80, 0.85, 0.94) \times (7, 9, 9, 9) = (5.35, 7.27, 7.70, 8.47)$$

$A^+ = \{(9, 9, 9, 9)\}$ and

$A^- = \{(4.94, 4.94, 4.94, 4.94)\}$

Distance of each Alternative Fuzzy positive and negative Ideal solutions

nce o **Table-1.1(A)**

Path-1	$d(\tilde{A}_1, A^+)$	1.532 1
Path-2	$d(\tilde{A}_2, A^+)$	2.233
Path-3	$d(\tilde{A}_3, A^+)$	1.92

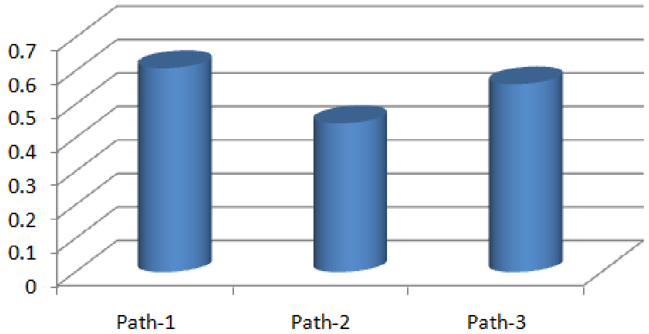
Table-1.1(B)

Path-1	$d(\tilde{A}_1, A^-)$	2.3836
Path-2	$d(\tilde{A}_2, A^-)$	1.782
Path-3	$d(\tilde{A}_3, A^-)$	2.450

Table-1.1(C)

	D+	D-	$cc_i = \frac{d_i^-}{d_i^+ + d_i^-}$
Path-1	1.5321	2.3836	0.60872
Path-2	2.233	1.782	0.44383
Path-3	1.92	2.450	0.56064

The largest closeness coefficient refeers the best alternative path. Hence path -1 is best alternative path.



Since the original alignment is cutting across a hilly terrain in Dakkali mandal, a change in the direction of the original alignment is suggested from Alturupadu mandal and this diversion meets the original alignment at Palemkota in Venkatagiri mandal. The original length of the canal at this point is7.38km.,the right diversion is 8.97km. and the left diversion is 8.8km.wherein the right diversion only will exist since the left diversion and the original alignment are passing through a hilly terrain.

Table-1.2

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	cci
(5.5,7.3,8.97,10.5)	(0.5,0.66,0.81,0.95)	(3.5,5.97,7.33,8.5)	2.23	3.4	0.6071
(5.3,6.4,7.38,8)	(0.48,0.58,0.67,0.72)	(3.37,5.23,6.03,6.54)	3.37	2.32	0.407733
(7.2,8,8.8,11)	(0.65,0.72,0.8,1)	(4.58,6.54,7.2,9)	2.3	3.1	0.592734

Form the above table the closeness coefficient of the path-1 is 0.6071. There fore Path-1 is the best alternative path on the fuzzy project network. And it also supports the diversions proposed previously. Another diversion to the original alignment is suggested beyond Devarakona which fuses with the original alignment again after Kuntakalva. The actual length of the original alignment is 9.3km.whereas the right diversion has a length of 10.3km.and the left diversion stretches to a length of 10.1km.As the left diversion and the actual path are passing through a hilly terrain, the right diversion is suggested.

Table-1.3

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	CCI
(7.8,9.5,10.3,12)	(0.53,0.65,0.71,0.82)	(3.76,5.89,6.39,7.44)	1.52	2.70	0.639
(7.1,8.7,9.3,10)	(0.48,0.6,0.64,0.68)	(3.42,5.4,5.77,6.20)	2.52	3.07	0.549195
(8.2,9,10.1 ,14.5)	(0.56,0.62,0.69,1)	(3.95,5.58,6.26,9)	1.42	2.12	0.5988

Form the above table the closeness coefficient of the path-1 is 0.639. There fore Path-1 is the best alternative path on the fuzzy project network which supports the diversions proposed earlier. The original alignment once again intersects Velikonda hill and the protected forest near Krishnapuram, because of which a much larger digression is advocated for from Uppukonda, close to Gollapalle village in Srikalahasti mandal and moves across a 140 km long contour and links up with the original alignment near Vikrutamala village in Yerpedu mandal. At this point the original path length is 23.72km.the right and left diversions are 28.31km. and 28.1km. respectively. Although the right diversion since lengthy, it is suggested to save the resereve forest from being degraded in the original path.

Table-1.4

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	cci
(25.5,26.7,28.31,30)	(0.79,0.83,0.88,0.93)	(5.57,7.50,7.96,8.43)	1.51	2.84	0.6534
(22,22.8,23.72,25.2)	(0.68,0.71,0.74,0.78)	(4.8,6.41,6.67,7.08)	2.54	1.65	0.393795
(25.8,27.2,28.1,32)	(0.80,0.85,0.87,1)	(5.64,7.65,7.90,9)	2.06	3.2	0.608365

Form the above table the closeness coefficient of the path-1 is 0.6534. There fore Path-1 is the best alternative path on the fuzzy project network which supports the modifications to the alignment. The original alignment navigates through the reserve forest of Narayanavanam of the same mandal and thus an alteration in the original alignment is put forward from Suddakaka village and becomes fused with the original alignment in proximity of Ramakrishnapuram to circumvent the forest area. Whereas the lengths are 12.54km.,15.36km. and 15.1km.respectively for the original and the right and left alignments. Here the right side diversion is prefrable to decrease the degradiation of forest.

Table-1.5

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	cci
(12.5,14.2,15.36,17)	(0.68,0.77,0.83,0.92)	(4.78,6.98,7.55,8.36)	1.85247	2.3645	0.560711
(11,12,12.54,14)	(0.60,0.65,0.68,0.76)	(4.20,5.90,6.16,6.88)	1.7524	1.770249	0.502533
(14.3,15.2,15.1,18.3)	(0.78,0.83,0.84,1)	(5.46,7.47,7.62,9)	1.81012	2.14214	0.541772

By determining the closeness coefficient of paths using the TOPSIS method path-1 is prefarable because whose closeness coefficient is the largest that is 0.560711. This supports the right side of diversion of the canal alignment. Then the alignment crosses over a hilly terrain (400 m elevation) close to Krishnasamudram village of Nagari mandal. This can be sidestepped by an amendment in the direction of the alignment from Krishnasamudram to Pentakandigai in Chengalpattu Taluk. For this modification the original length is 12.7km., the left and right side diversions are 16.96km. and 16.7km. respectively. To avoid hilly terrain in the path left side diversion is proposed.

Table-1.6

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	cci
(14.8,16.2,16.96,18.5)	(0.71,0.77,0.81,0.88)	(4.98,7.00,7.33,8.0)	1.1749	3.177	0.730
(11.6,12.1,12.7,13.8)	(0.55,0.58,0.61,0.66)	(3.90,5.23,5.49,5.97)	1.6864	2.4135	0.58867
(14.2,15.6,16.7,20.8)	(0.68,0.75,0.80,1)	(4.77,6.75,7.22,9)	2.2596	4.267	0.65378

As the closeness coefficient of the path-1 is 0.730 which is larger comparing with the other paths. It is suggested as the best alternative path and supports the left side diversion of the canal alignment.
Near this end point of the diversion, yet another modification could be carried out to detour 2 hillocks.
The lengths are 4.24km. (original),4.1km.(right) and 4.38km(left). Wherein the left diversion is suggested to avoid the cutting of two hillocks.

Table-1.7

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	cci
(3.2,3.8,4.1,6.7)	(0.56,0.56,0.611,1)	(3.97,5.10,5.50,9)	2.611941	3.032173	0.537227
(3,3.7,4.24,4.6)	(0.44,0.55,0.63,0.68)	(3.13,4.97,5.69,6.17)	3.696518	4.437482	0.545547
(3.1,3.74,4.38,5.4)	(0.46,0.55,0.65,0.80)	(3.23,5.02,5.88,7.25)	3.8471	4.6174	0.545502

Though the closeness coefficient of the original path and the left diversion are almost equal the left diversion is preffered to save the hillocks as per the suggested modifications. A small diversion is suggested from the village of Nattam in Tiruthani Taluk bonds with the original alignment at Padmapuram And the lengths of the original path and the assumed diversions are 5.51km.,6.12km. and 6.39km. to avoid the hilly terrrain which exists in the original and right side diversions, the left side diversion is suggested.

Table-1.8

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	cci
(4.5,5.5,6.12,9.9)	(0.45,0.55,0.61,1)	(3.18,5,5.56,9)	2	3.258485	0.619662
(4.2,4.8,5.51,5.8)	(0.42,0.48,0.55,0.58)	(2.96,4.36,5.00,5.27)	1.33165	1.76835	0.570435
(4.9,5.7,6.39,7.5)	(0.49,0.57,0.64,0.75)	(3.46,5.18,5.80,6.81)	1.478676	2.5547	0.63339

As the closeness coefficient of the path-3 is 0.63339 which is the largest, it is suggested as the best alternative path in support to the previous modifications suggested. As the original alignment cuts through the town of Arakkonam, a small alteration in the direction of the alignment from Kaimur village to Perumuchchi is advised. The lengths of the canal here are original 5.94km. right side diversion 6.98km. and the left diversion 7.17 km. inorder to save the town, the left side diversion is prefered as the original path and the right side diversion cut through the town.

Table-1.9

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	cci
(4.8,5.4,6.98,9)	(0.53,0.6,0.77,1)	(3.73,5.4,6.98,9)	1.9854	3.9471	0.665335
(4.8,5.5,5.94,6.4)	(0.53,0.66,0.66,0.71)	(3.73,5.5,5.94,6.4)	1.31185	2.448148	0.651104
(6.4,6.4,7.17,8.3)	(0.71,0.711,0.79,0.92)	(4.97,6.4,7.17,8.3)	1.4571	3.5241	0.70748

As the closeness coefficient of the path-3 is larger it is suggested as the best alternative path which strengthens the proposals of modification. Near Sittur village, another small diversion is advocated so that 3 villages are bypassed and the original alignment is met at Pullalur village (Figure 7.1c). the lenghts of the canal alignment and suggested diversions are 3.55km., 3.9km, and 3.1km. respectively. The right diversion is suggested here to avoid the submerging of villages.

Table-1.10

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	cci
(2.5,3.3,3.9,4.9)	(0.46,0.61,0.72,0.90)	(3.24,5.5,6.5,8.16)	2.6748	3.985427	0.598392
(2.8,3.2,3.55,3.9)	(0.51,0.59,0.65,0.72)	(3.62,5.33,5.91,6.5)	2.397737	3.572263	0.598369
(2.1,2.6,3.1,5.4)	(0.38,0.48,0.57,1)	(2.72,4.33,5.16,9)	2.296296	3.274485	0.587796

Form the above table the closeness coefficient of the path-1 is 0.598392.which is the largest. There fore Path-1 is the best alternative path on the fuzzy project network. And it also supports the diversions proposed previously.Similarly, another change in the alignment is suggested to evade 3 villages which are spanned by the original alignment between the villages' katteri and kalpakkam. In this modification the length of the original alignment is 5.57km. and proposed right and left diversions are 5.78km. and 5.6km. respectively. Wherein the right side diversion is proposed to save the villages from being submerged.

Table-1.11

Decision Matrix	Normalized Decision Matrix	Weighted Normalized Decision matrix	D+	D-	CCI
(4.1,4.9,5.78,6.4)	(0.60,0.72,0.85,0.94)	(4.22,6.48,7.65,8.47)	2.2647	2.9013	0.5614
(4.5,5,5.57,6.1)	(0.66,0.73,0.81,0.89)	(4.63,6.61,7.37,8.07)	2.0220	2.7779	0.42126
(4.7,5.1,5.6,6.8)	(0.69,0.79,0.88,1)	(4.83,7.14,7.94,9)	2.3088	3.3375	0.408902

Form the above table the closeness coefficient of the path-1 is 0.5614. There fore Path-1 is the best alternative path on the fuzzy project network. And it also supports the diversions proposed previously.

V. CONCLUSION:

Here we are suggested up to 11 alignment modifications to avoid degradiation of reserve forest, hilly terrains and human habitates without damaging the environmental and ecosystems. These suggestions are given by the remotesensing techniques and verified by adopting a mathematical approach which gives the strength to those suggestions. By modifying the alignment, it is noted that 21 villages are being saved. The modification effects save approximately 39 sq·km area of reserved forest which was to be lost before the alignment was modified. Hilly terrain of 58 sq·km area remains intact due to the modification and the burden of cutting and flattening of this terrain can be saved, which proves to be cost effective for that reason.

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STRUGGLE AND SURVIVAL OF SOCIAL UNFITS

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ABSTRACT

The deterministic struggle and survival prevail persistently in all ages and in all species, be it in Darwinistic evolutionary phase or in the postmodern age. Stephen Crane, Theodore, Dreiser and Thomas Hardy understand the struggle of human being against the codes of morality, societal culture, religion and even gender. They were ahead of their times in portrayal of struggle with honesty which is still prevalent in modern times of men and women against their cultural environment. They seem to have seized upon the larger insights available to them and to have extended those insights into their fiction. While entertaining boundless sympathy for a struggling individual against ruthless social forces and societal hostility they also give an honest portrayal of slice of life. The kinship of the three protagonists' chiefly rests on the deterministic environment, gender-based domination and victimizing civilization of the nineteenth century.

Keywords: Naturalism, determinism, gender-based domination, societal culture

The nineteenth century intellectual climate of America has witnessed the birth of a generation of writers who questioned the validity of established truths and traditional ways of thinking. Stephen Crane and Theodore Dreiser are the products of this intellectual and spiritual unrest. They have joined their fellow naturalist novelists both at home and abroad in condemning the contemporary society. While entertaining boundless sympathy for a struggling individual against ruthless social forces and societal hostility they also give an honest portrayal of slice of life.

> Crane is the superior artist, but Dreiser is more important because "he reveals the very nerves of American society"[1]

Literary efforts of Stephen Crane as a naturalist became more significant when his novel *Maggie: a Girl of Streets* is compared to the work of his literary contemporary Theodore Dreiser who also portrays characters struggling against deterministic forces both social and cosmic. Crane's Maggie and Dreiser's Jennie can be categorized as protagonists struggling against their environment and cultural milieu to gain a footing in the society. Stephen Crane and Dreiser are the products of the same cultural environment and American literary naturalistic tradition. Crane and Dreiser have long been hailed as America's leading naturalists.

Thomas Hardy's *Tess of the d'Urbervilles* (published in 1891) may also be included in this comparison as Hardy is a British naturalist. Hardy's Tess is governed by deterministic or naturalistic forces. The theme of Hardy has striking similarity to Crane's *Maggie and Dreiser's Jennie*. In all the novels, the protagonists and the other characters are victims of their environment. The novels reflect a shared belief that social relationships and their sexual identity are the sites of fierce personal and public struggles.

The striking resemblance between Crane and Dreiser born in the same year 1871 is their impoverished, rigid religious environment. Their belief, stint as journalists, the study of slums and the influence of the French realist Balzac and the French naturalist Emile Zola on both writers have shaped their naturalistic trends. Crane's characters in *Maggie: A Girl of the Streets* especially Maggie and Jimmie, children of an alcoholic family living in slums, struggling against the forces of heredity and environment, do not have certain tender impulses which extend beyond the animality and prison-like social conditions of slum life. But these impulses from the depths of being are not fully articulated by the characters unlike the characters of Dreiser. In spite of this inarticulateness there is a similarly between the writers feels Pizer when he says,

> But Crane in the very inarticulateness and momentariness of these moments, is expressing one of the great themes of American literary naturalism and of Dreiser in particular, that of core of sensibility present in even the seemingly most inadequate and subjugated of men and woman.[2]

Crane, though expresses similar themes like his contemporaries, his novels are immediately and overwhelmingly brief as opposed to Zola's twenty volumed interconnected Rougon-Macquart series and fuller representations of Dreiser, Norris, Farrell, Steinbeck and Dos Passos. The discrepancy is clear between the compression and compactness of *Maggie* and the expansiveness of Dreiser's *Jennie* and even Hardy's *Tess*. Crane's *Maggie* often referred to as naturalism's first novel, has all the qualities of naturalistic fiction and Crane achieves this effect without a reliance on length, though the contemporary naturalistic fiction is very lengthy. In *Maggie: A Girl of Streets* and *Jennie Gerhardt* Crane and Dreiser trace the struggling compatibility of their characters in deterministic situation. *Maggie* clearly defines that struggle at every point of life and the consequences of it, so also Dreiser's *Jennie.* Through the struggle and survival of Crane's "girl of the streets", to the heroine of each text there has been bestowed an inherent kinship resulting in sisterhood through struggle.

An initial comparison of these three fallen women yields several common traits shared by three women. Maggie, Jennie and Tess are depicted as young and beautiful woman, blossoming in poverty. They are seduced, betrayed and as a consequence a face a tough society which rejects them. The end of Maggie, Jennie and Tess who faces capital punishment are almost similar. Maggie commits suicide and Jennie contemplates self-destruction. The kinship of the three protagonists' chiefly rests on the deterministic environment, gender-based domination and victimizing civilization of the nineteenth century.

Stephen Crane's seemingly impressionistic detachment from Maggie contrasts sharply with Dreiser's affectionate involvement with Jennie. Maggie Johnson becomes the victim of a grotesque estimation of herself and her place in the universe. Jennie too is a victim of civilization but she thrives as a kind and generous woman. Along with these characters mention must be made of Tess d'Urbervilles. Like Maggie, Tess suffers similar transgression- seduction. The fate of these women is strikingly similar, which is death. Tess endures protracted self-loathing and suffering before she is finally put to death. If Crane portrays the slice of life in Bowery slum and shows an eclipsed sympathy concealed by his impressionistic detachment, towards his characters, Dreiser sympathises with his characters and writes against his cultural gender stereotypes. Even Hardy raises questions about women, society and morality.

In *Maggie* and *Jennie* both Crane and Dreiser are set upon the freedom to treat their themes from unorthodox points of view. Both the protagonists are seduced women who are thrown into a world of hate. Crane creates Maggie in a "tremendous environment" with the spirit which is inadequate to sustain her. Maggie's milieu is too unforgiving, and she is ultimately destroyed. Similar to Crane, Dreiser also holds a pessimistic world-view but he affectionately moulds the characters of Jennie in an environment less callous than Maggie's.

The impression that he quickly creates of Maggie's environment and family is staggeringly harsh. He introduces the impoverished of the Bowery. In depicting the "very little boy" on the "heap of gravel" fighting the urchins of Rum Alley presents an environment of savagery and grief and into this confusion and chaos is born Maggie. She "blossomed in the mud puddle" and is the proverbial rose among thorns; but her environment is so sordid that there is no place for such delicacy. Maggie's world is presented as a terrifying place that is absolutely indifferent to human survival or dignity.

In contrast to the squalor of Maggie's surroundings the simple poverty of the Gerhardt family and the place they live in Columbus, Ohio, is a pastoral Eden. Jennie’s environment though poor is far luxurious in comparison with Maggie's sordid and soiled milieu. Unlike Maggie's alcoholic mother and the weak-willed father Jennie’s mother is an epitome of love and her father William Gerhardt is willing to work. Maggie's parents are more preoccupied with their domestic quarrels and they are indifferent to the physical and spiritual needs of their children. Both Maggie and Jennie have a few material possessions. Unlike Jennie, Maggie is denied of the familial bond. Maggie is scorned and beaten by her formidable mother who howls at the slightest misstep of Maggie. When Maggie breaks a plate, she screams with anger.

> Good Gawd! She howled. Her glittering eyes fastened on her child with sudden hatred. The fervent red of her face turned almost to purple.[3]

Even Jimmie, Maggie's shiftless brother, declares his home is a “reg’lar livin hell!” Maggie and her brothers are terrified of their mother. In creating the Johnson household, Crane depicts a home that is absolutely bereft of familial compassion or kindness.

Carried away by middle class morality, Mary Johnson offers her daughter no succour, when Maggie most needs her. When she learns that she has fled with Pete, she curses her saying,

> May she be cursed forever! She shrieked. May she eat nothin’ but stones and deh dirt in deh street. May she sleep in deh gutter an ever see deh sun shine again (*MAGS*. p. 159)

When Maggie returns home debased and deserted by Pete, she reacts in a most unchristian way and parades her daughter before the tenement neighbours rather than shielding her with motherly compassion. She ridicules her daughter's plight with “jeering cries” and “derisive laughter”. She taunts and terrorizes her daughter until Maggie flees into the endangering environment which ultimately causes her extinction. Tragically Maggie's home is not a refuge from the abysmal streets that surround it. Her mother's oppressive and appalling behaviour construct violent, sadistic prison from which her daughter must escape. Her self-righteous declarations after her daughter's death and forgiveness granted to her erring daughter are well portrayed by Crane to depict sham of morality and meaningless mission-church ideology.

In contrast to Crane's callous description of Mrs. Johnson, Mrs. Gerhardt is a kind and a generous woman. Jennie's mother is a loving compassionate woman who consoles her daughter in distress. Following Senator Brander’s death, it is Mrs. Gerhardt who first senses her daughter's anguish. Unlike Mrs. Johnson, Mrs. Gerhardt consoles and empathises with her daughter who bears a child out of wedlock. She does not slight the act of love which is in sharp contrast with Mrs. Johnson. She displays true Christian spirit of forgiveness unlike Mrs. Johnson who utters terms derived from mission churches. Mrs. Johnson is overflowing with misplaced indignation, while Mrs. Gerhardt never reacts to children's dilemmas with fury or scorn. She struggles hard when she has to reveal her daughter's position to her rigidly Christian husband. When Mr. Gerhardt is furious and orders Jennie out, like any other nineteenth century woman subjected to the domination of her husband, she endures the wrath of her husband but wishes that her daughter should remain at home until something is arranged for her. Maggie is cast out by remote and indifferent mother but Jennie is able to turn to a concerned and compassionate mother in the time of sorrow. Mrs. Johnson does nothing but rant and rave anger at children, Mrs. Gerhardt respects her children and entertains contagiously “strong hope for betterment” of her family.

Mrs. Johnson's “mothering” permits only one of her male children, Jimmie, to live. He manages to stay alive because he is as detached and self-centred as his mother. He turns out to be a belligerent truck-driver and Bowery tough. He is mildly concerned about his sister's welfare and is oblivious of his own seduction of other girls. In contrast Jennie’s brother Bass, tries to rescue his sister when he learns of her plight. Though he does not solely sympathize with his sister Jennie, who sacrifices her chastity to release him, he at least tries to rescue his sister and family from possible degradation into poverty. Jimmie initially pities his sister and fights Pete, later he succumbs to Bowery morality and repels her with horror of contamination. When Maggie appeals to Jimmie, he withdraws hastily

> "Well, now, yes a t'ing, ain' yeh?" he said he's lips curling in scorn. Radiant virtue sat upon his brow and his repelling hands expressed horror of contamination (*MAGS*, p. 178)

Although he is guilty of the same crime, he takes a hypocritical stance and Crane through Maggie's environment shows how environment stifles affection and shapes selfishness. The detachment from him reinforces hopelessness of her plight and the predictability of her future. In contrast Jennie's brother Bass acts as her advocate and retains her under Gerhardt's roof until Bass is able to send for her. He finds work for himself at Cleveland and lodging for Jennie and family. Bass's determination to save the family becomes Jennie's beacon of hope. Jennie always finds a home to protect her which Maggie is ruthlessly denied. She becomes a girl of streets where as Jennie at least has a shelter. In sketching the plight of a girl devoid of all help Crane mirrors ruthless society, keeping with the naturalistic tradition.

Jennie and Maggie are seduced before marriage largely because of their poverty. Yet both are untouched by their sin. Crane characterizes Maggie as,

> The girl... blossomed in a mud puddle. She grew to be a most rare and wonderful production of a tenement district, a pretty girl. None of the dirt of Rum Alley seemed to be in her veins (*MAGS*, p. 141)

Maggie remains trusting and compassionate in spite of the horrors that she faces in her life. She innocently places her trust in those who are contemptible. She is constantly surprised by the heartlessness of those who betray her. She is "dazed" when her leonine Pete saunters off with Nellie his old flame leaving Maggie alone. Crane seems to detach himself when his heroine is battered by all deterministic forces, yet he truly sympathizes with Maggie's quandary, when he adapts ironic tone.

Like Maggie, Jennie represents virtue and goodness. In the course of Dreiser's novel, she is indigent, seduced, betrayed and deserted. Even though she seems to be governed by circumstances beyond her control, her aspirations suggest that her life will not inevitably end in bitter defeat, whatever struggles Jennie encounters- Senator Brander's sudden death, her illegitimate pregnancy, banishment from her family home and her daughter's death and Lester's desertion and his death, she continues to sustain but towards the end she never quite attains what she seeks, so she contemplates suicide. But Dreiser is not willing to give her a sad end. Though he entertains a tragic vision of life, he refuses to bring in a tragic document. He is reluctant to paint a black future for her. Gerber comments on Dreiser's dilemma that

> Jennie's future is left open for the reader to surmise as ambiguity which by itself is a sizable concession for a master naturalist to make. But Dreiser's dilemma is clear. On the one hand, he sees Jennie as eminently deserving of the best life can bestow; on the other, he is committed to his view of life in which the worthy are unjustly thwarted by circumstance… with his emotions too strongly engaged in both directions, his clouding and denouement in irresolution was perhaps the only tenable answer.[4]

Crane seems to be more naturalistic in giving his heroine a ruthless end rather than Dreiser who is emotionally associated with his characters. Crane is more devoted to the documentation of the brutal world with a scientific precision rather than Dreiser whose deep scepticism regarding human goodness is softened by sentimentality. Parents and lovers reject both Maggie and Jennie and because of this rejection, they have similarly distorted perceptions of self. Not only the forces of morality and religious rules but also Pete's seduction and betrayal are largely responsible for Maggie's position. When she walks out of her home with Pete, her courage and self-assurance leave her. Ostentatious and stupid Pete becomes her knight in shining armour.

> Maggie was pale. From her eyes had been plucked all look of self-reliance. She learned with a dependent air toward her companion. She was timid, as if figuring his anger or displeasure. She seemed to beseech tenderness of him."(*MAGS*, p. 166)

Maggie has embraced the demeaning patriarchal myth; she begins to evaluate her situation increasingly wretched. Crane seems to reinforce the gender bias of nineteenth century America where a woman voluntarily submits her own dignity and feels naturally inferior to the man in her life. Through Maggie's submission Crane depicts the status of a woman in a male dominated society as a second-rate cultural minority. Her environment forces her to accept her inferiority. The crushing deterministic environment does not allow her to assert herself and hence her self-perception is distorted and this leads her to the ultimate destruction.

Like Maggie, Jennie also has a false perception of self when she first meets Senator Brander. She is enamoured by his position and power. Because she sees him as so distinguished in relationship to her, she becomes conscious of “the disgrace of her position”. Similarly, the moment she first sees Lester, she thinks she has met “a personage of real worth”, and she ponders over her own status. Like Maggie, Jennie does not seem to think herself worthy of such men. Dreiser seems to imply that Jennie's perception of self as inadequate. Crane and Dreiser, present an aspect of nineteenth century woman's social quandary. Woman have difficulty in valuing themselves in a society where they are worth so little. And this knowledge reaches to a remarkable extent in Maggie who becomes a prostitute and Jennie a kept woman. Their minority status, rather than their own belief system engender their self-doubt.

Regardless of her absolute virtue, the last thing Maggie sees of life is a “fat man in torn and greasy garments”. This ugly encounter has an effect on her that prompts her to end her misery by walking into the East River. Her failure to sustain even in such a lowly position of a prostitute leads her down the spiral and she dies for her offense, an offense of losing the struggling instinct. Through Maggie’s death and shame followed by her family's lamentation, Crane creates a work of social criticism.

Even Dreiser’s Jennie Gerhardt, as a fallen woman acquires an unsavoury reputation. She struggles throughout her life but her triumph seems muddled because her future is vague. Whether she remains a survivor to take care of the two orphaned children or what she will do, is left to the reader's understanding. Crane and Dreiser successfully chronicle the struggles of the protagonists thrashing about to sustain themselves. Though they are the victims, the authors are successful in portraying them as an indictment against the gender based nineteenth century that imposed harsh restrictions on women.

Crane, then is a naturalistic writer in the sense that he believes that environment moulds lives. But he is much more than this, for his primary concern is not a dispassionate, pessimistic tracing of inevitable forces but a satiric assault on weaknesses and on social morality. Sharing Crane’s belief Donald Pizer says,

> He seems to be saying that though we may not control our destinies. We can at least destroy those systems of value which uncritically assume we can. If we do this, a Maggie (or a Jennie Gerhardt) will at least be saved from condemnation and destruction by an unjust code.[5]

Maggie is thus a novel primarily about the falsity and destructiveness of certain moral codes. To be sure, the codes and their analogous romantic visions of experience are present in Maggie’s environment and are in part what Crane means when he wrote that environment shapes lives regardless. Crane's ironic technique suggests that his goal is not only to show the effects of environment but also to distinguish between moral appearance and reality, to attack the sanctimonious self-deception and sentimental emotional gratification of moral poses. Though he is concerned with dramatizing a deterministic philosophy, here also assails those who apply a middle-class morality to victims of amoral, uncontrollable forces in man and society. So, Maggie says Pizer,

> is therefore very much like such early Dreiser novel as *Jennie Gerhardt*, though Dreiser depends less on verbal irony and more on an explicit documentation and discussion of the discrepancy between an event and man's moral evaluation of an event.[6]

Thomas Hardy, the greatest British naturalist born on June 2nd 1849 in Dorset England, creates yet another character Tess akin to Maggie. His native Dorset figures prominently as Wessex in *Tess of the d'Urbervilles* and other novels. Hardy's roots in the working class and his focus on the bare essentials of existence are reflected in his novels. Crane and Hardy often use vernacular language and their novels bring into literature a personal richness that expresses the tension between the rich and the poor, between the old and the new, and between men and women. Both authors have dealt with pessimistic determinism in their novels and they seem to recognize the gender exploitation which is inexorably linked to economic and cultural status.

Largely because of their poverty, both Maggie and Tess are exploited for their sexuality and naivety. Both the protagonists die eventually owing to their "tremendous environment”. Maggie commits suicide and Tess dies as a punishment for her transgression. Hardy seems to entertain a soft corner for his heroine and in spite of it, he tailors Tess's sad demise and he implies that she is somehow the victim of cosmic determinism beyond her control. Both Maggie and Tess face the time's scorn for a fallen woman. Their punishment is so absolute and their demise is pathetic.

Maggie and Tess are at the mercy of their poverty-stricken families. Maggie is the victim of parental neglect. Her parents are often engaged in insanely drunken battles making home a regular living hell. Her formidable mother is an alcoholic and her father is so weak that he always bears the brunt of her mother's drunken fury. Maggie takes the first chance to flee from her sordid environment when she meets Pete, her belligerent brother's friend. Unlike Maggie, Tess is the bread winner for her family, but her position as family wage earner, seems to be forced on her and like Maggie she is the victim of her alcoholic parent in her case, her father. It is Tess who must take the family's wagon-load of goods to market because her father is too drunk to do so. When she falls asleep at the reins, and the family's horse, Prince is killed, Tess is overcome with remorse and blames herself for the loss of the family's livelihood. Her father works harder digging a grave for the horse than he has worked growing food for his family. Contrasted with her shiftless parents Tess is the responsible one in the family. Because of their shiftlessness, her parents send her to claim kinship with the rich Mrs. d'Urberville to better the family's circumstance. Tess obliges, overcome by feelings of guilt. It is this turn of events which prompts the unfortunate collision with Alec d'Urberville. Hardy, just like Crane, burdens his protagonist with the oppressive forces of environment and society in a deterministic world.

Tess's first meeting with Alec includes a terrifying careening carriage ride. In spite of her fear and anger, she submits to Alec's advances.

> Why it was that upon this beautiful feminine tissue, sensitive as gossamer, and practically blank as snow as yet, there should have been traced such a coarse pattern as it was domed to receive; why so often the coarse appropriate the finer thus, the wrong man the woman, the wrong woman, the man, many thousand years of analytical philosophy have failed to explain to our sense of order, one may, indeed admit the possibility of a retribution lurking in the present catastrophe” [7]

Tess is violated in the woods one night and she bears a child out of wedlock. She feels herself outcast from the society just as Maggie who is violated and deserted by Pete. Both Alec d’Urberville and Pete are sketched as betrayers and imposters. Tess unwillingly and Maggie willingly respond to their advances.

After Tess's fall, Hardy reinforces that Tess is a woman of integrity. Overcome with regret and remorse she loathes herself and tries to rectify herself. In contrast with Tess, Maggie when rejected by her family helplessly stoops into prostitution. Yet both Crane and Hardy attempt to portray Maggie and Tess as blameless women who are taken advantage of by sinister men and even sinister society. They struggle to maintain purity but tragically surrender to seduction because they have no option.

Maggie and Tess are presented as young women untutored in the ways of men and the authors seem to focus on those arbitrary social and religious principles that doom and condemn them. Tess's visible goodness suggests that there may be a possibility of purifying atonement but no amount of suffering and remorse can save Tess from her fate. Maggie does not have remorse but loss of her self-esteem and survival instinct, begin her doom. The self-loathing which is conspicuous in both women is not accompanied by remorse in Maggie. She passively drifts into the degradation. Like Tess, Maggie is an unwilling participant in latter degradation and is a victim of her circumstances. When compared to Tess, Maggie faces a very brutal environment which eventually brings her extinction.

Tess's encounter with a gentleman at Talbothay's dairy, Angel Clare changes her life. He falls in love with her, marries her and rejects her when he learns about her illegitimate child. Tess' disclosure that she, like he, has sinned in the past is more than Angel can comprehend. Gender dynamics and societal values which are inherent in Angel's departure is Hardy's censure of a culturally established double standard. In spite of the fact that Angel too has had pre-marital sex, he cannot accept Tess' confession. To emphasize Tess 'helplessness, Hardy places her in the arms of a confused man. When she pleads with him, he says

> You were more sinned against than sinning. That I admit. (*TOD*, p. 229)

Yet he cannot forgive her and cannot love her as he used to. Tess in turn delivers herself to him absolutely. When he carries her in his arms in his somnambulistic venture, Hardy's narrator says that

> So easefully had she delivered her whole being up to him that it pleased her to think he was regarding her as his absolute possession to dispose of as he should choose (*TOD*, p. 243)

Tess is adrift in the arms of someone who thinks she would be better off dead; she is adrift in a world where she no longer belongs. Akin to Tess, Maggie also submits with her whole being to her seducer. Pete rejects her because she poses a threat to his respectability and when she asks him:

> But where kin I go? The question exasperated Pete beyond the powers of endurance. It was a direct attempt to give him some responsibility in a matter that did not concern him. In his indignation he volunteered information. Oh, go t' hell! Cried he. He slammed the door furiously and returned, with an air of relief, to his respectability *(MAGS*, p. 180)

Maggie goes away from Pete's life and she wanders aimlessly and slowly drifts into an abominable life of a harlot. Even Tess in Angel's absence, deliberately mars her physical attractiveness. She also shaves off her eyebrows in an effort to make herself even more repugnant and to atone her sin. Her lingering misery and prolonged wandering are great punishments that Tess bears.

In Angel's absence, Alec her former seducer returns. Ironically as a reformed preacher. Although it is clear that it is his passion for her that has prompted his return, Alec refers to Tess as reason for his backsliding and even accuses her of tempting him. Tess can never escape. She has been beaten down by her struggles and her adversities. Her hopes of being reunited with Angel are dashed and she allows Alec to do what he will with her. Tess is again sexually involved with Alec. Tess allows Alec to take over her. She seems to be performing according to the rules of her culture's accepted gender protocol, and tragically her performance is at the expense of any personal development. Moreover, it is only the presence of Angel that brings her to her senses not her own sense of self-worth or self-preservation. Tragically no lover comes back for Maggie. In her state of absolute degradation, the presence of different mean looking men, bring her into reality. A reality that looms in her face that she has lost her self-esteem and the rejection she faces even as prostitute is too much for her to handle and she loses the instinct of self-preservation, she finds solace in the oily waters of East River. Return of Angel into Tess's life brings another disaster. She kills Alec and loses her life to the hangman's noose.

Maggie and Tess are placed in abyss of sadness, and their stories seem to be an account of human life wasted. Maggie and Tess try to recover, yet their attempts are thwarted. Forever they remain as victims of their environment and of those who inhabit their world. They are subjected to endless indignities. They are the targets of gender bias, rigid religious rules and societal restrictions. Crane and Hardy portray struggling women who get snuffed out in their battle to survive. The texts vary in style from eighteenth century sentimentalism to late nineteenth century naturalism. Yet Maggie Jennie and Tess are indeed sisters and their sisterhood is born out of similar struggles of being seduced and abandoned and each case the outcome is death.

The deterministic struggle and survival prevail persistently in all ages and in all species, be it in Darwinistic evolutionary phase or in the postmodern age. Stephen Crane, Theodore, Dreiser and Thomas Hardy understand the struggle of human being against the codes of morality, societal culture, religion and even gender. They are ahead of their times in portrayal of struggle with honesty which is still prevalent in modern times of men and women against their cultural environment. They seem to have seized upon the larger insights available to them and to have extended those insights into their fiction.

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A THREE-STEP NINTH ORDER ITERATIVE METHOD FOR SOLVING NON-LINEAR EQUATIONS

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ABSTRACT. The scope of this paper is to establish a new ninth order iterative method to find the root of non-linear equations. In this paper we came up with a new modification of Newton's method with higher-order convergence and here itself we proved that the order of convergence is ninth. Finally, we tested with several problems to show the efficiency of the method over the existing ones.

1. INTRODUCTION

In oresent days much development happening on solving non-linear scalar equations of the form

$$g(t) = 0\,. \tag{1.1}$$

Newton's method (NR) [2] is a one of the optimal second order method to obtain the root of non-linear scalar equation and is given by

$$t_{n+1} = t_n - \frac{g(t_n)}{g'(t_n)} n = 0, 1, 2, \cdots$$

and the NR method converges quadratically and its efficiency index is $\sqrt{2} = 1.414$.

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An iterative method with ninth order convergence (ZONG) for solving non-linear equations proposed by Zhongyong et.al, [7] is given by

$$\begin{aligned} y_n &= t_n - \frac{g(t_n)}{g'(t_n)} \\ z_n &= y_n - \left\{1 + \left(\frac{g(y_n)}{g(t_n)}\right)^2\right\} \frac{g(y_n)}{g'(y_n)} \\ t_{n+1} &= z_n - \left\{1 + 2\left(\frac{g(y_n)}{g(t_n)}\right)^2 + 2\frac{g(z_n)}{g(y_n)}\right\} \frac{g(z_n)}{g'(y_n)}. \end{aligned}$$

A quadrature based three-step ninth-order iterative method (SK) proposed by Khattri [5] is given by

$$\begin{aligned} y_n &= t_n - \frac{g(t_n)}{g'(t_n)} \\ z_n &= y_n - \frac{(t_n - y_n)\, g(y_n)}{g(t_n) - 2g(y_n)} \\ x_{n+1} &= z_n - \frac{g(z_n)\, g'(z_n)}{(g'(z_n))^2 - g(z_n)\left[\frac{g(z_n) - g(t_n) - g'(t_n)(z_n - t_n)}{(z_n - t_n)^2}\right]}. \end{aligned}$$

New ninth order J-Halley method for solving non-linear equations (FA) proposed by Farooq et.al, [1] is given by

$$\begin{aligned} y_n &= t_n - \frac{2h(t_n)}{3h'(t_n)} \\ z_n &= t_n - J_f \frac{h(t_n)}{h'(t_n)} \\ x_{n+1} &= z_n - \frac{2h(z_n)\, h'(z_n)}{2h'(z_n) - h(z_n)\, L}. \end{aligned}$$

where $J_f = \dfrac{3h'(y_n) + h'(t_n)}{6h'(y_n) - 2h'(t_n)}$ and $L = \dfrac{h'(z_n) - h'(t_n)}{z_n - t_n}$.

In section 2, we defined the new three-step iterative method and in section 3, we concluded our method is converging with order nine. Finally, in section 4, we compared our new scheme with other methods of the same order of convergence discussed in section 1.

2. Ninth order convergent(SM) method

Consider t^* is an exact root of (1.1) where g(t) is continuous and has well defined first derivatives. Let t_n be the root of nth approximation of (1.1) and is

$$t^* = t_n + \varepsilon_n \,, \tag{2.1}$$

where ε_n is the error. Thus, we get

$$g\left(t^*\right) = 0\,. \tag{2.2}$$

Writing $g\left(t^*\right)$ by Taylor's series about t_n, we have $g\left(t^*\right) = g\left(t_n\right) + \left(t^* - t_n\right) g^{'}\left(t_n\right) + \frac{\left(t^*-t_n\right)^2}{2!} g^{''}\left(t_n\right) + \cdots$

$$g\left(t^*\right) = g\left(t_n\right) + \varepsilon_n g^{'}\left(t_n\right) + \frac{{\varepsilon_n}^2}{2!} g^{''}\left(t_n\right) + \cdots\,, \tag{2.3}$$

by neglecting higher power ε_n, i.e. neglect terms from ${\varepsilon_n}^3$ onwards. Using (2.2) and (2.3), we have

$$\varepsilon_n^2 g^{''}\left(t_n\right) + 2\varepsilon_n g^{'}\left(t_n\right) + 2g\left(t_n\right) = 0$$

$$\varepsilon_n = \left[-2g^{'}\left(t_n\right) \pm \sqrt{4g^{'}\left(t_n\right) - 8g\left(t_n\right) g^{''}\left(t_n\right)}\right] \div 2g^{''}\left(t_n\right)\,. \tag{2.4}$$

On Substituting t^* by t_{n+1} in (2.1) and from (2.4), we get

$$t_{n+1} = t_n - \frac{2g\left(t_n\right)}{g^{'}\left(t_n\right)}\left(\frac{1}{1+\sqrt{1-2\mu_n}}\right)\,, \tag{2.5}$$

where, $\mu_n = \dfrac{g\left(t_n\right) g^{''}\left(t_n\right)}{\left[g^{'}\left(t_n\right)\right]^2}$ and

$$g^{''}\left(t_n\right) = \frac{2}{t_{n-1} - t_n}\left[3\frac{g\left(t_{n-1}\right) - g\left(t_n\right)}{t_{n-1} - t_n} - 2g^{'}\left(t_n\right) - g^{'}\left(t_{n-1}\right)\right]\,.$$

Here we developed a new algorithm by taking the first two steps from [3] and (2.5) as the third step.

2.1. **Algorithm.** The iterative scheme is computed by x_{n+1} as $z_n = t_n - \dfrac{g(t_n)}{g'(t_n)}$

$$\begin{aligned} y_n &= z_n + \left(g^{'}\left(z_n\right) - g^{'}\left(t_n\right)\right)\frac{g\left(t_n\right)}{2\left(g^{'}\left(t_n\right)\right)^2} \\ x_{n+1} &= y_n - \frac{2g(y_n)}{g'(y_n)}\left(\frac{1}{1+\sqrt{1-2\mu n}}\right) \end{aligned}$$

where $\mu_n = \dfrac{g(y_n)\, g''(y_n)}{[g'(y_n)]^2}$ and

$$g''(y_n) = \frac{2}{z_n - y_n}\left[3\frac{g(z_n) - g(y_n)}{z_n - y_n} - 2g'(y_n) - g'(z_n)\right]. \tag{2.6}$$

The method (2.6) is known as the ninth order convergent method (SM), it requires two functional evaluations and three first-order derivatives.

3. Convergence Criteria

Theorem 3.1. *Let $t_0 \in I$ be a single zero of a sufficiently differentiable function g for an open interval I. If t_0 is in the neighborhood of t^*. Then the algorithm (2.6) has tenth order convergence.*

Proof. Let the single zero of (1.1) be t^* and $t^* = t_n + \varepsilon_n$. Thus, $g(t^*) = 0$. By Taylor's series, writing $g(t^*)$ about t_n, we obtain:

$$g(t_n) = g'(t^*)\left(\varepsilon_n + c_2{\varepsilon_n}^2 + c_3{\varepsilon_n}^3 + c_4{\varepsilon_n}^4 + \cdots\right) \tag{3.1}$$

$$g'(t_n) = g'(t^*)\left(1 + 2c_2\varepsilon_n + 3c_3{\varepsilon_n}^2 + 4c_4{\varepsilon_n}^3 + \cdots\right). \tag{3.2}$$

Dividing (3.1) by (3.2), we get:

$$\frac{g(t_n)}{g'(t_n)} = \left(\varepsilon_n - c_2{\varepsilon_n}^2 - \left(2c_3 - 2{c_2}^2\right){\varepsilon_n}^3 - \left(3c_4 - 7c_2c_3 + 4c_2^3\right){\varepsilon_n}^4 + \cdots\right).$$

From $z_n = t_n - \dfrac{g(t_n)}{g'(t_n)}$, we get $z_n = t^* + \omega_n$, where $\omega_n = c_2{\varepsilon_n}^2 + \left(2c_3 - 2{c_2}^2\right){\varepsilon_n}^3 + \left(3c_4 - 7c_2c_3 + 4c_2^3\right){\varepsilon_n}^4 + \cdots$. Now

$$g(z_n) = g'(t^*)\left(c_2{\varepsilon_n}^2 + \left(2c_3 - 2{c_2}^2\right){\varepsilon_n}^3 + \left(3c_4 - 7c_2c_3 + 5c_2^3\right){\varepsilon_n}^4 + \cdots\right)$$

$$g'(z_n) = g'(t^*)\left(1 + 2c_2^2{\varepsilon_n}^2 + 2c_2\left(2c_3 - 2{c_2}^2\right){\varepsilon_n}^3 + \left(6c_2c_4 - 11c_2^2c_3 + 8c_2^4\right){\varepsilon_n}^4 + \cdots\right)$$

$$\left(g'(z_n) - g'(t_n)\right)\frac{g(t_n)}{2\left(g'(t_n)\right)^2} = \left(-c_2^2{\varepsilon_n}^2 + \left(4c_2^2 - \frac{3}{2}c_3\right){\varepsilon_n}^3 + \left(-13c_2^3 + \frac{23}{2}c_2c_3 - 2c_4\right){\varepsilon_n}^4 + \cdots\right).$$

From the second step in the scheme (2.6), we get $y_n = t^* + Y$, where

$$Y = \left(\left(2c_2^2 + \frac{1}{2}c_3\right){\varepsilon_n}^3 + \left(-9c_2^3 + \frac{9}{2}c_2c_3 + c_4\right){\varepsilon_n}^4 + \cdots\right).$$

$$g\left(y_n\right) = g'\left(t^*\right)\left(Y + c_2 Y^2 + c_3 Y^3 + c_4 Y^4 + \cdots\right) \tag{3.3}$$
$$g'\left(y_n\right) = g'\left(t^*\right)\left(1 + 2c_2 Y + 3c_3 Y^2 + 4c_4 Y^3 + \cdots\right) . \tag{3.4}$$

Now, we obtain

$$g''\left(y_n\right) = g'\left(t^*\right)\left(2c_2 + 3c_2c_3\left(2c_2^2 + \frac{1}{2}c_3\right)\varepsilon_n^3 + \cdots\right) .$$

From $\mu_n = \dfrac{g\left(y_n\right) g''\left(y_n\right)}{\left[g'\left(y_n\right)\right]^2}$, we get

$$\mu_n = P_1\varepsilon_n^3 + P_2\varepsilon_n^4 + \cdots , \tag{3.5}$$

where, $P_1 = 2c_2\left(2c_2^2 + \dfrac{1}{2}c_3\right), P_2 = 2c_2\left(-9c_2^3 + \dfrac{9}{2}c_2c_3 + c_4\right)\cdots$.

Using (3.5), we get

$$\left(1 + \sqrt{1 - 2\mu_n}\right)^{-1} = \frac{1}{2}\left(1 + \frac{P_1}{2}\varepsilon_n^3 + \frac{P_2}{2}\varepsilon_n^4 + \cdots\right) . \tag{3.6}$$

On dividing (3.3) and (3.4),

$$\frac{g\left(y_n\right)}{g'\left(y_n\right)} = \left(Y - c_2Y^2 - \left(2c_3 - 2{c_2}^2\right)Y^3 - \left(3c_4 - 7c_2c_3 + 4c_2^3\right)Y^4 + \cdots\right) \tag{3.7}$$

From (3.6) and (3.7), we get

$$\frac{2g\left(y_n\right)}{g'\left(y_n\right)}\left(\frac{1}{1 + \sqrt{1 - 2\mu_n}}\right) = y_n + \left(c_2^2 - 2c_3\right)\left(2c_2^2 + \frac{1}{2}c_3\right)^3\varepsilon_n^9 + o\left(\varepsilon_n^{10}\right) ,$$

and from the third step of (2.6) ,i.e. $x_{n+1} = y_n - \frac{2g(y_n)}{g'(y_n)}\left(\frac{1}{1+\sqrt{1-2\mu n}}\right)$, we get

$$\varepsilon_{n+1} = \left(c_2^2 - 2c_3\right)\left(2c_2^2 + \frac{1}{2}c_3\right)^3\varepsilon_n^9 + o\left(\varepsilon_n^{10}\right) .$$

Thus, it's proved that this new scheme is ninth order convergence and its efficiency index is $\sqrt[5]{9} = 1.5518$. □

4. Numerical Examples

We consider the some examples considered by Vatti [6] and MMS [4] and compared our method with NR, SK, ZONG, FA methods. The computations are carried out by using mpmath-PYTHON and the number of iterations for these methods are obtained for comparisons such that $|x_{n+1} - x_n| < 10^{-59}$ and $|g(x_{n+1})| < 10^{-201}$. The test functions and simple zeros are given below

$$
\begin{aligned}
h_1(x) &= \sin(2\cos x) - 1 - x^2 + e^{\sin(x^3)}, t^* = -0.7848959876612125\\
h_2(x) &= \sin x + \cos x + x, t^* = -0.4566247045676308\\
h_3(x) &= (x+2)e^x - 1, t^* = -0.442854010023885\\
h_4(x) &= x^2 + \sin\left(\frac{x}{5}\right) - \frac{1}{4}, t^* = -0.060960589605896\\
h_5(x) &= \cos x - x, t^* = 0.7390851332151606\\
h_6(x) &= x^3 - 10, t^* = 2.1544346900318837\\
h_7(x) &= e^{-x} + \cos x, t^* = 1.7461395304080124\\
h_8(x) &= e^{\sin x} - x + 1, t^* = 2.6306641479279036\\
h_9(x) &= \sin^2 x - x^2 + 1, t^* = 1.404491648215341
\end{aligned}
$$

Where P is the order of convergence, N is the number of functional values per

TABLE 1. Analogy Of Efficiency

Methods	P	N	EI
NR	2	2	1.414
FA	9	6	1.442
SK	9	5	1.551
ZONG	9	5	1.551
SM	9	5	1.551

iteration and EI is the Efficiency Index.

Where x_0 is the initial approximation, n is the number of iterations, er is the error and fv is the functional value.

TABLE 2. Analogy Of Different Methods

h	Method	x_0	n	er	fv	x_0	n	er	fv
h_1	NR	-1	7	9.0(63)	2.5(63)	-1.9	42	4.5(109)	1.8(109)
	FA		8	3.2(112)	9.1(12)		12	4.7(77)	1.3(76)
	SK		3	3.7(81)	5.2(82)			DIVERGENT	
	ZONG		3	6.4(84)	3.3(80)			DIVERGENT	
	SM		3	3.9(81)	1.1(80)		4	9.8(92)	2.7(91)
h_2	NR	0.1	7	1.8(69)	4.4(69)	-1	7	1.8(69)	4.4(69)
	FA		5	4.9(99)	1.1(98)		5	3.4(122)	8.0(122)
	SK		3	1.4(76)	3.4(76)		3	1.6(87)	3.9(87)
	ZONG		3	2.5(80)	6.0(80)		3	8.8(114)	2.0(113)
	SM		3	1.4(77)	3.2(77)		3	4.0(72)	9.5(72)
h_3	NR	-0.3	7	7.7(66)	3.7(77)	-1	9	5.5(92)	9.0(92)
	FA		5	2.9(126)	4.9(126)		5	1.2(84)	2.0(84)
	SK		3	1.4(89)	1.8(89)		4	1.2(201)	4.1(201)
	ZONG		3	2.2(76)	3.6(76)		4	1.8(125)	3.0(125)
	SM		3	6.3(76)	1.0(75)		4	3.6(77)	5.9(77)
h_4	NR	-0.5	8	2.6(118)	2.7(118)	-0.8	8	2.6(118)	2.7(118)
	FA		5	7.7(94)	7.9(94)		5	2.9(101)	2.9(101)
	SK		3	3.8(99)	3.9(99)		3	1.4(96)	1.5(96)
	ZONG		3	1.1(78)	1.1(78)		4	3.3(200)	4.4(201)
	SM		3	2.3(92)	2.4(92)		3	1.1(87)	1.2(87)
h_5	NR	1.4	7	1.2(67)	2.1(68)	0.5	7	1.5(78)	2.6(78)
	FA		5	1.9(93)	3.2(93)		5	1.4(111)	2.4(111)
	SK		3	1.8(79)	3.9(89)		3	1.9(89)	3.9(89)
	ZONG		3	8.2(68)	1.2(67)		3	3.2(87)	5.3(87)
	SM		3	3.2(85)	5.3(85)		3	4.3(81)	7.2(91)
h_6	NR	2	7	2.5(72)	3.6(71)	2.4	7	7.6(65)	1.0(63)
	FA		5	3.3(99)	4.7(98)		5	2.7(89)	3.8(88)
	SK		3	4.5(97)	6.3(96)		3	3.9(84)	5.4(83)
	ZONG		3	3.0(86)	4.2(85)		3	3.3(71)	4.6(70)
	SM		3	1.0(84)	1.4(83)		3	9.4(76)	1.3(74)
h_7	NR	1.4	7	2.2(93)	2.6(93)	2.1	7	1.2(73)	1.4(73)
	FA		5	1.7(113)	1.9(113)		5	2.5(101)	2.9(103)
	SK		3	9.5(86)	1.1(85)		3	5.3(71)	6.1(71)
	ZONG		3	1.2(96)	1.4(96)		3	1.1(74)	1.3(74)
	SM		3	2.9(91)	3.4(91)		3	5.1(87)	5.9(87)
h_8	NR	2.4	6	5.8(90)	1.4(89)	3.1	7	2.0(76)	5.0(76)
	FA		5	2.0(122)	4.8(122)		5	1.4(99)	3.6(99)
	SK		3	3.3(132)	8.0(132)		3	5.5(66)	1.3(82)
	ZONG		3	3.2(187)	7.7(187)		3	1.8(67)	4.5(67)
	SM		3	3.4(90)	8.3(90)		3	1.0(82)	2.5(852)
h_9	NR	1.6	8	3.1(112)	7.8(112)	1.3	8	3.0(68)	7.5(68)
	FA		8	1.6(72)	4.0(72)		8	1.0(112)	2.6(112)
	SK		3	5.4(79)	1.3(78)		3	7.1(93)	1.2(92)
	ZONG		3	4.1(78)	1.0(78)		3	6.1(81)	1.5(80)
	SM		3	3.5(72)	8.8(72)		3	9.0(84)	2.2(83)

5. CONCLUSION

Here In this scheme, we introduced a new ninth order convergent iterative method with efficiency index 1.5518. It requires two functional evaluations and three first derivatives. Table 1 compares the efficiency of different methods and the computational results in Table 2 show good results when compared with the other methods.

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A NINTH ORDER ITERATIVE METHOD FOR SOLVING NON-LINEAR EQUATIONS WITH HIGH-EFFICIENCY INDEX

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ABSTRACT. Establish a new ninth order iterative method to 7 solve non-linear equations. In this paper, a new scheme of a new modification of Newton's method with higher-order convergence is proposed and proved that this scheme is of ninth order of convergence. Using some numerical examples concluded a new ninth order scheme is better than 7 Newton's method and other defined methods with the same order.

1. INTRODUCTION

In applied mathematics, recently a lot of investigation going on approximate to find the root of the nonlinear equation

$$g(t) = 0 \tag{1.1}$$

where $f : D \to R$ is a scalar function, D is an open interval. Therefore, the design of the iterative scheme for solving non-linear scalar function is an interesting and important task in numerical analysis.

In this method of finding a zero of non-linear equations, Newton's method (NR) [2] is one of the optimal second- order method to obtain the root of (1.1)

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is given by

$$t_{n+1} = t_n - \frac{g(t_n)}{g'(t_n)} n = 0, 1, 2, \cdots$$

and the NR method converge quadratically and its efficiency index is $\sqrt{2} = 1.414$.

An iterative method with ninth order convergence (ZHONG) for solving non-linear equations proposed by Zhongyong et.al, [8] is given by

$$\begin{aligned} y_n &= t_n - \frac{g(t_n)}{g'(t_n)} \\ z_n &= y_n - \left\{1 + \left(\frac{g(y_n)}{g(t_n)}\right)^2\right\} \frac{g(y_n)}{g'(y_n)} \\ t_{n+1} &= z_n - \left\{1 + 2\left(\frac{g(y_n)}{g(t_n)}\right)^2 + 2\frac{g(z_n)}{g(y_n)}\right\} \frac{g(z_n)}{g'(y_n)}. \end{aligned}$$

A quadrature based three-step ninth-order iterative method (SK) proposed by Khattri [6] is given by

$$\begin{aligned} y_n &= t_n - \frac{g(t_n)}{g'(t_n)} \\ z_n &= y_n - \frac{(t_n - y_n) g(y_n)}{g(t_n) - 2g(y_n)} \\ x_{n+1} &= z_n - \frac{g(z_n) g'(z_n)}{(g'(z_n))^2 - g(z_n)\left[\frac{g(z_n) - g(t_n) - g'(t_n)(z_n - t_n)}{(z_n - t_n)^2}\right]}. \end{aligned}$$

New ninth order J-Halley method for solving non-linear equations (FA) proposed by Farooq et.al, [1] is given by

$$\begin{aligned} y_n &= t_n - \frac{2h(t_n)}{3h'(t_n)} \\ z_n &= t_n - J_f \frac{h(t_n)}{h'(t_n)} \\ x_{n+1} &= z_n - \frac{2h(z_n) h'(z_n)}{2h'(z_n) - h(z_n) L} \end{aligned}$$

where $J_f = \dfrac{3h'(y_n) + h'(t_n)}{6h'(y_n) - 2h'(t_n)}$ and $L = \dfrac{h'(z_n) - h'(t_n)}{z_n - t_n}$.

In section 2, we defined the new three-step iterative method and in section 3, we concluded our method is converging with order nine. Finally in section 4, using some defined examples we conformed that our new scheme is better than other methods with the same order of convergence.

2. Ninth order convergent (MSK) method

Consider t^* is an exact root of (1.1) where g(t) is continuous and has well defined first derivatives. Let t_n be the root of nth approximation of (1.1) and is

$$t^* = t_n + \varepsilon_n \,, \tag{2.1}$$

where ε_n is the error. Thus, we get

$$g\left(t^*\right) = 0\,. \tag{2.2}$$

Writing $g\left(t^*\right)$ by Taylor's series about t_n, we have $g\left(t^*\right) = g\left(t_n\right) + \left(t^* - t_n\right) g^{'}\left(t_n\right) + \frac{\left(t^*-t_n\right)^2}{2!} g^{''}\left(t_n\right) + \cdots$

$$g\left(t^*\right) = g\left(t_n\right) + \varepsilon_n g^{'}\left(t_n\right) + \frac{{\varepsilon_n}^2}{2!} g^{''}\left(t_n\right) + \cdots \tag{2.3}$$

By neglecting higher power ε_n, i.e. neglect terms from ${\varepsilon_n}^3$ onwards. Using (2.2) and (2.3) , we have

$$\varepsilon_n^2 g^{''}\left(t_n\right) + 2\varepsilon_n g^{'}\left(t_n\right) + 2g\left(t_n\right) = 0\,,$$

$$\varepsilon_n = \left[-2g^{'}\left(t_n\right) \pm \sqrt{4g^{'}\left(t_n\right) - 8g\left(t_n\right) g^{''}\left(t_n\right)}\right] \div 2g^{''}\left(t_n\right)\,. \tag{2.4}$$

On Substituting t^* by t_{n+1} in (2.1) and from (2.4), we get

$$t_{n+1} = t_n - \frac{2g\left(t_n\right)}{g^{'}\left(t_n\right)} \left(\frac{1}{1+\sqrt{1-2\mu_n}}\right) \tag{2.5}$$

where, $\mu_n = \dfrac{g\left(t_n\right) g^{''}\left(t_n\right)}{\left[g^{'}\left(t_n\right)\right]^2}$ and

$$g^{''}\left(t_n\right) = \frac{2}{t_{n-1}-t_n}\left[3\frac{g\left(t_{n-1}\right) - g\left(t_n\right)}{t_{n-1}-t_n} - 2g^{'}\left(t_n\right) - g^{'}\left(t_{n-1}\right)\right]\,.$$

Here we developed a new algorithm by taking the first two steps from [4] and (2.5) as the third step.

2.1. **Algorithm.** The iterative scheme is computed by x_{n+1} as $z_n = t_n - \dfrac{g(t_n)}{g'(t_n)}$,

$$\begin{aligned} y_n &= z_n - \frac{2g\left(t_n\right)}{g'\left(t_n\right) + \sqrt{\left(2g'\left(z_n\right) - g'\left(t_n\right)\right) g'\left(t_n\right)}} \\ x_{n+1} &= y_n - \frac{2g\left(y_n\right)}{g'\left(y_n\right)} \left(\frac{1}{1 + \sqrt{1 - 2\mu_n}}\right), \end{aligned}$$

where $\mu_n = \dfrac{g\left(y_n\right) g''\left(y_n\right)}{\left[g'\left(y_n\right)\right]^2}$ and

$$g''\left(y_n\right) = \frac{2}{z_n - y_n} \left[3 \frac{g\left(z_n\right) - g\left(y_n\right)}{z_n - y_n} - 2g'\left(y_n\right) - g'\left(z_n\right)\right]. \tag{2.6}$$

The method (2.6) is known as the ninth order convergent method (MSK), it requires two functional evaluations and three first derivatives.

3. Convergence Criteria

Theorem 3.1. *Let $t_0 \in I$ be a single zero of a sufficiently differentiable function g for an open interval I. If t_0 is in the neighborhood of t^*. Then the algorithm (2.6) has tenth order convergence.*

Proof. Let the single zero of (1.1) be t^* and $t^* = t_n + \varepsilon_n$. Thus, $g\left(t^*\right) = 0$. By Taylor's series, writing $g\left(t^*\right)$ about t_n, we obtain:

$$g\left(t_n\right) = g'\left(t^*\right) \left(\varepsilon_n + c_2 {\varepsilon_n}^2 + c_3 {\varepsilon_n}^3 + c_4 {\varepsilon_n}^4 + \cdots\right) \tag{3.1}$$

$$g'\left(t_n\right) = g'\left(t^*\right) \left(1 + 2c_2 \varepsilon_n + 3c_3 {\varepsilon_n}^2 + 4c_4 {\varepsilon_n}^3 + \cdots\right) \tag{3.2}$$

Dividing (3.1) by (3.2), we get:

$$\frac{g\left(t_n\right)}{g'\left(t_n\right)} = \left(\varepsilon_n - c_2 {\varepsilon_n}^2 - \left(2c_3 - 2{c_2}^2\right) {\varepsilon_n}^3 - \left(3c_4 - 7c_2 c_3 + 4c_2^3\right) {\varepsilon_n}^4 + \cdots\right).$$

From $z_n = t_n - \dfrac{g\left(t_n\right)}{g'\left(t_n\right)}$, we get $z_n = t^* + \omega_n$, where

$$\omega_n = c_2 {\varepsilon_n}^2 + \left(2c_3 - 2{c_2}^2\right) {\varepsilon_n}^3 + \left(3c_4 - 7c_2 c_3 + 4c_2^3\right) {\varepsilon_n}^4 + \cdots$$

Now

$$g(z_n) = g'(t^*)\left(c_2{\varepsilon_n}^2 + \left(2c_3 - 2{c_2}^2\right){\varepsilon_n}^3 + \left(3c_4 - 7c_2c_3 + 5c_2^3\right){\varepsilon_n}^4 + \cdots\right)$$
$$g'(z_n) = g'(t^*)\left(1 + 2c_2^2{\varepsilon_n}^2 + 2c_2\left(2c_3 - 2{c_2}^2\right){\varepsilon_n}^3 + \left(6c_2c_4 - 11c_2^2c_3 + 8c_2^4\right){\varepsilon_n}^4 + \cdots\right)$$
$$2g'(z_n) - g'(t_n) = 1 - 2c_2\varepsilon_n + \left(4c_2^2 - 3c_3\right)\varepsilon_n^2 + \left(8c_2c_3 - 8c_2^3 - 4c_4\right)\varepsilon_n^3 + \ldots$$
$$\left(g'(t_n) + \sqrt{\left(2g'(z_n) - g'(t_n)\right)g'(t_n)}\right)^{-1}$$
$$= \frac{1}{2}\left(1 - c_2\varepsilon_n + \left(-\frac{3}{2}c_3 + c_2^2\right){\varepsilon_n}^2 + \cdots\right)\frac{2g(t_n)}{g'(t_n) + \sqrt{\left(2g'(z_n) - g'(t_n)\right)g'(t_n)}}$$
$$= \varepsilon_n + k_1{\varepsilon_n}^3 + k_2{\varepsilon_n}^4 + \cdots$$

where $k_1 = \left(\frac{-1}{2}c_3\right), k_2 = \left(\frac{5}{2}c_2c_3 - c_4\right), \cdots$

From the second step in the scheme (2.6), we have $y_n = t^* + Y$, where $Y = \left(k_1{\varepsilon_n}^3 + k_2{\varepsilon_n}^4 + \cdots\right)$.

$$g(y_n) = g'(t^*)\left(Y + c_2Y^2 + c_3Y^3 + c_4Y^4 + \cdots\right) \tag{3.3}$$

$$g'(y_n) = g'(t^*)\left(1 + 2c_2Y + 3c_3Y^2 + 4c_4Y^3 + \cdots\right). \tag{3.4}$$

Now, we have

$$g''(y_n) = g'(t^*)\left(2c_2 + 3c_2c_3\left(2c_2^2 + \frac{1}{2}c_3\right)\varepsilon_n^3 + \cdots\right).$$

From $\mu_n = \frac{g(y_n)\,g''(y_n)}{\left[g'(y_n)\right]^2}$, we get

$$\mu_n = P_1\varepsilon_n^3 + P_2\varepsilon_n^4 + \cdots \tag{3.5}$$

where, $P_1 = 2c_2\left(2c_2^2 + \frac{1}{2}c_3\right), P_2 = 2c_2\left(-9c_2^3 + \frac{9}{2}c_2c_3 + c_4\right)\cdots$

Using (3.5), we get

$$\left(1 + \sqrt{1 - 2\mu_n}\right)^{-1} = \frac{1}{2}\left(1 + \frac{P_1}{2}\varepsilon_n^3 + \frac{P_2}{2}\varepsilon_n^4 + \cdots\right) \tag{3.6}$$

On dividing (3.3) and (3.4),

$$\frac{g(y_n)}{g'(y_n)} = \left(Y - c_2Y^2 - \left(2c_3 - 2{c_2}^2\right)Y^3 - \left(3c_4 - 7c_2c_3 + 4c_2^3\right)Y^4 + \cdots\right) \tag{3.7}$$

From (3.6) and (3.7), we get

$$\frac{2g(y_n)}{g'(y_n)}\left(\frac{1}{1 + \sqrt{1 - 2\mu_n}}\right) = y_n + \left(c_2^2 - 2c_3\right)\left(\frac{-1}{2}c_3\right)^3\varepsilon_n^9 + o\left(\varepsilon_n^{10}\right).$$

From the third step of (2.6), i.e. $x_{n+1} = y_n - \frac{2g(y_n)}{g'(y_n)}\left(\frac{1}{1+\sqrt{1-2\mu_n}}\right)$, we get

$$\varepsilon_{n+1} = \left(c_2^2 - 2c_3\right)\left(\frac{-1}{8}c_3^3\right)\varepsilon_n^9 + o\left(\varepsilon_n^{10}\right) .$$

Thus, it's proved that this new scheme is ninth order convergence and its efficiency index is $\sqrt[5]{9}$=1.5518. □

4. Numerical Examples

We consider some examples considered by Vatti et.al, [7] and Mylapalli et.al, [3] and compared our method with NR, FA, SK, ZHONG methods. The computations are carried out by using mpmath-PYTHON and the number of iterations for these methods are obtained for comparisons such that $|x_{n+1} - x_n| < 10^{-59}$ and $|g(x_{n+1})| < 10^{-201}$. The test functions and simple zeros are given below:

$$\begin{aligned}
h_1(x) &= \sin(2\cos x) - 1 - x^2 + e^{\sin(x^3)}, t^* = -0.7848959876612125\\
h_2(x) &= \sin x + \cos x + x, t^* = -0.4566247045676308\\
h_3(x) &= (x+2)e^x - 1, t^* = -0.442854010023885\\
h_4(x) &= x^3 - 10, t^* = 2.1544346900318837 .
\end{aligned}$$

A chemical equilibrium problem: Consider the equation from [5] describing the fraction of the nitrogen hydrogen feed that gets converted to ammonia (this fraction is called fractional conversion) in polynomial form as:

$$\begin{aligned}
h_5(x) &= x^4 - 7.79075x^3 + 2.511x - 1.674, t^* = 0.2777595428417206\\
h_6(x) &= x^3 + 4x^2 - 10, t^* = 1.365230013414096 .
\end{aligned}$$

Where P is the order of convergence, N is the number of functional values per iteration and EI is the Efficiency Index. Where x_0 is the initial approximation, n is the number of iterations, er is the error and fv is the functional value.

5. Conclusion

Here, in this scheme, we introduced a new ninth order convergent iterative method with efficiency index 1.5518. It requires two functional evaluations and three first derivatives. Table 1 compares the efficiency of different methods and

TABLE 1. Analogy of efficiency

Methods	P	N	EI
NR	2	2	1.414
FA	9	6	1.442
SK	9	5	1.551
ZONG	9	5	1.551
MSK	9	5	1.551

TABLE 2. Analogy of different methods

h	Method	x_0	n	er	fx	x_0	n	er	fx
h_1	NR	-1	7	9.0(63)	2.5(63)	-0.5	8	6.4(71)	1.8(70)
	FA		8	3.2(112)	9.1(12)		7	4.1(77)	1.1(76)
	SK		3	3.7(81)	5.2(82)		DIVERGENT		
	ZONG		3	6.4(84)	3.3(80)		4	1.2(200)	4.0(201)
	MSK		3	3.6(77)	1.0(76)		3	1.7(67)	4.9(67)
h_2	NR	0.1	7	1.8(69)	4.4(69)	-1	7	1.8(69)	4.4(69)
	FA		5	4.9(99)	1.1(98)		5	3.4(122)	8.0(122)
	SK		3	1.4(76)	3.4(76)		3	1.6(87)	3.9(87)
	ZONG		3	2.5(80)	6.0(80)		3	8.8(114)	2.0(113)
	MSK		3	8.9(69)	2.0(68)		3	2.6(71)	6.1(71)
h_3	NR	-0.2	8	3.6(103)	5.9(103)	-0.8	8	4.3(73)	7.1(73)
	FA		5	5.5(112)	9.0(112)		5	2.4(98)	3.9(98)
	SK		3	2.1(71)	3.1(71)		4	1.2(201)	4.2(201)
	ZONG		4	2.5(200)	4.0(200)		4	1.9(200)	4.0(200)
	MSK		3	1.2(86)	2.0(86)		3	3.3(77)	5.5(77)
h_4	NR	1.9	8	9.5(115)	1.3(113)	3	8	3.6(66)	5.0(67)
	FA		5	1.5(84)	2.4(83)		6	1.2(90)	7.2(89)
	SK		3	1.2(78)	1.7(77)		4	1.9(200)	2.0(199)
	ZONG		3	2.2(80)	1.2(78)		4	1.2(199)	2.0(199)
	MSK		3	1.4(99)	2.0(98)		3	5.1(78)	7.1(77)
h_5	NR	0.1	8	1.2(79)	1.4(78)	0.4	7	1.3(67)	1.2(66)
	FA		6	9.0(104)	8.1(102)		5	7.4(88)	6.6(87)
	SK		DIVERGENT				3	1.8(74)	1.6(73)
	ZONG		4	5.7(201)	8.3(200)		3	1.6(70)	1.5(69)
	MSK		3	1.3(82)	1.1(82)		3	1.0(92)	9.2(92)
H_6	NR	1	8	2.8(88)	4.7(87)	1.8	8	9.4(95)	1.4(93)
	FA		6	1.5(131)	2.6(130)		5	6.5(65)	6.2(62)
	SK		3	3.4(64)	5.6(63)		3	3.3(68)	1.4(64)
	ZONG		4	1.1(199)	1.0(198)		4	9.1(200)	5.7(199)
	MSK		3	1.6(87)	2.7(86)		3	1.6(87)	2.7(86)

the computational results in Table 2 show the dominance of MSK over NR, FA, SK, ZHONG methods.

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National Seminar

On

‘Modern Approaches in English Language & Literature’

Conducted by

Department of English

Anil Neerukonda Institute of Technology & Sciences,

Vishakhapatnam, Andhra Pradesh

In Association with

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An International Peer-Reviewed English Journal

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Chairperson's Message

I am pleased to know that the Department of English and Humanities, Anil Neerukonda Institute of Technology and Sciences (ANITS) is organising a **National Seminar 2020 on "Modern Approaches in English Language & Literature"** on August 8^{th} 2020 on a Virtual Platform. I feel that it is an advantage to the researchers to share their knowledge, during this pandemic.

I hope that this Seminar will provide an opportunity for all the participants and the organisers to discuss new concepts and ideas in research,related to English language and literature.

I congratulate Prof T. V. Hanumantha Rao, Principal, Dr. G. Serwani Swamy-I/C Head of the Department of English and Humanities and the faculty for making all the efforts to organise the seminar.

I wish the organisers a great success.

Dr. Babu Rajendra Prasad Neerukonda,

Chairperson (ANES)

Principal's Message

My congratulations to the Department of English and Humanities, Anil Neerukonda Institute of Technology and Sciences (ANITS) for organising a **National Seminar 2020 on "Modern Approaches in English Language & Literature**" on August 8th 2020 on a Virtual Platform. The Seminar on the virtual platform is a very encouraging idea to fill the gaps in sharing of knowledge in the present pandemic. I feel that this topic, which is very apt for the present day teaching and learning process, will surely help the English faculty and research scholars to explore new trends in English language and literature.

I also appreciate all the participants who have participated in the Seminar from various states of the country and also a few participants who have joined from the foreign countries. I hope that this Seminar will provide an opportunity for all of them to develop new insights, which will be useful in their profession. This is indeed an encouraging step for all the researchers.

I congratulate Dr. G. Serwani Swamy, I/C Head of the Department and the faculty of the department of English, in this endeavour.

I wish the organisers of the Department a great success.

With best wishes to everyone involved.

Prof T. V. Hanumantha Rao

Principal, ANITS

CEO's Message

I am glad to know that the Department of English and Humanities, Anil Neerukonda Institute of Technology and Sciences (ANITS) is organising a **National Seminar 2020 on "Modern Approaches in English Language & Literature** on August^{8th} 2020 on a Virtual Platform. It is a good endeavour to keep in touch with scholarly research and knowledge during this pandemic situation.

I congratulate Dr. G. Serwani Swamy, I/C Head of the Department of English & Humanities and the faculty for organising the seminar.

My best wishes to the all the participants.

I wish the Seminar a great success.

Sri D.J Bharat Reddy
CEO, (ANES)

PROFILE OF THE DEPARTMENT

Anil Neerukonda Educational Society (ANES) was founded by Dr. N. B. R. Prasad, an NRI philanthropist from USA in memory of his son Anil Neerukonda. With his visionary ideals, missionary zeal and unrelenting commitment. Dr. Prasad envisaged an institution of excellence in engineering education. Today, ANITS is in the Top-Ten Most Preferred Colleges out of 700+ private Engineering Colleges in the state of AP.

The Department of English & Humanities of ANITS has made a significant contribution in enhancing English language proficiency levels of engineering students, since its inception. It strives to impart English Language skills, Soft Skills and Employability Skills in engineering students to meet the global Industry requirement.

The Department under the headship of Prof. Rupa Vemuri has made a significant contribution to the college and the students at large. The Department has committed and qualified faculty handling English Language, Soft Skills and Management courses. At present the department has 10 faculty members; 6 Ph.Ds. and 2 pursuing Ph.Ds. All the faculty members have contributed to the department by actively participating in research presentations and publications, apart from teaching.

The department has established an English club for the students called **La Literati, The Language Club of ANITS** in 2015. It aims at providing an apt platform for all the students to improve their language skills through various regular activities. It conducts monthly competitions exclusively for the first year students, encouraging them to sharpen their English language skills.

The department also brings out an annual college magazine titled **ECHOES** and the ANITS Newsletter**.**

The main aim of the department is to inculcate proficient communication skills and soft skills in engineering students. The department plays a vital role to keep up the impressive and consistent recruitment track record.

Organization of this National Seminar 2020 by the department is another achievement and it is inclined to work on many such events in the future.

Dr. G. Serwani Swamy
I/C HOD, Department of English and Humanities,
Anil Neerukonda Institute of Technology and Sciences (ANITS)

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QUESTIONING POWER RELATIONS IN INDIAN PATRIARCHAL SOCIETY:A CRITICAL STUDY OF GITHA HARIHARAN'S THE THOUSAND FACES OF NIGHT

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Abstract:

Power relations and Power struggle are matters of serious concern in the world of mankind. Undoubtedly, the quest for power and the vehement efforts to hold it result in varied forms of domination and subordination. True, inequality between men and women is indeed a reflection of one such domination and subordination. The power gap between these two sexes only gets too widened in a Patriarchal society and it becomes worse when the culture of the society too advocates the subordination of one of the sexes. Thus, this paper based on a research work questions the Power relations in Indian Patriarchal society that is highlighted in Githa Hariharan's famous novel The thousand faces of Night. Indian society that is so culture-bound, steeped in rich traditions and mythology is highly a Patriarchal society. The Patriarchal system has been existing in this society since the ancient vedic times. Indian women writers' contributions to the field of Indian writing in English are indeed noteworthy in uplifting the status of the Indian Women. Githah Ariharan, one such noteworthy, well acclaimed novelist through her protagonist Devi and other women characters of The thousand faces of Night revisits the Indian Myths and redefines the roles of her women characters. She questions the Power relations in the Indian society and in the Indian Mythological stories that have resulted in the subordination of women who ultimately are torn apart in search of their own identity.

Keywords: Power, Patriarchy, Indian mythology

Introduction:

Power relations and Power struggle are matters of serious concern in the world of mankind. Undoubtedly , the quest for power and the vehement efforts to hold it result in varied forms of domination and subordination. True, inequality between men and women is indeed a reflection of one such domination and subordination. The power gap between these two sexes only gets too widened in a Patriarchal society and it becomes worse when the culture of the society too advocates the subordination of one of the sexes. Patriarchal structure of Indian society, like in the west has been rebelled against by a series of feminism movements in India. These movements have been focusing on promoting, protecting and fighting for equal economic and political rights for Indian Women. They also demand for the rights of women within the Indian society. In a similar vein , the feminists in India like their western feminist counterparts fight against gender equality, inequality in wages at workplace, inequality in accessibility to education and health and in equal political rights. Indian feminists also have raised their voice against culture-bound issues that exist within India's patriarchal power structure .

Despite these worthy struggles made by the Indian feminist movements, the women of modern India still encounter a multitude of issues of inequality and discrimination .The Patriarchal structure of India still denies to women of many Indian Communities the rights to land –ownership , access to education .These serious injustices meted out to Indian Women are taken up by Indian feminists as issues worth struggling for . In this context, Indian Women writers have been playing a significant role in highlighting these serious issues of injustice and inequality faced by Indian Women through their literary works .They have been laying bare the real voices of Indian women through their great works of literature .Their writings in a true- to-life fashion explore the relationship of men and women in the society and so too the solutions to the women's issues from a woman's perspectives. Moreover, they have brought to limelight the background of socio-cultural realities of Indian Society around which the problems of Indian Women revolve .Githa Hariharan is one among the well-acclaimed Indian women writers who has portrayed in realistic fashion the plight of Indian Women in Indian Patriarchal Society.

Her first novel The thousand faces of night has won the common wealth writers' prize in 1993.The novel depicts the culture-bound Patriarchal practices steeped in Indian Society for generations .It centres around the lives of women characters namely Devi, Sita ,Parvati amma and Mayamma and the novelist through her protagonist Devi and the other women characters revisits the Indian Myths and redefines the roles of her women characters. She questions the Power relations in the Indian society and in the Indian Mythological stories that have resulted in the subordination of women who ultimately are torn apart in search of their own identity . Thus, this paper based on a research work questions the Power relations in Indian Patriarchal society that is highlighted in Githa Hariharan's famous novel The thousand faces of Night.

Power Politics in Indian Patriarchal Structure and its adverse impact on Indian Women :

Mankind has been entangled in the web of Power relations and Power struggle from time immemorial .In the process of Power struggle ,varied modes of domination and subordination has emerged . According to Michael Foucault , " Power is relations; power is not a thing, it is a relationship between two individuals… such that one can direct the behaviour of another or determine the behaviour of another. Voluntarily determining it in terms of a number of objectives which are also one's own" (Interview, "What our Present Is" 410).

The Power relations characterize a Patriarchal Society and demeans the position of its Women. Indian society that is so culture-bound, steeped in rich traditions and mythology is highly a Patriarchal society. The Patriarchal system has been existing in this society since the ancient vedic times and has pervaded across generations and Githa Harharan's The Thousand Faces of Night ,undoubtedly depicts the consequences of such Power struggle through the trials and tribulations of its female characters.

The Thousand Faces of Night showcases the plight of a spate of female characters in this Power-stricken Patriarchal Society , both from real life and from the rich Indian mythologies .In it, Githa Hariharan demonstrates clearly that in their pursuit of the set standards of ideologies of Patriarchal structure and the qualities of the accepted ideological mythological female characters, these female characters are deprived of their own identities .All their desires , pains , wishes and frustrations go in vain unattended leaving them in a vacuum and propel them to quest for their self-identity or self liberation ultimately .

In the process of their quest, they embrace a series of self-liberation modes in different fashion and thus question the Power structure of their Patriarchal Society. In addition ,Hariharan's female characters rebel against the set standards and stereotypical duties related to marriage and motherhood as the penultimate traits of an 'ideal woman.' Dr. Padmini and S.K. Sudha have rightly pointed that:"In The Thousand Faces of Night Githa Hariharan sensitively portrays the condition of Indian women caught between tradition and modernity. She diligently captures their split consciousness as a result of which we find through a set of representative characters, both their submissiveness and their struggle for individuality." (Padmini and S.126)
The novel provides us with an in depth insight into the Indian culture and tradition and reviews the secondary status of women in the Indian society. In the words of H.M.Parshley on Woman's secondary position :
". . . since patriarchal times, woman has been forced to occupy a secondary place in the world in relation to men, a position comparable in many respects with that of racial minorities in spite of the fact that women constitute numerically at least half of human race, and further that this

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secondary standing is not imposed of necessity by natural 'feminine' characteristics but rather by strong environmental forces of educational and social tradition under the purposeful control of men". (Parshley 9)

The novel again focuses on Indian Women's voyage from the traditional set up to modernity to quench their thirst for self-identity.It substantiates how these ideological characters from mythologies have their influence on even the modern women .They in their effors to pursue them suffer from identity crisis and victimhood. It also bring to limelight how these women characters consequently become empowered to break the shackles of idealism to redefine their true identity.

The novelist has constituted the structure of TFN on the Indian traditional modes to underscore the struggle of Indian women across generations.She scrupulously substantiates the wide gap between the two completely opposite impressions of 'good' and 'bad' women as delineated in the Indian traditions and mythologies through the stories of four pivotal women characters - Devi, Sita, Pati, Parvatiamma and Mayamma and other minor female characters as well . In TFN, the setting is that of Hindu traditional cultural society and the novelist has meticulously reflected the Mythological female characters, like Sita, Amba, Gandhari, Ganga in TFN to showcase the stark differences in their traits.

It is true that in India, the idealized models of female characters from Ramayana, Mahabharata , Manusmrithi and other Puranas have been propagated among Indian Women for centuries in such a strong fashion that it got so ingrained in the minds of a Patriarchal society .As a result , stereotypical and archetype women like Sita and Savitri were set as the yardsticks for Indian women of Hindu society to be looked upon to gauge their acceptance in to the society.

Hariharan's deft and profuse usage of Indian myths for constructing the plot and framing characters of the novel to recount the struggle between tradition and modernity is praiseworthy . It is a well-known fact that Myths are legendary or traditional stories that centre around deities or demi-gods or great heroes. Myths are always part and parcel of literature and they do enjoy a vital place in it. Many literary critics and essayists have defined a myth. In the words of M.H.Abrams , a myth is :

"Myth is one story in mythology- a system of hereditary stories which were once believed to be true by a particular cultural group, and which served to explain (in terms of the intentions and actions of deities and other supernatural beings) why the world is as it is and things happen as they do, to provide a rationale for social customs and observances and to establish the sanctions for the rules by which people conduct their lives". (Abrams , 2006).

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In Githa Hariharan's point of view , stereotypical characters described in myths and traditions that are perpetuated in India only delegate secondary status to women and make them feel inferior. She also opines that such notions of inferiority have been implanted in the very framework of the society which she delineates in the novel. The opening of The Thousand Faces of Night is so striking that it offers an insight in to the conditioning of a girl child, here the protagonist Devi who is conditioned right from her childhood by her grandmother and her mother. Her grandmother keeps repeating the stories of Amba, Gandhari, Ganga from the mythologies only to instill in Devi the stereotype image of womanhood to be indifferent and insensitive to the injustice and to be submissive and thereby preparing her to become an ideal wife .As Simone de Beauvoir avered , "One is not born, but rather becomes, a woman" (Beauvoir 267). Devi is offered all the features of stereotypical womanhood right from her childhood through by her grandmother through the mythological stories of Gandhari, Amba and others. Later on, her mother takes up the wand and gets Devi prepared for marriage in a different fashion by being a strict disciplinarian .In this context ,Simone de Beauvoir's observations become more relevant :

"She (mother) grimly forbids the child to resemble her; she wants her experience to be of some use, it is one way of having a second chance. The prostitute sends her daughter to a convent; the ignorant woman has her educated. A real conflict arises when the girl grows older; as we have seen, she wishes to establish her independence from her mother". (Beauviour 534) .

In TFN , Devi , the Protagonist is depicted as belonging to a traditional Hindu Brahmin family and the novelist recounts how the images of good and bad women that has been instilled in Devi creates an inner conflict right from her childhood. Later her exposure to the another world (to a North-American university campus)where she gets her collegiate education enables her to discard the traditional norms for a while during her relationship with a Black –American, Dan .However the ideologies of Indian tradition for an Indian ,ideal woman to go in for an arranged marriage upholding morals and virtues wins Devi and she turns down her boyfriend's offer to marry her. The influence of the mythological stories on her was so tremendous that she is forced to sacrifice her individuality and consequently agrees for an arranged marriage with Mahesh .

In the second part of the novel, the novelist lays bare Devi's life after her marriage. Mahesh, Devi's husband, fails to understand her and is yet another embodiment of male chauvinism. Though highly educated , he treats Devi not as an individual but as an object for his pleasure and to carry out his commands .At this juncture, Devi's impressions about ideal womanhood shatters .She gets disillusioned and her inner conflict becomes so intense. She wonders what her pursuit of her traditions and arranged marriage have led her to .As a result , she becomes lonely and depressed .She states, 'This then is marriage, the end of ends; two or three brief encounters a month when bodies stutter together in lazy, inarticulate lust. Two weeks a month when the shadowy stranger who casually strips me of my name, snaps his fingers and demands a smiling handmaiden. And the rest? It is waiting, all over again, for life to begin, or to end and begin again. My education has left me unprepared for thevast, yawning middle chapters of my womanhood (TFN: 54).

In her desperate search for solace, she only gets again entrapped by the philosophies of her Father-in-law who preaches to her the different ways to become a virtuous wife. He infact becomes the mouthpiece of the patriarchal laws of Manu as propounded in Manusmriti that pervades throughout the novel. She gets utterly confused and her search for the meaning of her life and identity overpowers .Her craving intensifies when she listens to the poignant tales of woe of her housekeeper , Mayamma who despite being an ideal wife ,daughter –in-law and mother was utterly abused by her mother –in-law, husband and later by her drunkard son. Devi gets totally frustrated with the harsh realities of hardships meted out to the women surrounding her that her quest for her own individuality and identity start gaining momentum in her .

Questioning the Power politics of the Indian Patriarchal structure :

In her efforts to question the power relations of the Patriarchal Society , Devi decides to undertake a new avatar. The immense power of her individualiy and feminine self overpowers .She decides to take revenge on her husband , Mahesh for all the insults and humiliations he heaped on her. She observes ,'In my waking hours I am still no conqueror. My petty fears, and that accursed desire to please which I learnt too well in girlhood, blur the bold strokes, black and white, of revenge. I write elaborate scenarios in my mind for the last act -humiliating Mahesh, saying all the things we have left unsaid. I do something bloody, final, a mark of protest worthy of the heroines I grew up with' (TFN: 95).

She questions the traditional standards that have been set for ideal womanhood and says ,'Am I a neurotic because I am a lazy woman who does not polish her floors every day? An aimless fool because I swallowed my hard earned education, bitter and indigestible, when he tied the thali round my neck? A teasing bitch because I refuse him my body when his hand reaches out; and dream instead, in a spare room, of bodies tearing away their shadows and melting, like liquid wax burnt by moonlight?' (TFN: 74). In her attempts to revolt against the society and to take revenge on her husband, she elopes with Gopal, the musician .Nevertheless, Devi finds only a void in being with him too and couldn't achieve a sense of completion .

The dawn of realization that her struggle to be a good girl, ideal wife and lover have been a futile exercise makes Devi question the relevance of the mythological stories that she had been fed upon since childhood .At that juncture ,she realizes the real reason behind her mother –in-law embracing the path of spirituality and leaving her husband's house. She takes cues from her gesture and she too leaves her husband and later on her lover Gopal .She discards the concept of being treated as "the other " and in her attempt to resolve her inner conflict finally joins her finally to quench her thirst for real identity. Devi daringly discards the stereotype notion of Indian womanhood as an "embodiment of sacrifice, silent suffering, humility, faith and knowledge" (Everett 76).

The novelist also has depicted in her novel other powerful female characters who questions the Power structure of Indian Society .Unlike the passive, mild, submissive ,ideal 'Sita' of Ramayana Sita , Devi's mother becomes a strict disciplinarian and demanding wife to her husband in a diplomatic fashion .Her daughter misunderstands her as 'too snobbish to caress freely' (85).Her aim in life becomes 'order, reason, and progress'(26). She becomes so passive to her emotions and passions in her strenuous efforts to become a dutiful wife , daughter –in-law and mother .However , in the process she loses herself .As Gilligan said:" She stays with, builds on and develops in a context of attachment and affiliation with others . . . eventually for many women, the threat of disruption of an affiliation is perceived not just as a loss of relationship, but as something closer to a total loss of self. (Gilligan 69).

She sacrifices her passion for playing veena when once her father-in-law questions her roaring, "Put that veena away. Are you a wife, a daughter-in-law?" (30) .This makes her take a stern stance in her life not to touch veena in her lifetime .This 'self-sacrifice' hinders the development of herself :. "Women have been so encouraged to concentrate on the emotions and reactions of others that they have diverted from expressing their own emotions" (Miller 39).Nevertheless towards the end of the novel she breaks all the shackles of ideal womanhood and mother and takes her veena and plays it to welcome her daughter to her home. She realizes that her shunning away of her passion only made her numb and lose her identity.

Devi's grandmother, another pivotal character of the novel, questions the power politics by subverting the male discourse of ideal womanhood and female subordination as propounded by the epics and Puranas .Instead she emulates and praises the rebellious and angry women characters of mythology like Gandhari, Amba and Draupadi from Mahabharata. She revisits the mythologies from a woman's perspective .Another submissive , yet powerful character who succeeds in breaking the shackles of ideal wife and mother is Devi's mother in-law, Parvatiamma .Through her self-negation and embrace for spirituality , she leaves the stifling ambience of her home .She realizes the monotonous duties of an ideal wife and mother act as stumbling blocks for self-liberation .She goes on to set herself free from the suffocating home that preaches idealism in every aspect and action of hers.

It is noteworthy to reflect upon the observations of Wendy Doniger who subverts the patriarchal discourse on ideal womanhood and the role models as portrayed in Indian mythologies and Puranas and proclaims that fiery, rebellious and furious mythological female characters were deliberately sidelined as part of male discourse .Wendy Doniger laments, 'How different the lives of the actual women in India would have been had Draupadi, instead of Sita, been their official role model! Many Hindus name their daughters Sita, but few name them Draupadi' (1990:298). According to Doniger 'the women of Mahabharata are extremely prominent, feisty, and individualistic, in part as a result of changes that were taking place in the social structures at the time of the retention of the text.' (1999:292). According to her '…..The Valmiki Ramayan thus sowed the seeds both for the oppression of women in the dharma-shastric tradition and for the resistance against that oppression in other Hindu traditions' (Doniger,1999:232).

Conclusion:

To conclude, the novel The Thousand Faces of Night thus demonstrates with extraordinary skill, the faint fashion in which women are sidelined to don the secondary roles. The novel analyses how in Hindu traditional society, the patriarchal discourse is subverted by the powerful, empowered female characters and they redesign their lives to attain sense in their lives.

Githa, in TFN, has revisioned the women characters of the mythologies from the perspective of a modern, educated and empowered woman. She asserts through her characters Sita , Devi and Parvatiamma that unless the patriarchal archetypal images are restructured the subjugation of women would continue across generations .She questions the justification behind the male discourse that glorifies only the ideal role model like 'Sita 'but sidelines other rebellious characters .She also lays bare the unfulfilled , tormented , lifeless lives of Indian women despite being ideal and following their roles and responsibilities as stated by the Puranas , epics and mythologies .She demonstrates very clearly that empowerment of Indian Women will happen only if women subvert the male discourse and womanhood is prescribed from a woman's perspective .

She interrogates the concept of ideal woman that has been implanted in the minds of men by the norms prescribed by the epics .Thus the novelist advocates strongly a total revamp in the structure of the society and a different outlook about women to nurture a harmonious society .She also urges that women empowerment could happen and inequalities between men and women could be bridged only if the voices and innate feelings of the women are heeded upon and equal opportunities are given to women in all spheres of life .

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LANGUAGE ACQUISITION FROM MOVIES TO IMPROVE COMMUNICATION SKILLS OF NON-NATIVE ENGLISH LEARNERS

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Abstract:

Usage of audio-visual resources enhances the non- native communication of the English language learners. With the presence of vast variety of audio-visual resources in the present era, provides the teachers of English language to choose appropriate audio-visual clips or movies. Researches prove that the competency of language learners have improved in verbal as well as the written skills of the language. Through movies the learners are exposed to the authentic language input which enables them to learn, how language operates and challenge them to use language independently. This also develops students' listening and communication skills. Movies offer visual imagery and motion of the film delivers a multisensory involvement by the language learners. Immersing technology in to English language teaching serves a variety of purposes. This pragmatic approach can aid students' critical thinking skills as well as the linguistic competence. This paper gives emphasis to the usage of audio-visual aids such as movies, documentaries and short films etc. generally can play an important role in the pedagogy of English and can necessarily be used in non-native English language learning context. The attention of the students is observed more in comparison to the text course material as it offers visual ambience which helps them to enhance their learning and understanding skills.

Literature Review

There are many researches which reflect the benefits of using films as a proficient strategy in ELT to the foreign language learners. To name a few, Films enhance learning of a language through providing adequate input which is necessary for spoken language learning (Bahrani& Tam, 2012). Champoux (1999) says using films can be a good teaching resource. Films inspire the learners to learn English and the visuality helps the slow learners improve their comprehension skills. Films are an ideal way to engage students in doing array of tasks in a second language learning classroom (Goldstein & Driver, 2014). Reid (1987) says that films provide a room for different learning styles in the classroom. Using films in ELT has numerous advantages compared to conventional teaching styles (Wilson 2017). Films offer learners with

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genuine input so they can be viewed as authentic material (Mishan, 2004, p. 216).By reviewing the literature one can easily say that using films in English language teaching is an adept method and has numerous benefits compared to conventional teaching styles. Mishan (2004) and Gilmore (2007) say that films can bring authenticity to the classroom. Draper (2012) says that visualization is an important prerequisite to be a good reader. By watching films one can easily acquire language sub-consciously (Krashen 1985: p.4).Movies provide a wonderful opportunity for students to gain background understanding to combine with their own understanding about a story or concept. When reading a text, movie features can help students connect to new information they may have not had background in and adapt their new thoughts, images, and feelings to the text at hand (Gambrell &Jawits, 1993)

Other scholars have concluded that movie fragments help enhance memory and recovery of information in reading and listening (Pezdek, Lehrer, & Simon, 1984). Using the same pattern, film may help develop writing skills through providing interesting and motivating clues to accompany audio or written inputs, in that way it assists comprehension and production of foreign language input/output (Hanley, et al., 1995).

Objective of the study

The objective of this paper is to engage learners in activities which demand their independent participation, and to develop linguistic proficiency. The essential question every teacher needs to consider is, if their students would remember what was taught to them in the earlier class to their current one. The present study emphasis on how films can aid in enhancing the English Language among the students of English as their third or second language. Films support in teaching diverse skills when used in a foreign language teaching class room. Teacher can utilize in teaching skills such as verbal, writing, vocabulary, grammar and cultures as these are distinct dimensions of a language which are not conclusive, the teacher must use contrasting teaching techniques / methods while teaching the said skills. According to Katchen (2003), those learners who can communicate well in their mother tongues will also be the decent speakers when they learn L2. Though the verbal skills cannot be automatically acquired but by constant training the student will learn it.

To improve speaking skills

There are two types of conversations which, one engages in their daily life – Formal and Informal. The formal conversation happens when one speaks to a stranger or a superior. This has a less chance of prolong conversation as they mostly comprise of question and answers. Whereas informal conversations are longer or shorter depending on the need of the speakers as they are familiar with one another. Conversation skills can be enhanced by using movies as a fragment of language teaching. This attracts the attention of the slow learners which means that the attention of the class as a whole is on learning. The movies also help the learners to catch the gestures and body language while speaking in various setups. Using the imitation method depending on the British or American English the education system prefers for the pronunciation can be improved by the students.

The present-day technological era has various trends in language. The second language English learners are expected to be at par with the native English speakers. The thought of having English as their second or third language sometimes skips from the mind of a few people, especially in India. Somehow few people measure the intellects of the people basing up on the fluency and accuracy of their English. The sources which can provide them with authentic listening and speaking in terms of fluency and pronunciation are limited. Needs such as this bring the idea of learning the language from movies to increase the proficiency of the learners. The technological advances provide with the equipment through which teaching can be made innovative and quick to learn.

To enhance listening skills

Often the learners of L2 have fewer opportunities to listen to the authentic conversations in order to expedite their learning. In this scenario movies can be made handier to bring the authentic conversations from first language users available to the learners. In India the learners have various accents which learners are easy to catch and understand in comparison to authentic accent. Movies provide them understand and enhance their intonation and vocabulary.

Herron and Seay (1991) had conducted research on using video in listening comprehension for EFL students. He used intermediate level of students and has divided them into two groups, experimental and controlled group. The experimental group has substituted the regular classes with listening to the authentic radio tapes. The controlled group followed the regular class activities without and exposure to the radio tapes. The study has provided evidence that the experimental group performed significantly better on the final tests of listening comprehension with both the video and the audio than did the control group in which no strategy training occurred. Herron, et al. (1995) has come to the conclusion that …

"Video is lauded for contextualizing language (i.e., linking language form to meaning) and depicting the foreign culture more effectively than other instructional materials. Videotapes permit students to hear native speakers interacting in everyday conversational situations and to practice important linguistic structures. Unlike audiocassettes, video's visual dimension is thought to reduce ambiguities present in native speaker voices and to motivate students to want to learn the foreign language" (Herron, et al., 1995, p. 775).

To develop their vocabulary

Vocabulary is an important tool which the L2 learners must equip themselves best with. It makes the learners communicate better. Learners and the teacher have to always put efforts consciously to keep adding new vocabulary in their bank of learning. Learning vocabulary in a foreign language is not as easy as learning words in L1. Using audio visuals to do the same makes it convenient to remember in the long term if used repetitively by the learner while communicating. Lot of practice and repetition results in a fluent and impressive speaker. The findings of Florence's' study also revealed that movies enabled students to learn faster and remember longer especially in terms of vocabulary; as well as the study in South East Europe (Ismaili, 2013) which concluded that using movies in the classroom stimulated the perceptions of the students directly and made the class livelier and led to more teacher-student discussions. The results of the study support King's (2002) argument that movies in itself is a stimulus, in which learners can be motivated" to communicate in contemporary colloquial English" (King, 2002, p. 33). Withample practice and reiteration,even underachievers can add up totheir vocabulary.

While watching the film teacher can point out at particular vocabulary related to the social context in the film. By doing so the learner can be in a position to use the vocabulary in their social life. However, the learners may not acquire 100 % of this vocabulary correctly, but it will be good enough for them to use when the social situation arises.

At the end of the movie, a word lists and fill in the blanks made from the narration of the movie can also help in learning vocabulary. Prepared questions which need exquisite words as answer from the movie can also be given which the students would require to answer while watching films. In order to teach this, the teacher can pick a specific scene which may be related to a social setting and then prepare a worksheet with some missing vocabulary and ask the students to fill in the missing information while watching the film.

Thus, films help in teaching vocabulary in a simplest way to the students.According to Rosenweig, (1979) there are two uses of vocabulary exists in any language: Active use of vocabulary and Passive use of vocabulary. In active use of vocabulary, one can recall the vocabulary and produce it. In passive use of vocabulary one can recognize it and comprehend. However, both active and passive uses of vocabulary are very important in learning a foreign language.

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To upgrade their writing skills

Writing skills are another important aspect of learning which needs conscious efforts from an individual. Movie can be used as a tool through which students can trigger themselves to create an article which requires analytical thinking. A short Introduction Audio visual can be shown to the students to interpret and write on their own. This not only improves the writing skills but also makes them to unleash their potential of creative thinking. Katchen (2003) says that as writing is considered as a productive skill so the engrossment of brain is emphasized in this process. He also says that films can bring array of writing tasks into the classroom.

This can be done by giving the students a task of writing a review of the film, make a report on the various creative aspects, appreciate and provide recommendations as per the observation. They can even write about their experience of watching a movie which is based on a book, which one they enjoyed doing the most, reading? Or watching? There are many literary movies such as "Pride and Prejudice", "The Gulliver's travels" and "The Frankenstein" etc. This will provide them with an opportunity to exercise various types of writings such as analytical, review, precis, essay and report etc.

To learn and appreciate varied cultures

Every language has originated from a place among the group of people which in turn has its unique culture. When one learns a language, it implies that the language will introduce its culture to the learner as well.English language learners can learn the language and its culture by watching a film or a movie based on it much better in comparison to reading it from the books.It's important toteach the students that culture is always embedded in the language. By showing genres like drama and historical, students will have a big picture of the culture variation. Teacher can ask the students to compare their own culture with the culture shown in the film and initiate a debate or ask students to write an essay.

This helps the student to understand the world and accept the difference and take what is good from it.Introducing various cultures to students through films we can make students tolerant, liberal and sensitive to other cultures and respect them. Movies can be a good source to raise questions and discussions. Several written and verbal assignments can be given to students constructed on the cultures they have encountered in variety of movies. Cross-culture communication can also be possible by using films in the classroom.

Planning a Lesson plan

Planning is an important aspect of teaching to create a successful learning among the students. Primarily the teacher can choose from the collection of movies based on classic literature of English but should keep the age group in mind to understand the political and social aspects of the movie. Stoller (1988) says that preparing the lesson well in advance is considerably significant. Though films bring variety and flexibility to the classroom, one must take enough precautions in choosing the right films for the students. So, the films should be selected and previewed carefully.

The teacher must do a lot of homework before showing the film in the class.The teacher should make sure that the students understand the instructional objectives of a film lesson and emphasize that the designed pedagogical goals are accomplished at the end of watching film. Stoller (1988) highlights that a film chosen should complement instructional and curricular objectives. The comprehensibility of the film is one of the important factors while choosing a film to show to the students. The students should comprehend the film and accomplish related tasks.The comprehensibility of a film,brings the students together to work on the related tasks. Moreover, it should not be a burden on the teacher to help students understand the language of the film.

Secondly, the films have to facilitate the learner with sufficient pictorial support. The visual images in the film should support the verbal messages so that the students can comprehend what is going on. For students with good comprehension skills fewer visual images with more verbal messages can do the trick. The delivery of dialogue also plays an important role in making the choice of the films. Basing on the artists origin the slang and dialogue delivery may not be understood by the students. The accents and the pace of dialogue delivery must be kept in mind while choosing a film. Any extremes may become difficult for students to keep the pace while watching the film. So, the teacher should analyze the students' ability of comprehending into account and choose the right film to derive the required output from the students. In addition, the teacher should choose the film which complements classroom activities.Pre-viewing, viewing and post-viewing activities better facilitate the learners in comprehension as well as to achieve desired pedagogical goals.

Stoller (1988) points out that before actual viewing of film, students should go through previewing activities. These activities make them ready for the actual viewing. Pre-viewing activities includes vocabulary exercises, brainstorming, discussions etc.Pre-viewing helps students to be at pace and comprehend the story and characters involved in it. While viewing activities make the students focus on the film and aid them in understand the twists and turns in the film. Post viewing activities are very important because with those activities the teacher can assess whether the efforts put in showing the film is fruitful or not. Post-viewing activities enhances written and oral skills. Students can be asked to write about the summary or gist of the film or describe their favorite character and also, they can be given a chance to add specific details to their favorite character. When it comes to oral skills, students can make presentations about the film or about the climax or about their favorite artist in the film. They can also have debates or discussions. Debates and discussions aids in students improve their public speaking skills. Gathering information exercises can be a good task in all these activities. The mentor has a great variety of lists to choose from simple fairy tales to classics of Shakespeare, from historical, mythological to science fictions to promote better imagination and critical thinking among the students.

Challenges

Films can bring a vast variety of concepts alive in to the classroom. With good it comes along with various challenges. Even if the teacher plans everything perfectly for the class. There are two types of challenges which could majorly affect the class when choosing a session based on audio visual tool:

1. Technical
2. Non -Technical challenges.

Technical Challenges

Stoller (1988) points at the poor equipment which can pose challenges while using the film. The class room may be equipped with the state-of-the-art gadgets, but after all they are machines so some or other technical issue may arise while using the film.

For example: issues with projector, Sound system, Computer accessories and Internet to name a few.

Non-technical Challenges

According to Stoller (1988), using films in the class is a time-consuming act since the teacher has to view it couple of times before showing to the students. By doing so, the teacher has to keep aside all her other works and has to spare her time in watching and preparing the tasks related to the film. Hence, the teacher has to solely focus on the activities related to film and ignore some other classroom activities. Secondly, the teacher has to do a lot of homework before showing the film. Unfortunately, if the teacher if the misses any detail.

There will be chances of student's not paying attention to the teacher's instruction and make noise as they aren't interested to watch or they are completely immersed and are paying no heed to what the teacher is saying. It's very important to note the mood of the students while watching the film on various aspects. Presence of various slangs and accents used in the film can also be one of the challenges while watching i.e. if the students find it difficult to comprehend then the whole session goes wasted. Films with neutral accent which can be comprehended by theweaker students must be chosen. Choosing an accent depends upon the variety of English

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language which is being used in a certain country i.e. American English or British English. Most importantly, the level of students can be a big challenge. As we all know that a class comprises of students with various level of comprehension so it's a big challenge for the teacher to get desired output equally from all the students.

Assessment to test the learning

As assessments help the teacher or the mentor to assess the level or amount of learning among the pupils. It should be done adequately. For example, the primary students can be introduced to the language through short poems or stories as recreation time which should not be assessed. The learning effects can be measured in the later stages whereas the secondary and higher students must be assessed by any of the assignments as mentioned above or by writing a review of the book in comparison to movie with recommendations etc.

Conclusion

Using movies in the language classroom aids language acquisition from movies to improve Communication skills of non-native English learners. It not only improves the learner's ability to comprehend but also makes them learn by imitation of the authentic style of speaking. They also get exposure to various accent, slang, cultures, vocabulary, idioms, and phrases etc. It also motivates the students to learn and increase their interest towards learning English. Multi-sensory input is likely to assist in more effective memory retention.Nevertheless, in sequence to attain its pedagogical aims, movies should be deliberately chosen based on the course syllabus, pupils'interests, and their proficiency level. While designing the tasks and the materials that incorporate the movies into classes, the main goal of using this authentic material and the objectives of the specific lesson should always be kept in mind. In addition, language teachers should not ignore the importance of planning useful and meaningful tasks for students before and after viewing in order to make the teaching focus more explicit, hence students want treat it as a pure source of enjoyment and entertainment.

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ENGLISH FOR EMPLOYABILITY

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Abstract:

This article expresses the importance of English for engineering students in India. The lack of employability skills for engineering students is because of the inability of communication skills in present scenario. However, the vital problem is lack of speaking skills for poor background students. Majority of the students belong to rural background and Telugu medium. Especially for engineering graduates after completion of engineering course, they are still facing the communication problem in the time of interviews. As the Corporate people are expecting minimum communication skills, undergraduates are unable to fulfill the desired result apart from their academics. In addition to it, many colleges are not providing sufficient soft skills faculty members rather than academicians. So, based on the requirement of the graduates in the country, every individual college should have their own in-house faculty trainers in their colleges and also should be implemented in their academics' time-table. This should be considered inevitably as regular class work from first year to final year of the course. Besides this, students must be encouraged as coordinators for team work skills, which would build leadership skills in and around of their learning. Hence, by all means, it is crystal clear that English is incredibly playing a significant role in our society.

Keywords: Communication Skills, Employability, Soft Skills, Personality Development, Leadership Skills, Social Skills.

Introduction:

English is the language where its importance is day-by- day augmenting. This has started its importance from the time of our great leaders of freedom struggle such as Gandhiji, Jawaharlal Nehru and so on. As there was not much importance of education in those times, English language did not emerge as f now. In the later stages, English started its influence that all the Medical; Engineering books are completely in English Language. Besides, due to the advancement of science and technology English made important for education and acquaintance with one state to another state and with one country to another country in terms of business as well. Along with this, software developments are taken place. Therefore, Multi-National Companies developed around the world that English language is a must to learn for employment rising. Consequently, communication skills have got importance for career building.

Problems of Learning English in Undergraduate Colleges:

There are numerous problems facing in engineering colleges in today's world. Basically, students who come to Engineering are mostly from rural areas and semi-town areas. They are typically from Telugu medium background. Even though they have English subject in their earlier studies, students did not learn it as a language but learnt as a scoring subject. No oral activities occurred in their studies. Therefore, they did not effectively expose to English language. Hence, their schooling and Intermediate has gone with emptiness in language learning.

When the students abruptly, go to engineering college, he is very much aware of the language importance. Faculty will be maximum using bilingual methods of teaching. Therefore, he is not having an environment of English speaking. Coming to 1stB.Tech students, they have English language in which they learn the basics of speaking. From second year, student does not expose to English Language speaking at all. The learnt basics are lost for the rest of the years of engineering. Again, the importance to English comes to students in the time of Placement Drives. In this least timing, students cannot fluent the language very well. This is because; they don't have even reading habits such as reading English novels, literary books as Biographies or Autobiographies. Also, students mostly, don't read English Newspapers or listen to English News. Phonetics is an outstanding pronunciation aspect which could make their tone in an efficient level of speaking, but this is not practiced exactly by students. All of a sudden as the student attend to Face to Face Interview; he cannot communicate with them well in any aspect, either subjective or general. Therefore, there are educational Institutions where there are no Soft Skills Trainers for the enrichment of Soft Skills. Apart from it, students have no social skills and leadership skills. The situation of adaptability in nature is missing among students. Thus, the drawbacks are many that we need to sort out step by step.

Enrichment of Communication Skills:

For the development of Communication Skills, the necessary implementations are needed from the ground level. Firstly, from the school level itself the language inputs are to be increased that the medium should be in English. The language teachers should make the students to speak only in English. They should provide a chance to speak the students on the Dias inorder to reduce stage fear from school level. Students should be cultivated to reading habits from that basic level. Next to it, teachers should motivate students and encourage them to assist them for

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language initiation. Reading habits to be developed that certain project works on reading based to be incorporated. Also, it is the duty of language teacher to make students understand that English language is meant not for scoring aspect but for knowledge and aesthetic sense. Hence, this sort of tendency should be improved in school students, as they can be moulded in initial stages. The next level is Intermediate, where the two years can be influenced by language teacher by improving English project levels. Here, too the lecturers should habituate the students to present seminars and small presentations.

To the level of engineering the student should be firstly, followed with the four year course of English language system. The curriculum is to be designed and supported by University Experts. It is to be mandatory that along with academic time-table, the training time-table is to be incorporated. There should be best soft skills trainers who coultrain students very passionately. There should be needed infrastructural facilities which help the trainers for best utilization and motivation. If there are rural students, they should be continuously motivated for supporting them to speak English. The current changes which are progressing at every step are to be updated to students. Personality development lectures are needed to provide students from every now and then in a year. Phonetic pronunciation practice is to be continuously practiced with students that they will improve their pronunciation style.

If a wrong listening is made the action of the wrong listening will result to negative. Hence, Listening skills are to be encouraged for good understanding of knowledge and of different people. Newspaper Reading activity is to be progressed. Hence, reading skill is important for understanding and knowledge development. Writing skills are vital for drafting messages when students are hired for companies since they will have e-correspondence with one company to other company. Colleges should encourage students for technical presentations, symposiums and seminars which will empower the students in language building aspects. Apart from all these Mother tongue influence is mostly to be rectified.

Conclusion:

English is a language which is ruling the world in every sector. If a person need to attain himself into a respectable position, he should be able communicate with others in English language. Soft skills make an asset in this world being for the dynamic progression. Leadership qualities, social skills, communication skills, attitude, adaptability, emotional and social intelligence make him to escalate to the level of career building. To end up, English plays an implausible role which assists in attaining a stupendous employability in this competitive global world.

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PROBLEMS OF EQUIVALENCE IN TRANSLATION – A CASE STUDY

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Abstract:

Translation is an essential and indispensable tool to understand and appreciate the rich diversity of human community living in different parts of the world. It plays a paramount role in a multilingual and multicultural country like India as in the wider global arena. It is instrumental in enlightening people of their own rich ancient and modern heritage as well as of other cultures near or far. The translators must follow the appropriate translation method in translating the Source Language Text into Target Language Text depending on the nature of the text. All the theorists and linguists of Translation Studies point out that it is difficult to achieve complete equivalence because of the difference between two language systems and cultural differences. However, the translator while translating must try to find the closest equivalent in the Target Language. The aim of the translator should be to give the sound, the sense and the feel of a Source Language Text. The paper deals with a case study of translating four short stories from Kannada to English taken from the collection of Short Stories " Samagra Kathegalu" written by Bagalodi Devaraya a popular Kannada Short Story writer. The paper also discusses the problems encountered in translating these texts mainly with regard to the task of achieving equivalence within the framework of the communicative and semantic equivalence approach of Peter Newmark.

Keywords: multicultural, multilingual, Equivalence, communicative and semantic equivalence

Introduction:

The need for translation has existed since times immemorial and translating important literary works from one language into others has contributed significantly to the development of world culture. Ideas and forms of one culture have constantly moved and got assimilated into other cultures through the works of translators. The history of translation is related to the history of the often invisible cross cultural interactions of the world.

The credit for the first formulation of a theory of translation must go to Etienne Dolet (1509-1546). He was born in Orleans, France. Dolet published in 1540 a brief but unsurpassed statement of translation principles. He summarized the fundamental principles of translation as follows

1. The translator must understand perfectly the content and intention of the author whom he is translating.
2. The translator should have a perfect knowledge of the language from which he is translating and an equally excellent knowledge of the language into which he is translating.
3. The translator should avoid the tendency to translate word for word, for to do so is to destroy the meaning of the original and to ruin the beauty of the expression.
4. The translator should employ the forms of speech in common usage.
5. Through his choice and order of words the translator should produce a total overall effect with appropriate "tone".

Dolet senses the prime necessity of the translator's being in full rapport with the spirit and intent of the original author. Theories of translation have been propounded by renowned theorists like peter Newmark, Eugene.A.Nida, J.C Catford, Roman Eric Jacobson and some others.

Peter Newmark:

Peter Newmark was one of the main figures in the founding of Translation Studies from the 1980s. His *A New Theory of Translation* focuses on various concepts on Translation. His main contribution to general theory of translation was the introduction of the new concepts: Semantic Translation and Communicative Translation. Semantic translation retains the aesthetic values of the source text. Communicative translation attempts to reproduce the contextual meaning of the source language text.

Peter Newmark emphasizes that the translator must be closer to the context**.** A text will have its intended meaning only in reference to the context. For example, to translate the short story "Shukracharya" the translator should be familiar with the evils of caste system in India. It is very vividly brought out in the character of Suneethi. When her husband Ashwathaama says, "We have our faithful tenants. They are our friends and relatives, near and dear ones." Suneethi asks indignantly "How can they become our relatives, near and dear ones? The low caste people!"

Imagination and visualization play an important role in translation. The knowledge of Literary and non-Literary sense is essential for the translator. When the source language

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metaphor is untranslatable, the translator should search for the closest equivalent in the target language. If this is not possible, he should first translate intuitively, and then explain the total sense and beauty of the original metaphor.

Eugene.A. Nida:

Nida has been a pioneer in the fields of Translation theory and linguistics. He gave a theoretical and scientific bent to translation. According to Nida, The translator must be able to find the closest natural equivalent of a text. Nida's book on *Towards a Science of Translation* was published in 1964. In this book he introduces the theory of "Dynomic Equivalence" or "Functional Equivalence" and "Formal Equivalence".

Dynamic Equivalence:

The aim of Dynamic Equivalence is to seek the closest natural equivalent to the Source Language. According to Nida, dynamic equivalence is the "quality of a translation in which the message of the original text has been so transported into the receptor language that the response of the receptor is essentially like that of the original receptors". The dynamic equivalence is directed towards equivalence of response.

Formal Equivalence:

Formal Equivalence focuses on the message of the Source Language Text in both form and content. The translator has to be concerned with correspondences as sentence to sentence, word to word and concept to concept. The message in the receptor language should match the different elements in the Source Language. It demands accuracy and correctness. In this type of translation, the translator attempts to reproduce as literally and meaningfully as possible the form and content of the original. It is close to the original text in terms of syntax, idioms, themes and concepts.

The Basic Requirements of a Translator:

A.J. Arberry says, "No translation, however learned, is of any value that does not give at least some of the joy to the reader that was given by its original." Translators should have to be not only intermediaries between language systems but also should be intermediaries between cultures. If the translator is to produce an acceptable translation he must have an excellent background in the source language and at the same time must have control over the resources of the language into which he is translating.

The translator must understand not only the obvious content of the message but also the subtleties of meaning, the significant emotive values of words and the stylistic features which determine the 'flavour and feel' of the message. In addition, the translator must have a thorough acquaintance with the subject matter concerned.

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Specific Problems in Translating Short Stories from Kannada to English:

The researcher has translated four selected Kannada Short Stories taken from the collection of Short Stories titled ` ***Samagra Kategalu***`by the renowned kannada Short Story writer Bagalodi Devaraya in to English. They are 'Shukracharya', 'Saheb of the Handloom' (*Maggada Saheba*), 'The Obstacles of Krishnappa' (*Aravindavadaneya Thodaku*), and 'Amusements of Krishna' *(Krishna Leele)*

Since no two languages are identical, either in the meanings given to corresponding symbols or in the ways in which such symbols are arranged in phrases and sentences, it stands to reason that there can be no absolute correspondence between languages. Therefore the translator must find the closest possible equivalent.

Syntactical untranslatability

A simple sentence in English has a subject, verb, and object—in that order. But not every language shares this structure. Kannada language follows a sequence of subject, object, and then the verb. As a result, translators frequently have to add, remove, and rearrange source words to communicate effectively in the target language.

For example:

Amma Kaayile biddaru (*Saheb of the Handloom*) SL
Subject+ object+ verb – (S+O+V)
Mother fell ill. TL
Subject+ verb+ object –(S+V+O)

Lexical untranslatability:

It is due to the absence of a lexical substitution in the TL. So we can substitute it with the meaning of the term in the target language. Eg: The Kannada words Mangala Sutra, yetha cannot be rendered into English for there is no lexical substitute for these terms. So we can substitute it with the meaning of the term in the target language.

Mangala Sutra **-** **(***Shukracharya*) SL- A sacred thread tied by the bridegroom to the neck of the bride during the marriage. TL

Yetha- (*Amusements of Krishna*) SL – A big leather piece used to draw water from the open well with the help of bullocks, to water the fields.

More than one equivalent:

Sometimes we find two or more equivalents in the Source Language for a single Target Language word. Some of them are as follows.

Family – kutumba, samsara – *Shukracharya*
Son– *maga, maani, putra– Shukracharya*

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Kannada does not have a copula equivalent to English be form 'is'. So the translator has to add while translating it into English.

For example:

Nimage ellavu parihaasave. – (*Shukracharya*) SL

Everything is fun for you – TL

Idiomatic Expressions:

Idioms are linguistic expressions, specific to each language or culture. They are essential elements of the language. Some Idiomatic Expressions in kannada are difficult to translate into English because it is difficult to bring out the original tone. The meaning of the idioms cannot be understood by the literal definitions of the words it contains. It explains something more. In most of the cases, when we translate the idioms, we can only give its meaning.

Example:

1. Malagida sarpavannu naaveke kenakabeku (*Shukracharya)* – **SL**
   Why should we irritate the sleeping serpent – **TL**
2. Haavina huttakke kaituruki kadisikollabeda *(The Obstacles of Krishnappa) SL*
   Don't get into trouble imprudently- TL

Material Culture:

Some Kannada terms which refer to food, clothes, festivals, and rituals cannot be translated into English, for they do not have equivalent terms.

Terms which Refer to Food:

The names of our food items cannot be translated into English. It is because they do not have equivalents in English vocabulary. In the absence of such equivalents, we have to use a descriptive equivalent. So that the readers of a different culture would also get an idea of what they are like, both in terms of their form and taste. Thus food terms create problems in translation.

Example: prasaada - A devotional offering made to a god or gods, typically consisting of food items that are later shared among devotees. *(Saheb of the Handloom)*

Laddu(ಲಡ್ಡು) - an Indian confection, typically made from flour and sugar, and, that is shaped into a ball. *(Saheb of the Handloom)*

Terms which Refer to Festivals:

Urs - Religious festival of Muslims *(Saheb of the Handloom)*

Ganeshchaturthi – birthday of the Hindu God Ganesha *(Saheb of the Handloom)*

Krishnashtami – birthday of the Hindu God Krishna *(Saheb of the Handloom)*

Translation of kinship Terms:

The organization of the kinship system is different in different languages.

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For example, English kinship terms like ` uncle', 'aunt` `brothers`,` sisters` have a number of equivalents in Kannada .
Maternal uncle – maava
Elder paternal uncle – doddappa
Younger paternal uncle – chikkappa
Paternal aunt – atte
Elder maternal aunt – doddamma
Younger maternal aunt – chikkamma
Elder brother – anna
Younger brother – thamma
Elder sister – akka
Younger sister – thangi

Cultural Problems in Translation:

The culture and traditions of India is completely different from that of English. For example wearing a sacred thread (Mangala Sutra) that is tied by the bridegroom to the neck of the bride during the marriage is a symbol of a being married and the husband is alive. Once the woman loses her husband she doesn't wear it. When Suneethi in ` *Sukracharya* ` lost her husband, she had to undergo the cultural practice. The Indian tradition and rituals are powerfully projected in the SL. But the researcher found it difficult to convey the same message in the TL owing to the cultural and traditional disparities.

Example:

"Natadrushtalaada Suneethiya Mangal Sutra kadiyuvudu, kai balegalu pudiyaaguvuvu, tale bolaaguvudu." (*Shukracharya)* **SL**

"The unlucky Suneethi's sacred thread which was tied by her husband during the marriage will be removed, the bangles of her hands will be broken to pieces, and her head will be shaved." **TL**

Translating Sarcasm

Sarcasm is a sharp, bitter, or cutting style of expression that usually means the opposite of its literal phrasing. Sarcasm frequently loses its meaning when translated word-for-word into another language.

1. "Falithaamshavaagi chaatiya seve bhogisabekaayitu." (*Obstacles of Krishna*)SL
   As a result, you would have given him to enjoy the service of the whip. TL
2. "Nimma chinnada gombeyannu baitumba haaki hogaliri." (Shukracharya) SL
   Praise your daughter, the golden doll wholeheartedly. TL

Humor:

Humour is not universal. What is funny to people in one culture and language may not be

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funny for those from another. This presents a challenge for any translator. For example in the short story *Amusements of Krishna*, Mr. Sadashivappa, the Mathematics teacher of Krishna is amazed at the quickness with which Krishna was solving the mathematical problems. He compares his swiftness and cleverness to that of the machine. This is more humorous in kannada than in English.

" Avana taleyolage yeno yantra yide." (*Amusements of Krishna*) SL

Perhaps,there is some machine in his head.

Economic and social Inequalities:

The author of the Source language has brought out very effectively the economic inequality, the difference in status between Krishna's family and Rukhmini's family in the short story *Obstacles of krishna*. Whereas it was difficult to bring out same effect in translation.

Example:

"Avana taayiyu kanneeru surisi " Guthina maneya Rukkminiya mele neenu kanasinallu aase padabaaradu. Avaru asthivantaru, naavu badavaru. Namma janma bere, avara janma bere." – (*Obstacles of Krishna*) SL

Shedding tears his mother said, "You should not have any desire to marry Rukhmini, the landlord's daughter even in dream. They are wealthy. We are poor. By birth they belong to high caste and we belong to low caste." TL

Expressions: Some Source Language phatic expressions of courtesy and salutation are difficult to translate into Target Language.

Example:

Chi (ಛೀ !) - Which is used to express some dislike or disgust

Raayare , Maharaayare, buddhi- to greet someone with respect

Translating Feelings:

Translation means transfer of ideas or knowledge from one language to another. We cannot underestimate the importance of feelings such as happiness, anger sorrow, etc. It was difficult to translate the feelings of joy in Kareem's elderly father when he came to know that his son received Padma Bhushan for his contribution in the field of handloom.

Example:

"Muduka kemmutha kemmutha bikki bikki alatodagidanu santhoshadinda." (*Saheb of the Handloom)* SL

The old man, coughing and sobbing shed his joyful tears. TL

Translating Similes:

It is difficult to translate similies. We can only render its meaning. For instance in "*Amusements of Krishna*" the writer has compared the handwriting of Krishna to the beauty of the pearls and clean fresh water.

" Kaibarahavo muthinante. Shailiyo tilineerinante spashta." (*Amusements of Krishna*)SL

His handwriting is beautiful like a pearl and the style of writing is as clear as the fresh water. TL

Conclusion:

Translation is the need of the hour as it helps in the process of dissemination of knowledge available in one language to other linguistic groups. Before embarking on the practice of translation, the translator has to be aware of the kind of text to be translated: genre –wise: prose, poetry, fiction or drama. And the type of text in terms of its original composition, whether it is of ancient, medieval or modern. The translator must be aware of the purpose of translation: transferring information from one language to another or carrying a literary text from one language to another. It is through translation we are able to be acquainted with other socio, political and cultural life of various people and nations. During the course of the translation of the selected short stories maximum effort has been made by the researcher to follow the guide lines put forward by noted theorists of translation especially of Peter Newmark`s Semantic Translation and Communicative Translation and Eugine.A.Nida's Dynamic equivalence and Formal Equivalence depending on the nature of the text.

Abbreviations
SL: Source Language
TL: Target Language

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IMPORTANCE OF ENGLISH LANGUAGE AND LITERATURE IN THE TEACHING AND LEARNING OF MATHEMATICS

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Abstract:

"A pure Mathematician is somewhat to be a poet." A poet is a personality with strong imagination power and a well comprehension and composition power. As like a poet, a good mathematician should have a good imagination power. A literature is the media through which we can express our views and ideas. So, to excel in any subject it is very important that the student should have a good knowledge of literature and language. As 'English' is the international language, a person should know the language for advance studies and also to express their ideas.

Keywords: Mathematics teaching and learning, Nursery rhymes, composition.

Introduction;

English has been considered to be the first global Lingua Franca. In today's modern world, the English language has become part and parcel of every existing field. It has been an international language of communication, business, science, information technology, entertainment and so on. It has become an inevitable requirement for a number of fields such as computing, medicine and research work.

The study of English language and literature has an important influence on improving students' mathematical skill. Studying English literature opens up a world of inspiration and creativity. It also helps in developing skill that are essential for today's global environment .It also sharpen your own ability to write, read, analyze and persuade. It also develops the skill of analysis, interpretation and self- expression. Language skills are the basic competencies that the talents of today's society must possess. In modern society, the interaction between people is mostly achieved by language. For students, to enhance their language expression and skills is an important means to enhance their communication ability. The good language skill is also the basis for students to establish a good interpersonal relationship in the society. At present the social competition is very intense. In order to develop social competition effectively, students must have strong language skill. English language and literature education can effectively provide students with literature and language knowledge to expand the students' thinking space and enrich students' vision, so that the students can experience the language practice activities, which can effectively improve the language skills of students. So, in school education, it is necessary to pay attention to English literature and language and to pay attention to cultivate student' language skills. The study of English language and literature has an important influence on improving student's skill to use language.

It is said that "A pure Mathematician is somewhat to be a poet." The characteristic of a good mathematician is same as a poet. Both the personalities should have a strong imagination power, good observation capabilities, amazing creativity and well equipped comprehension and composition power for self-expression. So, to excel in any subject it is very important that the student should have a good knowledge of literature and language. Since 'English' is the international language, a person should know the language for enriching himself and also to express their ideas. The study of English literature can also be an eye-opening experience.
Reading, writing and Mathematics should be inseparable. Hands-on Mathematics can stimulate curiosity, engage student interest and build important prior knowledge before students learn about a new topic. The more the students know about the topic, the better they comprehend and learn the topic. Prior knowledge is the strongest predictor of student ability to make inferences from text.

Hands-on mathematics must be combined with minds-on activities. Reading and writing activities can help students analyse, interpret and communicate mathematical ideas. These are skills needed to evaluate sources of information and the validity of the information itself, a key competency for mathematically literate citizens. Many of the process skills needed for mathematics is similar to reading skills and when taught together would reinforce each other. Examples of common skills are predicting, inferring, communicating, comparing and contrasting and recognizing cause and effect relationships. Teachers who recognize the interrelatedness of mathematics and literacy processes can design instruction that reflects these similarities. Becoming a Nation of readers suggests that the most logical place for instruction in most reading and thinking strategies is in the content areas rather than in separate lessons about reading.

Modern Mathematics can claim newness of approach. It introduces a change in the methodology of the subject. It places greater emphasis on student's thinking and discovery and less reliance student's memorization. The use of discovery method is the most important method feature of modern mathematics programmes.

Materials and Method:

Mathematics is all about making people a creative thinker, not a calculator. So, to ignite the observation power, thinking capability and presence of mind of the students the following methods can be adopted :

1) **Relating Mathematical Concepts With The 'Nursery Rhymes'**:
   Research shows that children who have memorized Nursery Rhymes become better readers because they develop an early sensitivity to the sounds of language. They can be used to teach many important emergent skills.
   The benefits of teaching children using Nursery rhymes are:
   - They naturally help young children develop phonemic awareness skills, which are the necessary building blocks that children need to develop before they can begin to read.
   - They enrich young children's vocabulary.
   - They provide opportunities for oral language development.
   - They introduce children to basic story structure such as problem and solution, cause and effect.
   - They are easily integrated into already existing themes.
   - They are really FUN and can engage young children.

During the first math input into the children, a teacher should remind the importance of Nursery rhymes and songs in children's development. These songs not only include language skills such as rhymes or phonetics, but they also include many mathematical elements.

The mathematical concepts can be explained with the help of the 'Nursery Rhymes'. This method is very helpful for the preschoolers and kindergarten students. Pre-math skills are math skills learned by preschoolers, including learning to count numbers, learning to determine shapes, patterns etc. Patterns help children learn to make predictions, to understand what comes next, to make logical connections, and to use reasoning skills. Even in the lower primary section, the concept of addition, subtraction, multiplication and division can be easily transform to the students through the nursery rhymes. As the small children loves the Nursery Rhymes, so they will love to grasp the concept of mathematics through this fun-learning.

Some of the examples of this fun-learning activity are given below:

1)

One, two, three, four, five,
Once I caught a fish alive,
Six, seven, eight, nine, ten,
Then I let it go again
Why did you let it go ?
Because it bit my finger so,
Now you tell me
How many fingers do you have?
Ten total fingers on two hands.

- **The concept of counting for the beginners can be explained with this Nursery rhyme**.

2)

" Jack and Jill Went up the hill,
To fetch pails of water,
If Jack brought 2 pails and Jill brought 1 pail
How many pails of water are there?

- **The concept of addition can be explained with this Nursery rhyme**.

Here, 2 pails + 1 pails = 3 pails.

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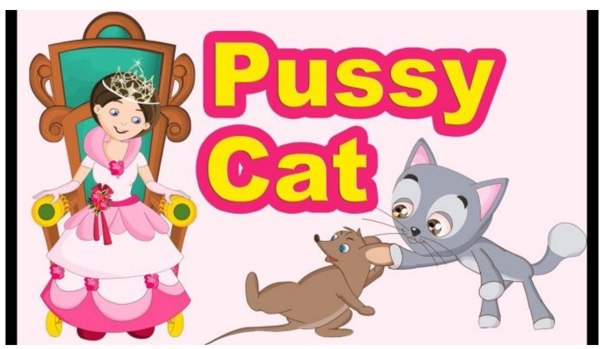
3)

Baa baa black sheep Have you any wool?
Yes Sir, yes Sir three bags full.
If I take one bag, how many bags will be with you?

- **The concept of subtraction can be explained with this Nursery rhyme**.

Here, 3 bags – 1 bag = 2 bags.

4)



Pussycat Pussycat Where have you been ?
I have been to London to visit the Queen.
Pussycat Pussycat What didyou do there ?
I frighten the little mouse under the chair.
The Pussycat has 4 legs the mouse also has 4
But the queen has 2 legs,
So, how many legs were there?

- **The concept of addition of three numbers can be explained with this example.**

Here, 4 legs + 4 legs + 2 legs = 10 legs.

5)

The doubles Song

One and one is two,
And two and two is four
Three and three is six,
So now let's try some more!
Four and four is eight,
And five and five is ten,
Six and six is twelve
So now let's start again.

- The concept of doubles can be explained with this example.
  Here, 2 + 2 = 4 ; 3 + 3 = 6 ; 4 + 4 = 8 ; 5 + 5 = 10; 6 + 6 = 12

6)

The Itsy bitsy spider
Climbed up the water spout,
Down came the rain
And washed the spider out,
Out came the sun
And dried up all the rain
So, the itsy bitsy spider
Climbed up the spout again with her friend,

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If Itsy has 8 legs, how many legs they two have?

- ❖ The concept of multiplication can be explained with this example.

Here, $8 \times 2 = 16$

7)

Three little kittens, lost their mittens,
And they began to cry;
O mother dear,
We fear ,we fear
Mother brought again six pieces of mittens,
How many pieces did each kitten get?

- ❖ The concept of division can be explained with this example.

Here, $6 \div 3 = 2$

2) **Relating Mathematical Concepts With Poetry :**

Poetry is very important because it helps us to understand and appreciate the world around us. Poetry's strength lies in its ability to shed a "sideways" light on the world, so the truth sneaks upon you. Poetry teaches us how to live. Poetry is like the windexon a grubby car window - it bears to open the vulnerabilities of human beings so we can all relate to each other a little better

Poetry is like a counselor which help us to understand each other. Poetry has the power that can lead us away from hate to love, from violence to mercy and pity. Poetry is a bridge, an immediate path to becoming better people and being the change in the world. It helps us to relizethat we are not as different as we think. And despite of our differences, we are not alone in our grief, pain , joy or happiness.

Poetry writing is an exceelent practice for strengthening one's writing skills.Through poetry writing , we gain command of language, cultivate a robust vocabulary, master

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literary devices and learn to work in imagery. However poetry has other benefits that are meaningful on a more personal level.Writing has long been hailed as a deeply therapeutic practice. In fact,all the arts have therapeutic benefits,but poetry imparts a broad rangeof emotional and intellectual benefits that are useful to personal growth, whether we're working on self-improvement, emotionalor psychological coping and healing, developing relationships, and even furthering our careers-
Including careers outside of the writing field. The benefits of poetry writings are:

- It builds Reading, Speaking and listening skills.
- Poetry fosters emotional expression and healing through self-expressionand exploration of one's feelings. It provides a safe way to examineand understand our feelings.
- Self –awareness: Through raw expressionof our thoughts and feelings, poetry can help us to become more aware of what's going in our hearts and minds.
- Creative thinking: With its emphasis on symbolism, metaphor and imaginary, Poetry writing fosters and promotes creative thinking.
- Catharsis: The action of creation---of making something out of nothing--- is a cathartic experience.
- Critical thinking: Through the expression of our thoughts and ideas, poetry pushes us to challenge ourselves intellectually.
- Developing perspective, empathyand world views: Writing poetry often prompts us to look at the world from a variety of perspectives, which fosters empathy and expands one's world view.
- Cognitive function: Whether we are searching for the perfect word,working out how to articulate a thought or fine tuning the rhythm and meter a poem, the steps involved in crafting poetry strengthen our cognitive processes.

Though poetry and math seem to be unrelated, there are parallels such as rhythmic language and language skills. Reading and writing poetry about math involves students with listening, speaking, reading and writing in order to develop and demonstrate an understanding of mathematical concepts and relationship. Encouraging students to read and write poetry about math will encourage them to find a deeper meaning of math concepts as they develop their poetic voices. Poetry evokes emotions and gives clarity and fresh originality to the abstract and challenging facets of math. It is simultaneously reductive and expansive and by using all the features of language, poets can stretch our understanding of difficult concepts while they surprise and intrigue us. There are several collections of poetry and individual poems about maths that will appeal to teachers and studnts. Whether a poem is used to introduce or conclude math class, it will catch the attention of the class and give a unique perspective and invigorating outlook of the topic at hand.

Once the children have been exposed to the variety of poetry about maths they will be ready to try their hands at writing math poems. When we remove the expectation of rhyme, poetry writing takes on new possibities of quality writing since skillfully – written children's poems often depend on syllable count,on a specific number of words or on certain parts of speech for rhythm or structure.

The quality of the finished products can be enhanced with specific teaching strategies. If children brainstorm before they begin their poems , it will help them choose words carefully . Developing semantic maps will encourage young poets to organize their thoughts. Once the teacher has introduced the rhythmic elements or pattern of a certain poem, one or two examples can be developed as a class.

How to write a Math poem :

- Pick a Math topic (Like shapes, probability, division ,measurement ,fraction or algebra)
- Make a list of words and ideas that relate to your topic.
- Write metaphors and similes about your topic using your list of words or ideas.Metaphors and similes link two things that are not usually connected but do share some common elements.Metaphors are phases like " Addition is a birthday party" . Similes are like metaphors but use words "like" or "as" as in " graphs are like a radio"
- Explain your metaphors and similes: For example
    - Addition is a birthday party, you always get more
      You get a bit of money and presents galore
    - Graphs are like a radio, both can bring good as well as bad news.
- Write a poem using your metaphors and similes and their explanation.

Perform your Poem:

Here are some ways to perform your Poem:

- Illustrate the poem with your own artwork.
- Create a dramatic reading of your poem.
- Use story telling software, like Photo Story, Movie maker, iMovie or iPhoto to create a multimedia performance of your poem.

Some examples of Math Poems are given below:

- **Numeration**

Addition is a Birthday party,
You always get more,
You get a bit of money,
And Presents galore

Subtraction is like ice cream,
They both disappear,
I know someone who likes them,
And he is a peer.

Multiplication is a herd of animals,
It's always getting bigger,
But when one set hits another,
I think they'll merge together.

Divisions are like friends,
You have to share with both
Both are essential ,
For our childhood growth.

Operations are really cool!
Those who don't like are surely fool.
Maths is necessary in life
Without it, really difficult to survive.

Fun with Shapes

I have a sweet doll,
Her name is Geomita.

Her eyes are as round as circle,
But her nose is like a triangle.

Her lips are like oval,
I like to eat apple.

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Her head is like a sphere,
But her face is very fair.

Her body is like a cuboid,
Fast food ,I always avoid.

Her hands and legs are like cylinder,
Many squares and rectangles are there in calender.

She has a pair of red shoes,
Which looks like pieces of cubes.

The world is full of shapes,
With which you can make, beautiful landscape.

3) Composition From Pictures Is Helpful For The Study Of Mathematics:

In the literary sense, a composition is the way a writer assembles words and sentences to create a coherent and meaningful work. Picture composition develops the skill of observation in students and enhances their ability to analyse a given picture and write about it. In order to write an effective picture composition, the basic need is to understand the topic. Once you understand the topic, you may express your views on the topic clearly and fluently.

Sentence formation should be simple and catchy so that the composition retains its interest in the eyes of the reader. Giving names to the people and places will help to make the story more interesting. Conclude with some interesting observations to make the composition extremely impressive.

Mathematics Education can be enriched with Picture Composition or Visual Art Education. The ability to solve geometrical problems is considered important as it is central to mathematics and can be a way to construct new mathematical knowledge. Problem solving requires keen observation, logical thinking and creative thinking. Students need to be able to combine known concepts, skills, procedures and ideas from mathematics other domain in a new way to solve the problem, which can contribute to the construction of new knowledge and deeper understanding of geometrical concepts. Based

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on the core aspects of geometry education, we define geometrical ability as students' ability to understand and explain geometrical problems.

Picture composition has the aim to teach students to develop their visual – imaginative abilities by using their experiences of reality and visualizing these experiences. The main aspects of visual arts education are visual art production, perception (observing, interpreting and analyzing) and reflection (thinking and speaking about a visual art product during or after its production) . The creative process is central in teaching the visual arts curriculum.

Thus, in both Picture composition and geometry, creative thinking plays a central role. Art work or the picture for composition should be discussed in a whole class setting in relation to the interdisciplinary lesson theme and with the visual thinking strategies (e.g. "What's happening in this picture?" , " What is the most interesting thing in this picture?"). Students thus learn to observe and analyse the visual aspects of a piece of art, to consider the view of others and to reflect on and discuss about possible interpretations. Educating visual arts perception also enables students to extracts shapes and objects from the visual scene which, in return can influence their recognition and visual information representation. Furthermore, Picture composition could improve students' geometric reasoning and data handling skills.

4) **Instant Story Formation By A Group Of Students (Teamwork):**

In this method, a group of students has to sit in a circle or in a line. A student has to start with sentence and the next student add a sentence. In this way, each student add a sentence and combing all the sentences, they have to form a story and then write the story with a proper title.

The benefits of instant story formation are:

- It improves the concentration power and listening skill of the students.
- It improves the language skill.
- It encourages the presence of mind of the students.
- It improves the creative thinking of the students.
- It encourages the logical thinking of the students.
- It improves their patience level as they have to wait for their turn to add the sentence.
- It encourages the team spirit.

The teaching –learning process of mathematics demands concentration and creative thinking. In the study of the mathematical topics like application of set theory, Real life application problems related to the Linear equations, Quadratic equations, Linear programming problem etc. students need to concentrate more, apply their knowledge and presence of mind to solve the problems.

5) **Mathematical Concepts With Riddles**:

Riddles are questions or statements that offer a puzzle to be solved. They often involve critical thinking on the reader's part in order to figure out the answer. Riddles are sometimes called brain teasers. This offers a challenging entertainment and allow deeper thinking regarding an issue or to allow other questions to arise. Riddles make the reader to think several possibilities in a critical manner rather than a superficial reading.

Types of riddles:

- **Enigma**: Enigmas are types of riddles that can employ the use of allegorical or metaphorical devices. These riddles involve critical thinking and ingenuity on the solver's behalf in order to devise a solution.
  Example: I have a Head and a tail, but no legs or arms. I am not a snake .What am I?
  Answer: A coin.
- **Conundrum**: A Conundrum is a riddle that relies on the use of puns in order to achieve its desired effect.
  Example: What kind of tree can you carry in your hand?
  Answer: Palm Tree

Most of the people consider Mathematics as a dry subject. Mathematical riddles can be used as a recreational means to teach mathematics. Riddles can be used effectively in the teaching – learning process of Mathematics.

The benefits of teaching mathematics with riddles are:

- They strengthen both reading and problem solving skills.
- They encourage critical thinking skills and can provide motivation by making math fun.
- They encourage mathematical development based on current knowledge.
- The challenge of solving riddles can make mathematics enjoyable for students as they are presented in a different way than standard practice problems.
- When students have to struggle with problems, they acquire a deeper understanding of the mathematical concepts and understanding enhanced.
- The students acquire a research approach that gives a better feeling for the way mathematics works.

Hence, mathematical riddles can do wonder in the teaching- learning process. When the students are familiar with the mathematics riddles, they should be encouraged to frame new riddles with their concepts. It will help them to learn the subject in a productive way. Even the students can be encouraged to make cross-word puzzles with the mathematical words of their knowledge.

Some examples of Math-riddles are:

1. I have two hands, but no tail or head.
   You get the most valuable thing from me.
   Can you tell, Who am I?

Answer: Clock

2. We are three friends, like each other very much,
   The sum of us is same as the product of us.
   Can you find, who are we?

Answer: 1, 2, 3 because $1 + 2 + 3 = 6$ and $1\times2\times 3 = 6$

3. I am the greatest number, if you square me
   You will get all the 10 digits from 0 to 9.
   What number am I ?

Answer: 99066

4. I come in a square box,
   When you open the box, you find the yummy circle.
   But when you eat you find a triangle in your hand.
   What am I?

Answer: Pizza

5. I am on the tip of a Jocker's nose.
   Even on the top of his cap,
   Children like my shape so much
   As they play with the thing same as me.

Answer: Sphere.

6. I am a special number,
   If you multiply the first 9 multiples of 3 with me.
   You will always get a triplet.

Answer: 37

7. For the School Exhibition,
   Rene bought 1Kg cotton and Raima bought 1 kg pebbles.
   Which weights more?

Answer: Both are same.

8. Mom and Dad has 4 daughters,

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Each daughter has one brother.
How many members are there in the family?

Answer: Seven.

9. My daughter has many sisters.
   She has as many sisters as she has brothers.
   Each of her brothers has twice as many sisters as brothers.
   How many daughter and son do I have?

Answer: Four daughters and three sons. Each daughter has 3 sisters and 3 brothers, and each brother has 2 brothers and 4 sisters.

10. I am a three digit Palindrome number,
    The digits add up to 4,
    If you square me, I become a Palindrome number again.
    Can you guess me?

Answer: 121 or 202 because $121^2 = 14641$ and $202^2 = 40804$.

6) **<u>The OK4R Method</u>**:

Each letter in this acronym stands for an important idea in our learning process. The letter O stands for overview of the chapter or the book, through scanning the table of contents, some key ideas from the introduction, preface, paragraph of a chapter or chapter summaries can give us important clues to get an overall idea of the chapter or the book. The letter K stands for key ideas and this will significantly broaden our overview. The 4R stands for four learning tasks, namely, Read, Recall, Reflect and Review. When all the learning tasks are carried out in a thorough manner, the students' understanding, retention, retrieval and appropriate use of the information will improve. The skill of appropriate use of information is very useful when the student has to make a presentation or answering quickly when asked for further clarifications and relationships among various topics. Briefly, it is responding appropriately at all occasions or situations in life.

There are various ways to remember important facts, ideas and concepts. Tony Buzon has popularized the technique of mind-mapping: the central idea that has branches all around, with related or connected ideas. Remembering the central idea helps us to recall all the related ideas.

Example of a mind- mapping or concept map is:

Chapter name: REAL NUMBER

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REAL NUMBER

EUCLID'S DIVISION LEMMA

IRRATIONAL NUMBER

EUCLID'S DIVISION ALGORITHM

FUNDAMENTAL THEOREM OF ARITHMETIC

RATIONAL NUMBER AND THEIR DECIMAL EXPANSION

Mathematics Journal:

Journal Writing is the process of recording personal insights, reflections and questions on assigned or personal topics. Math journaling is a great way to get insight into your students' thoughts about Math and their problem solving strategies and a wonderful addition to any Mathematics programme. The OK4R method is very helpful to write the journals.

The benefits of Math Journaling are:

- Students have the opportunity to reflect on their strategies and assess their own learning.
- Students practice putting their knowledge into words both verbally and in writing.
- Instructional focus is shifted from computation to problem- solving and real-life application.
- The teacher gains insight into children's abilities, opinions, understandings and misconceptions.
- It creates a documented portfolio-like record of student growth and progress.
- Math Journaling is an open-ended and naturally differentiated assessment tool.

Results:

Studies has found that:

- The students with a good reading habit is rich in vocabulary and imaginary power.

- A prominent knowledge English language and literature ensures better understanding of Mathematical concepts and problem solving attitude.
- A better understanding of English language and literature opens the door for better research work.

Discussion:

Mathematics is often regarded as a creative art rather than a science. Italian astronomer and physicist Galileo Galilei is attributed with the quote, 'Mathematics is the language in which God has written the universe". The universe cannot be read until we have learnt the language and become familiar with the characters in which it is written. It is written in mathematical language as the letters are triangles, lines ,circles and other geometrical figures. Though there is no direct relationship between Mathematics and English ,but there is a prominent relation between language and mathematics. Both are complementary to each other.

The importance of writing in the mathematics classroom cannot be overemphasized. In the process of writing, students clarify their own understanding of mathematics and improve their communication skills. They must organize their ideas and thoughts more logically and structure their conclusions in a more coherent way. Competency in writing can only be accomplished through active practice, solving mathematical problems in a natural vehicle for increasing students' writing competence.

Motivating and engaging students to speak , ask questions , learn new vocabulary and write their thoughts comes easily when they are curious, exploring and engaged in their own mathematics enquiry. Teachers can take advantage of students' innate wonder inquisitiveness to develop language skills while learning mathematical concepts. Integrating literacy activities into mathematics classes helps clarify concepts and can make mathematics more meaningful and interesting . Teachers can use a wide variety of literature, including rhymes book, trade book, economic magazines and fiction book. Selecting a rhymes book for the primary level and a fiction with mathematical theme both provides information and captivates student interest. Fiction works successfully with young learners by embedding cognitive learning in imaginative stories.

Asking students to write mathematics journals about their problem solving experiences or to articulate and defend their views about mathematics - related issues provides opportunities to clarify their thinking and develop communication skills. Another way to integrate writing in mathematics are recording and describing situations that involve mathematics and writing persuasive letters on social issues like the use of sampling by the Census Bureau. National Council of Teachers of Mathematics provides annual lists of outstanding new literature and multimedia materials.

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In the teaching learning process, visual and auditory clues, Charts with pictures of materials and key procedure should be used in plenty. Teachers should use vocabulary carefully, repeat key words often and refer to the charts those are written with words. Working in pairs or small groups improves their language, interpersonal relationship and structure of their works.

Mathematics teachers can help all students increase their comprehension of mathematics texts by activating their prior knowledge through brainstorming, discussing the topics, asking questions and providing analogies. Special attention to vocabulary is often necessary to enable comprehension of mathematics texts. Teacher should introduce new vocabulary and use a graphic organizer, Concept map or collaborative peer study techniques to develop understanding of new topics.

Conclusion:

Hence, Language plays a critical role in learning Mathematics. Students need to correctly read, write, and talk about mathematical concepts. The students should be allowed to participate in mathematical discussions and conversions in the classroom which can help students make sense of the mathematics they are learning.
The study of English literature allows people to develop new ideas and ethical standpoints, and can help individuals to present themselves as educated members of society. Studying literature can be enriching and eye-opening experience. The whole world would be in mute mode without literature. Innovations and developments need a language through which the whole world can be familiar with the new ideas. So, if necessity is the mother of inventions, to make the world aware of inventions, knowledge of literature and language is must.

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A JOURNEY FROM SELF-ALIENATION TO SELF-IDENTITY IN SHASHI DESHPANDE'S NOVEL *THE DARK HOLDS NO TERRRORS*

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Abstract

The contemporary Indian women writers have surpassed the complexity of the human relationship and the miserable plight of women suffering under their insensitive and inconsiderate patriarchal conventions. These women novelists have given a new dimension to the Indian and they have incorporated the recurring female experiences in their writings and it has affected the cultural and morphological patterns of Indian literature. Shashi Deshpande is one among the Indian women novelists has tried to deal with the physical, psychological and emotional stress syndrome of women. Shashi Deshpande has been one of the writers who make an earnest effort to understand the inner dimension of the female characters for the portrayal of the predicament of the middle class educated Indian women, their inner conflict and quest for identity, issues pertaining to marriage and sex, and their exploitation. This study tries to analyse the protagonist's sufferings in her married life how she tries to escape from her chosen life, then in her journey how she transforms from self –alienation to realization which ultimately leads to self-identity with reference to Shashi Deshpande's novel *The Dark Holds No Terrrors.*

Keywords: self –alienation, self-identity, realization, subjugation

Shashi Deshpande the post-independence Indian woman fiction writeris known for her sincerity and ability in voicing the concerns of the educated middle- class Indian women. Her fictions explore the search of the women to fulfill herself as a human being. Her women protagonists are in fact held in captivity. Viewed from this position, the woman in India is still trapped in the world so much so that she cannot have an independent existence without her husband. This idea is vividly portrayed through the protagonist Sarita in *The Dark Holds No Terrrors*. It explores how the protagonist Sarita (Saru) undergoes the exploitation by her mother during the childhood and sexual harassment in the hands of her husband during her married life.This study tries to examine the protagonist's sufferings before and after her married life and

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how she is alienated from her chosen life, then in her journey of life how she transforms from self- alienation to self-realization which ultimately leads to self-identity with reference to Shashi Deshpande's novel *The Dark Holds No Terrrors.*

The Dark Holds No Terrors is a very powerful novel that brings out the struggle of an educated woman who belongs to a traditional Brahmin family, where a male child is preferred to a female child and the novel reveals how the indifferent attitude of the family towards a female can drive her into a confused state of mind. The protagonist Sarita is a successful lady doctor by profession. But in reality, her life is a sheer fiasco. She chooses Manohar a lecturer and a low caste boy, as her life partner without her parent's consent. Later her life becomes miserable. As a doctor, she is disappointed in her life and as a daughter, the rapport between her and her mother has deteriorated. Sarita experiences the indifference of her mother and her own guilt feeling. The guilt of abandoning her parents, the guilt of her mother's and brother's death, her career as a physician, her marriage, and her feelings about her husband and children make her feel guilty.

A woman has no identity of her own. Her identity is always in the flux. 'This drastic change of identity, changing both the names that identified you for so many years…how then do you know yourself, and who you are?'(*TDHNT* 118). Sarita realizes the fact that women are born to suffer. God has given them birth just to make them suffer here on this earth. They have to pocket insult at every step; it may be in their family or in the professional front. Men think they are semi-gods who can perform any task and thus achieve perfection. Women have to bear the burden both physically and psychologically. The name with which woman has lived so long is part and parcel of her identity as she is known by that name but marriage robs her of her entity. Smita is re-named as Geetanjali after marriage and her husband addresses her Anju to signify the change in preparing her symbolically to go through the pain. As Smita tells Saru, ―And he hates anyone calling me Smita now. He gets very annoyed if anyone does that. He calls me Anju himself‖ (118).

Deshpande in *The Dark Holds No Terrors* questions the very validity of the institution of marriage which ravages the life of all women rendering them without life. Despite the fact that marriage is thought to be a source of everlasting joy, love and security in our scriptures, religious texts and Indian philosophy but the picture is not at all pleasant. The reality is marriage is the most important weapon to subjugate women. It is a pity that in the present age it is a means of exploitation. Men consider their wives as their own possession completely forgetting the fact that even women have their own existence and identity. There are many women in the novel shown in the background who are victims of a loveless marriage. They are brutally beaten, sexually assaulted. They work like gallows slaves in their families all through the day still their value in the household is negligible and unnoticed.

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Sarita reflects on the fact that marriage has the unbounded capacity to subjugate women. They change their personalities after marriage. They feel fettered in their in-laws‗- house. Whenever they come back to their parental house they smoothen out their long skewed long souls. They are free at heart at their parental house. But they are like caged animals at their in-laws‗- house. All their individuality is robbed of from them. They become mere bodies-nay living dead souls.

Shashi Deshpande expresses an important message that alienation, subjugation and exploitation are not restricted to the male-female relationship rather it also exists even amidst female-female relationships. The strength of detestation is so intense, that her mother disowns her and dies dejected at last. Saru‗s mother had aggravated her by her deliberate aggression and her father had contributed to her present confusion by remaining a voiceless spectator in the family drama. Like a traditional Indian father, he enjoys the privilege of being the Master and head of the family in spite of being irresponsible. He is not worried about the problems of his own family members. He had always been so much a man, the Master of the house‗, not to be bothered by any of the trivial of daily routine. (20)

The story focuses mainly on the waking up of acquisitive knowledge that is more to life than dependency on husband or parents. The woman has established herself as an autonomous being, free from the restrictions imposed by society, culture and from her own fears and guilt. Saru decides to assert herself and fight her own battle. She realizes that ‗her life is her own which she will have to shape as well as face the events of her life. She has come to realize that her profession as a doctor is her own and she will only decide what to do with it. ―My life is my own‖ (220). She will no longer be a puppet.

The novelist‗s main objective is to show that one should take refuge in the self ‗which means that woman should assert and ascertain herself to overcome the suppressing forces. Sarita‗s married life with Manu does not run smoothly for a long time and it makes her think that even pleasure is unreal and like an illusion, whereas grief seems more real having weight and substance. The fact is that Saru being a lady doctor is always given more importance. People come to her, surround and ask for and respect her and it is something which her husband cannot digest. This proves how the women have triggered into male institutions which were predominantly meant for men.

This novel *The Dark Holds No Terrors* also expresses the frustration and disappointment of women who experience the repression in the hegemonic male society. The novel shows feminine sensibility through the probing of women's self-quest. Saru is a victim of gender inequality. A male child is given additional importance by the patriarchal society, as he is a future progenitor of family lineage. Dhruva, the brother of Saru was showered with love and affection by his mother. She undergoes this gender inequality during her childhood itself. She recalls her childhood days, which justify this gender discrimination. "There was always a puja on Dhruva's birthday. A festive lunch in the afternoon and an aarti in the evening, my birthdays were almost the same… but there was no puja." (168-169).

Saru fights against gender inequality. A girl does not know that she has to be docile, submissive, silent, compromising and flexible when she is born. Right from the moment, the female child is born, the family does not feel happy at all just because she is a female child. When she reaches her puberty, her mother herself subjugates the female child by restricting all the don'ts. From that moment onwards she feels alienated. Later, society subjugates her by way of giving too many restrictions. This is what is seen in this novel *The Dark Holds No Terrors*. She has to resist all the sufferings imposed on her by others.

When her brother dies by drowning in a pool of water, the mother scolds her daughter and shouts "You killed him, why did not you die? Why are you alive and he dead?" (TDHNT 34-35). She resists this childhood inequality during the death of her brother Dhruva. When Saru hears the news of her mother's death, her first thought is "who lit the pyre? She had no son to do that for her. Dhruva had been seven when he died." (21)

Saru seeks love and affection in her family during her childhood but in vain. Education brings a sudden twist in Saru's life. Lack of love, care and emotional insecurity in the family leads her to tie a knot with Manu of her choice. She finds him as a ray of hope. She thought that her marriage with Manu would be the first step towards self-independence but later his love becomes savage, cruel just because of her status in the society. Though economically independent and happy she could not lead a happy life but only a miserable one. Fed up with her married life Saru speaks to the college girls, that,

"… girls, if you want to be happily married, there is one thing you have to remember. A wife must always be a few feet behind her husband. If he's an M.A, you should be a B.A. If he is 5'4 tall, you shouldn't be more than 5'3 tall. If he is earning five hundred rupees, you should never earn more than four hundred and ninety-nine rupees. That's the only rule to follow if you want a happy marriage". (137)

Sarita escapes to her father's house, in the beginning, being tortured by the sexual extremes of her husband just because she is recognised in the society as a doctor but this parental home equally brings back the horrible memories of the cruel attitude of her mother who is no more. But her father is indifferent and not supportive enough and when she returned after fifteen years, he received her like an unwilling host entertaining an unwelcomed guest. So she decides to go back to her family to treat her husband. It shows how she undergoes a trauma when her professional success has cast a shadow on her married life and how boldly she stands up to the situation and boldly accepts the challenges of her own protégé.

The relation between Manu and Saru worsens as Saru is unable to procure time for her family. Manu puts pretence of an apparently happy husband in the daytime, caring father for their children Renu and Abhi. But at night he becomes too different. His love becomes savage, cruel. He expresses his anger through his sexual assault. Saru confesses the horrible night: "He attacked me like an animal that night. I was sleeping and I woke up and there was this … this man hurting me. With his hands, his teeth, his whole body" (201). The nightmarish attack repeats again and again and Saru loses its counts. She crosses the limit of tolerance but keeps silent. He hates Saru for taking the breadwinner male position in the house and expresses his fury through rape every night. The climax of this can be seen when an interviewer from women's magazine comes to interview Saru and asks Manu ―How does it feel when your wife earns not only the butter but most of the bread as well.‖ (200)

Sarita becomes the victim of the male- dominated society, where she is denied her freedom to act according to her conscience. Her husband Manohar has subjugated her both psychologically and physically. Therefore, she has depicted Saru, as a woman who becomes the victim of a prejudiced society that does not allow women to have any separate identity apart from men. Yet her protagonist revolts and her revolts are the outcomes of her dissatisfaction with the present situation and her psychological trauma. It is through the silent revolt that the novelist depicts feminine sensibility with frankness.

Deshpande reminds that in a patriarchal society, like the Indian society, women have to try hard to find their identities. Saru is a representative of modern Indian women, who is working hard towards the goal. Her quest for identity leads her from self-abnegation (self-sacrifice) to self-realization. Saru herself finds out her own inner world. The turmoil in the mind of her leads to the discovery of her own identity. She does not wish to blame or judge anybody. She broke her ugly silence and goes back to her husband and children to look after them.

This novel brings out the unwarranted situation of Saru. The suffocation experienced by her in the male- dominated society is highlighted. She rebels, rejects and seeks freedom from the traditional norms and way of life very silently. She is mostly alienated and suppressed by the male-dominated society. This alienation and subjugation of women in a patriarchal society seem to be universal and it portrays a middle- class woman's dilemma in hegemonic patriarchy.

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VOICES OF THE MARGINALIZED AND THE SUBALTERN IN ARVIND ADIGA'S *THE WHITE TIGER*

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Abstract

The country is not yet liberated out of caste and class system. It is apparently transformed into a jungle culture where people either eat or get eaten up. Arvind Adiga portrays this marginalization and classism in his novel The White Tiger. It describes the modern India depicting the unruly rule of the rich and the authoritative section of the society. In the name of Indian entrepreneurship the extremely deprived are the downtrodden section of the society, who are in the clutches of the extremely wealthy people. In this society, 'the rooster coop society', are the residents of the village who are in the oppressed darkness. It shows the margin between the rich and the poor. The protagonist Balram, who is oppressed by the corrupt landlords, metaphorically describes them as the animals like the Buffalo the Raven, the Stork and the Wild Boar who all control the underprivileged class of people. The paper explores this discrimination and marginalization persisting in the dominant society where the human melancholy exists in all forms. The novel is a portrayal of the existing real India. The paper analyses the novel in the perspectives of the marginality and subalternity. The communities living in such class system are always striving to fulfill their desire to be in the upper-class society. Through this novel the author brings out the ironic transformation of the protagonist, who finds himself on the side of the dominant class towards the end of the story. It also depicts the two shades of the protagonist.

Keywords: marginalization, subalternity, oppressed class, corrupt system

The predicament of the marginal community is prevalent in the post-colonial literature, the marginal means dividing the society by stringent margins like class, caste, economical status, political, legal system in the counties. These discriminations impact large section of people, it may be a community, a religion or a tribe in a society. Terms such as Subaltern, subservient and hegemony are interchangeably used to describe the poor living state of the people under the privileged people in various communities. Arvind Adiga illustrates such severely discriminated class and caste of community in the much acclaimed, Mans Booker award winning novel, *The White Tiger*in2008. The author depicts how the country is still in the clutches of caste and class system. He critically compares the modern corrupt society with degrading marginal society. This society is apparently transformed into a jungle culture where people either eat the others or get eaten up."The underprivileged section of this country is exposed to various forms of exploitation by myriad forms of hegemonic forces" (Agarwal 56).Arvind Adiga portrays this marginalization and classism in his novel *The White Tiger*.

The novel *The White Tiger*, has acclaimed remarkable accolades from all over the world. It has focused on the realistic representation of the realistic India. He portrays the dominant society who takes advantage of the subservient people. He also elucidates how such unbearable suffering under the supremacy of the authority cans side-track the character of the naïve poor persons. His emotions illustrate the plight of poor and he shows how it can damage human moral values in the name of greed and success. It depicts how the protagonist Balram Halwai, who comes from the darkness and with half-baked knowledge takes a drastic step to murder his employer in order to come into the light from the darkness of his life. He shows a society where the working class people have less value than their costly pet animals, (the pet dogs), "The dogs of the rich are treated as more than servants of the rich houses" (Mahendran3).The novel, on one side describes the modern India depicting the unruly rule of the rich and the authoritative section of the society who in the name of Indian entrepreneurship dominate the subservient class.

On the other side the extremely deprived are the downtrodden section of the society, who are in the control of the extremely wealthy people who apparently take advantage of their misfortune. Adiga terms this society as 'the rooster coop society', the residents of the village who are in the oppressed darkness. They know they are the sufferers but they are unable to rebel or raise their voice, "The roosters in the coop smell the blood from above. They see the organs of their brothers lying around them. They know they're next. Yet they do not rebel. They do not try to get out of the coop. It shows the margin between the rich and the poor" (TWT102).Arvind Adiga illustrates the tyranny of the modern world entrepreneurs of the global society, under whose grip are the rooster coop community. Balram Halwai is one such character who becomes a target of dominant upper-class in the village. It seems unfortunate, that the freedom of these villagers is under the wealthy and the powerful people who give work to these villagers. The author ironically narrates how the modern business system differs from the real society. The narration is autobiographical where Balram Halwai, the fictitious character narrates his critically successful story to the Chinese premiere Mr. Wen Jiabao. The premiere expresses his interest in

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learning the secrets of the Indian entrepreneurship, so that he can return to foster entrepreneurship in China, hence Balram desires to share his part of the story as an upcoming entrepreneur. He is keen on explaining his experience as an entrepreneur from India from the mouth of the half-baked person. This critically explains his business world is run by unfair means by a half educated man who gets trained from the unfair rich people of the society, "the half-baked Entrepreneurs are made from half-baked clay" (TWT, 8).Balram is a naïve village boy who faces discrimination, marginalization and yet climbs the success ladder by unfair means which represents him as the white tiger, meaning the rarest of the animals.

Balram hails from a small imaginary village called Laxmangarh near Bodh Gaya. There are seemingly margins between higher classes and the lower classes. The marginality is depicted in the novel shows a large gap between the right and the poor and caste system. The term Marginalization is prevalent in the post-colonial literature and authors like Mulk Raj Anand, Raja Rao, and R.K Narayan Mahashvetha Devi and Gayatri Spivak have examined critical issues like caste, class blacks, whites and gender disparities in their writings. The author represents issues of the marginality in the modern world. He shows how the classes are divided because of wealth and caste.The upper classes live in the elite big mansions where as the lower or working class live in small houses without proper facilities far away from them. Their deprived and destitute houses are far from a typical image of paradise of Indian villagesas generally portrayed. Balram explains the contrary condition of the villages,

> I am proud to inform you that Laxmangarh is your typical Indian village paradise, adequately supplied with electricity, running water, and working telephones; Down the middle of the main road, families of hogs are sniffing through sewage—the upper body of each animal is dry, with long hairs that are matted together into spines; the lower half of the body is peat-black and glistening from sewage. Vivid red and brown flashes of feather— roosters fly up and down the roofs of the house" (TWT13).

The image of the villages is given in an artistic imagery which is far from the reality. The author describes this village as the technically a paradise but the people are unhappy and remorseful. There is apparently a wide gap in the standard of living between the luxurious people and the poor people who are struggling for their daily food.

The people of the village constitute the, drivers, cleaners, rickshaw pullers, daily wage workers who depend on the mercy of the landlord to allow them to work in their fields so that

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they can earn their livelihood. The exploitation of these landlords makes them the tyrant villains of the community. They are nicknamed according to their nature, one is called the buffalo a landlord of Laxmangarh who lives on the money collected from the people.Balram says that,"The Buffalo is greediest of the lot. He had eaten up the rickshaws and the roads. So if you ran a rickshaw, or used the road, you had to pay him his feed—one-third of whatever you earned, no less. (TWT 16).The Stork is a fat man with a fat moustache, thick and curved and pointy at the tips, who owns the river and he controls all fishermen and earns a lump sum amount from the villagers. His brother is called the Wild Boar who unfortunately is the owner of good agricultural land around Laxmangarh. He exploits the villagers by showing his dominance, He says,

> "If you wanted to work on those lands, you had to bow down to his feet, and touch the dust under his slippers, and agree to swallow his day wages. When he passed by women, his car would stop; the windows would roll down to reveal his grin; two of his teeth, on either side of his nose, were long and curved, like little tusks" (TWT 16).

The Raven owns the worst land, which is the dry, rocky hillside around the fort, and earns money unfairly by looting the goatherds. They metaphorically represent animals who live on the blood and toil of the poor and destitute of the lesser world. Balram says, "To sum up -in the old days there were one thousand castes and destinies in India. These days there are just two castes: Men with Big Bellies and Men with Small Bellies. And only two destinies eat or get eaten up"(TWT, 64).The high walls of the mansions describe the power and authority on the oppressed people. They are the landlords who build their own temples, wells and ponds inside the mansions, and they need not come out into the village except for seizing money. Their childrenaresecurely sent to Dhanbad and Delhi because once Buffalo's son gets kidnapped by the Naxal's. Hence they have a threat from the Naxal, who are known for shooting rich people on their own principles to do justice to the society. So the animal culture prevails, "Their children were gone, but the Animals stayed and fed on the village, and everything that grew in it, until there was nothing left for anyone else to feed on" (TWT 16). Contrastingly the hungry have no choice but they have to migrate to different places in search of their livelihood,

> Each year, all the men in the village waited in a big group outside the tea shop. When the buses came, they got on—packing the inside, hanging from the railings, climbing onto the roofs—and went to Gaya; there they went to the station and rushed into the trains—packing the inside, hanging

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> from the railings, climbing onto the roofs—and went to Delhi, Calcutta, and Dhanbad to find work.(TWT16).

Balram Halwai lives a life in darkness like his whole community. Though he is poor he has a high thinking which brands him different than the others. He strives to have a different life for himself, a life of freedom. In his childhood he observes how his mother leads a destitute life, and he abhors being poor "My mother's body had been wrapped from head to toe in a saffron silk cloth, which was covered in rose petals and jasmine garlands. I don't think she had ever had such a fine thing to wear in her life. (TWT11). In India the jobless are in crowds and great numbers, all in the clasp of darkness waiting for a chance to secure a job for a day.

> There, every morning, tens of thousands of young men sit in the tea shops, reading the newspaper, or lie on a charpoy humming a tune, or sit in their rooms talking to a photo of a film actress. They have no job to do today. They know they won't get any job today. They've given up the fight. They're the smart ones. The stupid ones have gathered in a field in the center of the town. Every now and then a truck comes by, and all the men in the field rush to it with their hands outstretched, shouting, "Take me! Take me!" Everyone pushed me; I pushed back, but the truck scooped up only six or seven men and left the rest of us behind" (TWT33).

Struck by poverty the white tiger alias, Balramal ways strives to set himself free of the poverty. While addressing to the Chinese Premier, he expresses his passion to see the light, "I am in the Light now, but I was born and raised in Darkness"(TWT10).Adiga critically portrays the different issues in the country. The beauty of country side depicts the flourishing nature but contrasts the purity of the river Ganga that flows away with the dark soil of burnt dead bodies. Balram describes the mother Ganga Riverof the Vedas, river of illumination, protector of all, breaker of the chain of birth and rebirth. Nonetheless the river has lost its sanctity and divinity for which it is known for ages.

> I am talking of a place in India, at least a third of the country, a fertile place, full of rice fields and wheat fields and ponds in the middle of those fields choked with lotuses and water lilies, and water buffaloes wading through the ponds and chewing on the lotuses and lilies. Those who live in this place call it the Darkness. Please understand Your Excellency that India is two countries in one: an India of Light, and an India of Darkness.

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> The ocean brings light to my country. Every place on the map of India near the ocean is well off. But the river brings darkness to India—the black river.(TWT10).

Sincevhis childhood, Balram desires to detach himself from the clutches of the marginality and darkness in his life. As a child he used to admire the bus conductor for his uniform, a pay check and a shiny whistle with a piercing sound. So he too wishes to look like him and get admiration from people. This is one reason that he joins the driving class and later he acquires a chauffeur's job at the land lords Mansion. He used to make an impression at school, when he used to answer the school inspectors questions, "In any jungle, what is the rarest of animals— the creature that comes along only once in a generation?"

> I thought about it and said:
>
> "The white tiger."
>
> "That's what you are, in this jungle."(TWT22)

He symbolically calls himself as the rarest person- the white tiger. He is a smart boy but is unable to continue his studies. Balram's father is a rickshaw puller, and at one point of time he has to give up his school to feed his family. So his father encourages him and wants him to be a civilized person but he gives up because he is afraid of the lizards at the school. The school drop outs are the half-baked people and Balram is the half-baked boy, who is bold enough to pen his story to the Chinese Premiere, "The Autobiography of a Half-Baked Indian." That's what I ought to call my life's story. He further inscribes, "Me, and thousands of others in this country like me, are half- baked, because we were never allowed to complete our schooling." (TWT 8).

The works that they do not learn from schools, they learn from the world outside world. As a tea seller he learns about life, politics economics, business, marketing, corruption at the humble tea stall listening to the stories of the rich people. After attending several jobs, "Working in a tea shop. Smashing coals, Wiping tables. Bad news for me, you say?"(TWT 24), he gets a divers job at the landlord Ashok's mansion. At the age of twenty-four Balram works as servant at the mansion and as a chauffeur to Mr. Ashok, one of the sons of the Landlords. As a dutiful servant, he experiences a lot of exploitation, humiliation and deprivation which makes him to reflect on his life. At one incident he even serves his loyalty by admitting the accident which was caused his employer's Wife Pinky madam.

He gets jailed in her place which shows the dark side of the corrupt people. One fine day when his employers enjoy the outing, he visits the cliff and observes the beauty of the view from

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a height which gives him supremacy on the dominant people, an authority through which he desires to control. He senses his desire to achieve that power and that fulfillment to escape from the darkness and rooster coop community. Balram looks at the beautiful sight from the hilltop,

> "I leaned out from the edge of the fort in the direction of my village—and then I did something too disgusting to describe to you. Well, actually, I spat. Again and again. And then, whistling and humming, I went back down the hill. Eight months later, I slit Mr. Ashok's throat"(TWT26).

Balram symbolically a white tiger, a rare species but it is selfish. For his selfish reasons not to die as a mere poor servant to his master, he gives sacrifice of his whole family for an amount of Rupees, Seven hundred thousand rupees and life of freedom from the darkness. He is the murderer of not one employer but his whole family in Laxmangarh; he becomes a virtual mass murderer.Adiga demonstrates the vengeance by the marginal as a justification to release themselves from the darkness. Balramdesires to release himself from the rooster-coop unlike the others in his community.

He is not one them to suffer in silence like plentiful other destitute in his community.A.J. Sebastian observes, "Balram is representative of the poor in India yearning for their 'tomorrow'. His story is a parable of the new India with a distinctly macabre twist. He is not only an entrepreneur but also a roguish criminal remarkably capable of self-justification"(2).Through this novel the author brings out the ironic transformation of the protagonist, who finds himself on the side of the dominant class towards the end of the story. It also depicts the two different shades of the protagonist.

Adiga portrays the critical situation of the marginalized in the modern global society. The novel in an illustration of the marginality and subalternity of the working class people. The communities living in such class system are always striving to fulfill their desire to be in the upper-class society. However their desires are shattered by the exploiters in the name of Landlords, Businessmen and Politicians. Marginality and the subaltern display the unjust treatment by the hegemony of the such corrupt high society and divide them in class, gender, culture, religion, ethnicity, and economy. It depicts the disorderly rule of the rich and the authoritative section of the society on the extremely deprived and the downtrodden section of the society, who are in the clutches of the extremely wealthy people.

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IDENTITY TURNS A DREAM IN *QUEEN OF DREAMS* BY CHITRA BANERJEE DIVAKARUNI

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Tirupati

Abstract

Writers of Indian origin worldwide are immensely contributing towards the immigrant experiences of Indian diaspora. Chitra Banerjee Divakaruni is one of the well-known diasporic authors. She is an Indian American writer who began her career during 1990 and established herself as a diasporic writer. Most of her writings address issues pertaining to immigrants and the diaspora. The present paper is an attempt to examine the exploration for an identity of immigrants in Chitra Banerjee's Queen of Dreams. The picture of ancient India and contemporary America is simultaneously projected through the mother, who migrated from India with her husband and her daughter Rakhi in Queen of Dreams. The novel examines how the immigrants' belief about belongingness is shaken, and how the characters continue to identify themselves as Americans. The event of 9/11 introduced terrible conflict and confusion in the immigrants and Indian American community in this novel.

Keywords: diaspora, experiences, exploration, immigrants etc

Diasporic writing occupies a place of great significance between countries and cultures. Fiction by Indian women writers constitutes a major segment of contemporary Indian diasporic literature. The women novelists of Indian diasporic in United States America are Bharati Mukerjee, Chitra Banerjee Divakaruni, Anjana Appachana, Kiran Desai, Jhumpa Lahiri, Sujata Massey and etc. Quest for identity is the most common topic in the diasporic literature and as old as the diasporic literature. Generally, diasporic literature deals with alienation, displacement, nostalgia, existential rootlessness and quest for identity. Identity in literature may refer to the author's adoption of a new culture and language as a means of expression following a migration from their country of origin to another one. Chitra Banerjee Divakaruni is such an author who depicts the cultural assimilation for first and second generation immigrants in a way that few writers have. Many of Chitra Banerjee Divakaruni's short story collections (The Unknown Errors of Our Lives & Arranged Marriage) and novels like The Mistress of Spices, Sister of my Heart and its sequel, The Vine of Desire have explored the many complexities faced by the Indian diaspora living in the United States. Queen of Dreams is no different in that aspect.

The protagonist of the novel Rakhi, is a young, struggling artist and divorced mother with her daughter Jona. Rakhi runs a Chai Shop in California with her best friend Belle to earn a living and provide for her six-year-old daughter Jona. Rakhi and Belle both are a second generation Indians, who has never been to the land of their ancestors. But as an artist Rakhi

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paints fanciful pictures of it in a bid at closeness with her roots. Mrs. Gupta mother of Rakhi is a first generation Indian immigrant in America. She has come to America with her husband, Mr. Gupta in order to save her gift to interpret dreams. But Mr. Gupta didn't know about the wife's talent of dream interpretation. Mrs. Gupta keeps her daughter deprived of her past unrecognised life as well as her country India, which makes Rakhi even more curious about her roots. She keeps her daughter away from the traditional culture because she thinks that this would enable Rakhi to assimilate more easily in the country of adoption. When Rakhi asks stories about the country, Mrs. Gupta said that she didn't know much about it. In the words of Rakhi,

> "But my mother told me that she didn't know any good stories, and that India wasn't all that mysterious. It was just another place, not so different, in its essentials, from California." (p.4)

But Mrs Gupta maintains her culture by mostly cooking India foods, wearing saree or salwar kammez and talking in Bengal. Rakhi says,

> "At home, we rarely ate anything but Indian; that was the one way in which my mother kept her culture." (p.7)

Mrs Gupta creates an identity for herself which revolves around her dream world which none dares enter, not even her husband or daughter. Her unfathomable past and her dream telling work of the present was brought to light through her journals posthumously. Her dream journals are only her nostalgic reminiscences of her past life in the caves with the elders in India which actually establishes her cultural identity. After her mother's death by a car accident Rakhi discovers a collection of her dream journals written in Bengali.

She becomes dependent on her father to translate though relationship with her father is mostly displeasing throughout her childhood. Although at first, Rakhi blames her father for her mother's death, when the father and daughter start cooperating to save Rakhi's Chai shop which is running in losses, the daughter learns to trust her father and gradually relinquishes her anger. Sitting late into the night and sharing ideas, the father and daughter realize that it is the first time they have spoken to each other directly, without the mother's mediation. While Mrs. Gupta fails to acknowledge the potential possibilities in the integration of Indian and American cultures to her daughter, the father Mr. Gupta not only introduces the daughter to his Indian heritage, but also helps her integrate it with her American identity. The father's stories about him and culture in India provide Rakhi with the cultural context to imagine India in a realistic way.By sharing and helping the culinary secrets with his daughter, the father not only strengthens their bond, but also transmits cultural knowledge and customs. Mr. Gupta helps to resuscitate the Chai House by his new variety of Indian snacks and also renamed the Chai house as Kurma House. After the catastrophe of fire in the Kurma House Rakhi realizes her mother's words that, calamity happens so we can understand caring. Disaster makes the customers more informal in their relationship to Rakhi. Not only that, Mr. Gupta's singing habit of old Hindi songs attracts the customers and makes the Kurma House busiest one. The father's affirmative response also brings a crowd of ethnic musicians to the store.

> "Some wear Western clothes, and some are in kurta-pajamas, but what I notice most are their faces. Lined, unabashedly showing their age, they hint at eventful pasts lived in places very different from this one, difficulties and triumphs I can't quite imagine. The word *foreign* comes to me again, though I know it's ironic. They're my countrymen. We share the same skin color." (p.194)

The people of Indian origin in America rediscover the joy like an unexpected oasis tucked into an arid stretch of dunes, a something of pleasure they thought that they would never find in America. It seems a pleasure to watch their pleasure to Rakhi who is fond of her ethnic. As things return to normally Rakhi's life shaken by new horror – September 11 terrorists attack. The author has written this novel as a direct response to Sep 11 haunted not only by the vivid images of what happened but also by the repercussions felt throughout the country especially in the South Asia American Community. Divakaruniremarks in her interview:

> "I want to touch people, to have them think about issues they haven't considered before to make them more compassionate towards other people", She says "That was my major intention with writing this book after 9/11: if I could make pain and the hope powerful enough in the book, then maybe I might stop some of the prejudice out there and have same sort of counter effect to what followed 9/11." (Interview with Terry Hong)

This event of 9/11 totally shakes the roots of second generation immigrant who consider America as their home land. Rakhi didn't get the talent of dream interpretation as inheritance from her mother, whereas Rakhi's daughter Jonna inherits the talent. Rakhi has been preparing about this terrific incident to Jonna, but when Rakhi tries to describe Jonna just said that she knows what had happened and revealed that she dreamt about it earlier. The aftermath of the terrorist attack can even be seen in the way the people arrive Kurma House. Rakhi and her customers were attacked by the native people called patriots in the Kurma House. This tragedy

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sets Rakhi and her family wondering if they really belong to America, confirmed they're not Americans by one of the attackers. In Rakhi's conversation:

> "*You ain't no American*, one of the men had said.
> He's a racist idiot, I tell myself.
> *Is that so?* My whisper voice gibes. *And how many others in this country would have agreed with him today?*
> But if I wasn't American, then what was I? (p.271)
> And people like us, seeing ourselves darkly through the eyes of strangers, who lost a sense of belonging. (p.272)

Even when they strongly insist that they are born and bred in America, they are put off by the American people due to the tone of their skin. At once the identity turns a dream to the immigrants. Rakhi, thus suffers from multiple stresses and is forced to construct an identity where she has to locate herself. So, the racial riot in the aftermath of 9/11 signifies a volatile level of hatred that fear combined with a sense of insecurity inevitably generates. If it is not direct violence to non-American, it is a concealed distrust that disturbs and Rakhi observes how she has become an outsider in a land where she was born, bought up and married to an American guy Sonny. Rakhi's friends and family go through the harrowing experience with the racial riots in the aftermath of 9/11. Rakhi said to Sonny:

> "I think of the people in the towers and in the airplanes, who lost their lives. The people grieving tonight, who lost their loved ones. Leaders and decision makers, who lost belief in their invincibility,. And people like us, seeing ourselves darkly through the eyes of strangers, who lost a sense of belonging." (p.272)

This incident brings closure Rakhi and Sonny, reunites her love for her husband and family. Divakaruni explores the theme of search for identity, painful experiences and cultural dilemmas of the first and second generation Indian immigrants. Divakaruni wonderfully projects the cultures and tradition of India and superficial power of dream interpretation through Mrs. Gupta and first generation immigrants; whereas American culture and contemporary social issues and its impact through the Rakhi and second generation immigrants. September 11 will continue to be a marking point for novelists, as in other spheres. In this sense again it plays a similar function in fiction as the Second World War – writers use the war as a setting for as many romances and thrillers as they do for literary novels.

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RECENT AND POPULAR TRENDS IN ENGLISH LANGUAGE TEACHING

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Introduction

This paper shows the ELT education trend has recently been gaining in significance in education systems throughout the world. English Language Teaching (ELT) has tremendously changed over the last one decade. Language teaching in the twentieth century underwent numerous changes and innovation. In the past ten years the crucial factors have combined to affect current perspectives on the teaching of English: (A) The decline of methods, (B) A growing emphasis on both bottom-up and top-down skills, (C) The creation of new knowledge about English and, (D) Integrated and contextualized teaching of multiple language skills. TESOL has been and continues to be a dynamic field, in which new venues and perspectives are describing.

Overview of Historical Trends

Generally every type of language teaching has its own technologies to maintain it. Language teachers who followed the grammar-translation method (GTM) (in which the teacher explained grammatical rules and students performed translations) relied on one of the most omnipresent technologies in U.S. education, the blackboard a perfect vehicle for the one-way transmission of information that method implied. The blackboard was later supplemented by the overhead projector, another excellent medium for the teacher-dominated classroom, as well as by early computer software programs which provided what were known as "drill-and-practice" (or, more pejoratively, "drill-and-kill") grammatical exercises. On another side, the audio-tape was the perfect medium for the audio-lingual method (in which students were believed to learn best through constant repletion in the target language).

University provided the lab facility, where students would perform the repetition drills. Late 1970s, the audio-lingual method fell into disregard, at least in part owing to poor results achieved from expensive language laboratories. Whether in the lab or in the classroom, repetitive drills which focused only on language form and ignored communicative meaning achieved poor results. The 1980s and 1990s have seen a full-scale shift in the direction of communicative language teaching, with an emphasis on student engagement with authentic, meaningful, contextualized discourse. Within this general communicative trend, we can note two distinct perspectives, both of which have their implications in terms of how to integrate technology into the classroom.

Modern Trends of Teaching through ELT

Computers and language teaching have been walked hand to hand for a long time and contributed as teaching tools in the classroom. Computers and technology are still a source of uncertainties and anxiety for many teachers everywhere in the world despite the latest advances applicable to language teaching such as specialized websites, blogs, wikis, language teaching methodology, journals and so.

Teaching with Technology.

Teaching with the technology, deal with the ICT in the language curriculum. According to the authors ICT have basic features that make its use a valuable source for input but some teachers may not trust technology or just be reluctant to include computer in their classrooms. Learning with technology, as distinct from learning about technology has the capacity to transform learning environment in ways that are difficult for most educators to imagine. Some adults have in using basic computer functions such as email, search engines, and presentation software is the much larger issue. The 21st century teachers integrate technology into their classroom and build the confidence to learn how to use technology in meaningful ways:

1. The pedagogical integration of technology in which they are placed for practicum experiences;
2. The future teacher's degree of computer literacy;
3. The pedagogical integration of technology by instructors during university education of future teachers;
4. A future teacher's expectations of success in integrating technology;
5. The value placed on technology by future teachers.

As laptop computers, interactive whiteboards and broadband internet became cheaper and more available around the world began to introduce them into classrooms, often and sadly without appropriate training. This was the decade that we learned of digital immigrants and digital natives, which created an extra gap between teachers and students who were often considered in separate campus. We also had to learn a bunch of new acronyms (IWB, ICT, URL etc), as if we didn't have enough already. Different features and uses of technology into the classroom:

- Word processor
- Digital camera
- Internet
- Web page
- Email
- Video conferencing
- Presentation software

- Computer games
- Spreadsheets and database.

Portfolio Development for Teachers

Every student teacher will prepare two types of portfolio first is working Portfolio and second is professional portfolio as part of the student teaching experience. Working Portfolio: your working portfolio will contain such more information and is larger and basically contains all of the information that you may include in a presentation portfolio, for example; it might contain several complete units. Professional Portfolio: This is the portfolio that you take with you to an interview and contains material specific to the interview.

Learner centeredness and Learner needs

The English Language Teaching pedagogies which have focused on developing learners' communicative competence and on promote learning strategies and learner autonomy in language classrooms. Two key concepts of the learner centred classroom are first, placing more responsibility in the hands of the students to manage their own leaning, and second, teachers taking roles as facilitators of knowledge to help learners learn how to learn rather than being the source of knowledge.

The following qualities the learner should develop: (a) Showing a high degree of motivation; (b) having self-confidence; (c) demonstrating an awareness of learning needs and of the role of language learners; (d) being strategic and enthusiastic in learning; (e) being curious and creative in thinking; and (f) holding democratic, open-minded, and critical attitudes were identified by the participants as essential attributes of positive language learners.

The learners' needs motivation and confidence were positively affected by their awareness of learning: (a) a thorough orientation at the beginning of the program, (b) the teacher mediation in the process of learning, and (c) the self assessment of strengths and weaknesses, most of the students said that they knew what to learn and what to do in order to improve. They were aware that being involved in the learning process was crucial for successful learning.

Corpus Linguistics

An approach to investigating language structure and use through the analysis of large databases of real language examples stored on computer. Issues open to Corpus Linguistics include. The Meanings of Words across Registers, The Distribution and Function of Grammatical Forms and Categories, The Investigation of Lexico-Grammatical Associations (Associations of Specific Words with Particular Grammatical Constructions), the study of

Discourse Characteristics, Register Variation, and Issues in Language Acquisition and Development.

Basic Linguistic Techniques for Corpus

Concordancing is a core tool in Corpus Linguistics and it simply means using Corpus Software to find every occurrence of a particular word or phrase. For example, Concorancer

S.NO	WORD	FREQUENCY
1	I	180,977
2	AND	149,925
3	THE	145,918
4	YOU	123,771
5	UH	112,031
6	TO	105,596
7	A	101,731
8	THAT	93,381
9	IT	82,708
10	OF	76,347
11	YEAH	67,740
12	KNOW	65,808

Search Engines like Wordsmith, SARA and KWIC(Key Word In Context)

Word Frequency Counts or Word Lists: This software gives calculation of Word Frequency List and gets a rank ordering of all the words in order of frequency. Key Word Analysis identifies Key Word which is unusually frequent in one or more texts. It is very useful for Teachers of English and Material Writer to prepare Materials of Specialized courses like English for Engineers or English for Pilot or Doctor.

Cluster Analysis searches word in a typical expression. It analyses how language systematically clusters into combination of the words or chunks. Lexico –Grammatical Profiles identify a word and its context of use in concordance lines e.g. Collocation like Blonde Hair or Blonde Car (Not valid).

S.NO	CHUNK	FREQUENCY
1	I don't know	588
2	A lot of	364
3	One of the	320
4	I don't think	248

5	It was a	240
6	I mean I	220
7	The end of	198
8	There was a	193
9	Out of the	190
10	Do you think	177
11	YEAH	67,740
12	KNOW	65,808

Teachers connect with web 2.0

Recent years have seen a trend towards the increasing popularity of Web 2.0 application in education. Commonly, this is attributed to the social nature of these new development on the Web. Unlike traditional Web 1.0 technologies, social software such as social networks, wikis, blogs and micro-blogging (Twitter, etc) or virtual reality (VR) environments such as Second Life have opened up new opportunities of interaction and collaboration elements have always been of vital important in this field, in non-technological face-to-face teaching as well as in blended-learning approaches with early approaches to computer-mediated communication (CMC) manifesting in text chats and Email projects.

What is different about CMC in general and Web 2.0 is the fact that communication in the latter case takes place directly on the Web. This is important because Web browsers are now so ubiquitous and easily accessible to almost anyone, regardless of background and specialist expertise: A learner can, for example, watch a clip from a new foreign language movie, comment on it in the target language in a blog and thereby start a discussion about the movie in a social network with his peers or even beyond the classroom context with native speakers. All this is possible without at any stage having to change tools or technologies: the Web is the platform throughout.

English as Lingua Franc Core: A new variety in an Expanding circle

The Traditional tripartite (3 Dimensional) Model of English worldwide has so far ignored one of the most important functions of English today, namely that of a lingua franca between non-native speakers. In integrating ELF into models such as Kachru's, the question that arises is whether it can count as a variety. Evidence from a corpus-based study of lingua franca English as it is used between European speakers indicates that it is not a non-native variety in the traditional sense. It is suggested here that ELF could be conceptualized as a register, which can be integrated into the variety and nation-based model only on a functional level.

Lingua Franca means a language which is routinely used in some region for dealings between people who have different mother tongues. Lingua Franca Core is concerned with international intelligibility. It is a variety of English. The primary purpose is to learn and understand different variety of English, and to communicate with non native speakers from other countries. ELF interaction can of course include native (English) speakers, but what is distinctive about ELF is that, in most cases, it is a contact language between persons who share neither a common native tongue nor a common (national) culture, and for whom English is the chosen foreign language of communication.

English as an International Language: this debate relates to almost everything: who owns English? Which English do we teach? Who are the best teachers: natives or non native speakers? Can you separate language from culture? Do you see English as an international language, or as a lingua franca? And what about linguistic imperialism? Arguments are often accompanied by statistics that show, for example, that non-native speakers of English greatly outnumber native speakers, and that of the native speakers of English, those who speak RP English or Standard American are greatly outnumbered by speakers of other varieties.

Syllabus Design and Materials Development (Global and Local Publishing)

Some people say that the majority of 'blockbuster' courses indicate that there is not much innovation, but there have been noticeable and significant developments in content (becoming less stereotyped, more critical), in syllabus (reflecting new descriptive information about language) and in methodology (reflecting ideas of student learning style and self direction). There has also been an increasing tendency towards more locally relevant non-global publishing of courses and materials. For example, SCOPE Program book (BULATS).

Locally produced Materials

Today, the countries around the globe have realized that the instructional materials produced in one country may not be effective in other countries are producing the teaching materials (textbooks and other reference materials) on their own, and that suit to their own soil, culture and values. Imported language teaching materials are in no way practicable in the context where they are not produced keeping into consideration the local needs.

Blockbuster course books kept alive through "New" versions

Perhaps we might be using real text and real situations, reaching across the globe for our communicative practice, working with what students produce rather than creating situations to provoke desired language. Perhaps methodology will be more participatory than teacher led, and grammar will be seen as more of a process than as a thing out there to be learnt (Scott Thornbusy's book). Learning would be emergent and facilitated rather than prescribed and taught.

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Reflective Practice and Teacher Learning

This is about teachers' questioning and exploring their own practice of teaching. It is a sort of systematic curiosity about going beyond the edges of what we know and do, to find out how we could do things differently or better (Underhill, 2007). Reflecting upon our own way of teaching tremendously helps the teachers to improve the practice. The basic idea about reflection is that a teacher learns about his/her teaching and how to improve it by trying to observe and understand what is happening in his/her own classroom, reflecting on it, learning from it and trying out something slightly different and so on.

Bottom-Up and
Top-Down Skills
In L2 Learning

- **Interactive Processing:** A theory of reading comprehension that sees reading as involving both the accurate and sequential understanding of text based on identification of the meaning of word and sentences in the text (i.e. BOTTOM-UP PROCESSING) as well as the experiences, background information, and predictions that the reader brings to the text (i.e. TOP-DOWN PROCESSING). Both kinds of processing are involved and they modify and act on each other.
- **Comprehension:** The identification of the intended meaning of written or spoken communication. Contemporary theories of comprehension emphasize that it is an active process drawing both on information contained in the message (BOTTOM-UP PROCESSING) as well as background knowledge, information from the context and from the listener's and speaker's purpose or intentions (TOP-DOWN PROCESSING).
- **Listening Comprehension:** The process of understanding speech in a first or second language. The study of listening comprehension processes in second language learning focuses on the role of individual linguistic units (e.g. PHONEMES, WORDS, grammatical structures) as well as the role of the listener's expectations, the situation and context, background knowledge and the topic. It therefore includes both TOP-DOWN PROCESSING and **bottom-up processing**. While traditional approaches to language teaching tended to underemphasize the importance of teaching listening comprehension, more recent approaches emphasize the role of listening in building up language competence and suggest that more attention should be paid to teaching listening in the initial stages of second or foreign language learning. Listening comprehension activities typically address a number of listening functions, including **recognition** (focusing on some aspect of the code itself), **orientation** (ascertaining essential facts about the text,

such as participants, the situation or context, the general topic, the emotional tone, and the genre), comprehension of main ideas, and understanding and recall of details.

Conclusion

There is no single most excellent way of teaching foreign languages. The successful language teacher will not confine himself to only a single method. A method which is appropriate with one class on one occasion will not necessarily suit to the same class at another time. Likewise, a method which is suitable for one language teacher while teaching a particular language item may not be applicable for other teacher in the same or similar context. There has been a gradual shift from a literature based foreign language to equipping learners based foreign language to equipping learners with communicative skills for interaction globally. Most English language teachers and more significantly most teacher trainers adhere to communicative methodology today. A large number of articles and conference talks have been devoted to exploring precisely the communicative approach of language teaching. Nonetheless, ELT practitioners have not remained reliant on fixed prescribed and imposed practices. Instead, ELT practitioners around the globe put into practice a great deal of diverse activities to keep themselves up-to-date and enhance their practices which have been dealt above.

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INNOVATIONS IN TEACHING LITERATURE: IN THE PERSPECTIVE OF PAST AND PRESENT

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Abstract

Using literature in the curriculum and teaching about literature in the classroom are two existing yet complex areas. To choose literature in the classroom that motivates students to read and that stimulates students to appreciate literature requires knowledge about literature, awareness of students' interests, and facts about exciting instructional approaches that motivate the stimulate interest. Likewise, to teach about literature requires knowledge about literature and knowledge about exciting instructional approaches that encourage understanding of various genres, story structures, and literary elements such as author's style, characterization, and theme. The present paper has discussed Innovative approaches and methods in teaching literature in the classroom and has made a comparison of Past literature teaching and the Present practices and relation between teacher and student. It focused the activities which are conducting while teaching. Present literature is taught by using multimedia and technology immensely. There are so many ways in teaching literature intensively and extensively, they are discussed in the paper. The study has included suggestions for balancing the literature selections, sources for choosing literature, and ways to use literature with activities in classroom students.

Keywords: Literature, teaching, classroom, approaches, knowledge, students, present, technology.

Teaching literature is a joyful act. It proposes teacher an opportunity to open up new worlds for young people-cultures, periods, problems and circumstances they have never thought about before. Through reading literature, they learn how to relate to theirs in their lives and how to cope with their own conflicting impulses. Teaching literature in classroom is a challenging job to any teacher but it yields delightful benefits for both teacher and students. What sort of literature and activities are suitable for use with language learners is always a big enigma. The criteria of suitability depend ultimately on each particular group of students, their needs, interests, cultural background and language level. However, one primary factor to consider is, one suggests, whether a particular work stimulates the kind of personal involvement we have just described, by arousing the learners' interest and provoking strong, positive reactions from them. The present paper is focussing on Innovations in Teaching Literature in classroom in the perspective of past and present. The study has discussed how to cultivate interest for literary students, how to Teaching literature in classroom, what are the various teaching Methods that used in the classroom and finally suggested what tasks and activities are suitable literature.

Literature teaching in the past and present:

The teacher and student are precious jewels in teaching-learning process. Their relationship is one of the most influential factors in a learning environment. Master and disciple relation is interlinked with each other like learning and learner. Consequently these are key elements that affect students' progress, engagement of study and academic motivation. Hence this relation is changing day by day when we observe past to present. The olden days teaching literature in the classroom is very difficult job. In those days traditional teaching methods were used. This method relies mainly on textbooks and teacher whereas the modern method relies on hands-on materials approach.

In the traditional method, presentation of materials starts with the parts, then moves on to the whole at the same time as in the modern approach, presentation of materials starts with the whole, then moves to the parts. In the past teaching is teacher cantered, hence teacher will be in an active participant and students are in a passive mode. The traditional method emphasizes on basic skills of reading and writing. Teacher and text materials are the only source for classroom literature. The students simply listen that what the teacher said, explained and get knowledge from him only. There was no way for clarifying literature doubts which come to learners mind, group work, discussion, audio and video aids, online, multimedia sources, social media etc. With the traditional method of teaching, evaluation is seen as a separate activity and occurs through testing whereas with the modern way of teaching, assessment is seen as an activity integrated with teaching and learning, and occurs through portfolios and observation.

Cultivating interest on literature in the classroom:

A major distinction can be recognized in the early part of the twentieth century with the communicative of learners particularly aimed at in language teaching, literature or cultural aspects. Hence cultivating love for literature in students is very important. With the following tasks, we should develop.

- Assign poetry for memorization
- Show movie clips of plays and novels and DVDs of author's lives
- Schedule time for acting key scenes of drama by the students

- Enhance literature with artwork, maps, music, and tapes
- Ensure the students talk about the literary works what they study
- Encourage the students to study literature diligently

1. Assign poetry memorization: Poetry is the oldest form of literature and was memorized and recited long before it was written down. Poetry is memorable with its rhythm, rhyme, and syntax makes it easy to learn. If the pupils memorize beautiful lyrics, they will take a quantum leap in their understanding of a particular poem as well as poetry in general. It proved that they will also increase their intelligence quotient. This kind of practice can be observed in traditional teaching also.

2. Showing movie clips of plays and novels and DVDs of author's lives: With the purpose of carry a novel or play off the page, show important sense from a good movie production which cannot witness in long-ago. Ask the class questions about casting, atmosphere, or interpretation, and discuss the extent to which the movie enhanced the writer's meaning. Include questions about movie clips on tests. As time allows students, observe DVDs about authors such as the famous authors' series by Kultur Video and others. This series, which may be purchased online, provides fascinating information about authors' lives as well as the historical background to their writing and increases student interest in literary works. Titles in the series include British authors Shakespeare, Austen, the Brontes, Dickens, Hardy, Wordsworth and American authors Hemingway, Steinbeck, Twain, as well as many others. This facility cannot be experiential in the olden literature teaching.

3. Performing key scenes from drama: This kind of developing interest among the students can be seen in past days also. The Drama differs from other literary genres because it is written to be performed not read; therefore, it makes special demands on the reader. Allow your class to act the final scene of a play such as Macbeth or the assassination scene in *Julius Caesar*, complete with simple consumes and props. (Shakespeare's plays lend themselves to this activity more readily than other drams because there are so many characters to assign to a class)

4. Artwork, maps, music, and tapes: Present days two dimensional and audio and video aids are playing significant role in teaching - learning process. Students are getting literary information from multimedia very easily which cannot be possible in olden days. Art work and music are effective; they appeal to our emotions. Language is cognitive; it appeals to our intellect. Therefore, artwork and music enhance the impact of a piece of literature on the mind of the student. They enjoy looking at writers' portraits or photographs interestingly. It's also a good idea to bring in artwork from the internet or literature books to increase enjoyment of a literary piece. Another useful resource is a time line. The time lines are invaluable for keeping student chronologically in sync, especially for survey courses that cover many centuries of literature. Most textbooks include the time line of each literary period that one can refer to order to keep student chronologically in sync. Also can use maps on classroom walls such as the following:

- Kingdom of Camelot (available at www.yahoo.com)
- National Geographic Society map of Shakespeare's Britain
- Globe Playhouse conjectural chart by C. Walter Hodges (available at www.folger.edu)
- Thomas Hardy's Wessex (this can be available at www.bl.uk/collection-items and www.dorsetcountymuseum.org)

5. Discussion of literary works: Students should be willing to voice their opinions during literature class it encourages them to speak up. Students start to exchange opinions fairly readily. As students mature, ask them for presentations; for example, ask different students to teach a poem to the class. They must read and thoroughly understand the piece then take notes on salient points. Having talked well, they complete a handout of important points to distribute to the class on the day of their presentation. This type of assignment increasingly applies to higher education students.

6. Literary study: Most of the students benefit from studying literature in small groups. Although some prefer to study on their own, most of them refine their understanding as they exchange ideas about the literature what they have read. This is an excellent strategy to adopt before exams.

7. Films in the language classroom: Using films in juxtaposition with literature in the language classroom also has a long history which we do not find ancient teaching. It has been used the video version. For example, Shakespeare's *Othello* or *Macbeth* are a staple of enhancing the teaching of the play, with a special edition which incorporated not only pre-reading, while reading and post-reading activities, but also pre-viewing, while-viewing and post-viewing activities interpolated after each of the acts of the play. The important to note about the students is that since they were watching the film after they had read the play, the viewing tasks focused not on plot or character, but rather on what the cinematic adaptation was adding to their understanding of the play. There are many ways to use films in the classroom teaching. Students can make detailed comparisons between literary and cinematic art. And on the adaptation students can generate classroom discussion around works of literature and literary theories.

In addition several points are emerging from this overview. One is that there may well be a historical element here: there is additional engagement with the use of film in the language and literature classroom as the 20th century progresses and as we enter the 21st, possibly as technology becomes more sophisticated and more widely available. Another issue is a contextual one: most of the books mentioned in the previous paragraph all come from the UK. There are countries where language and literature professionals have shown a much stronger tradition of engaging with media education and combining with literature.

How to Teaching literature in classroom:

Using literature teaching in the classroom is a complex area. Language and literature in the classroom should motivate students to read and stimulate students to appreciate literature. Students should require knowledge about literature because it helps to awareness of students' interests, and facts about exciting instructional approaches that motivate the stimulate interest. Likewise, to teach about literature requires knowledge about literature and knowledge about exciting instructional approaches that encourage understanding of various genres, story structures, and literary elements such as author's style, characterization, plot, theme etc. The following ways are helpful to teach literature in the classroom.

Textbook: Textbook is extremely useful material for both teacher and students most anthologies of literature are fine as long as you add other selections. No anthology or any other includes everything you are familiar with and want to teach, so you should supplement the main textbook with other literary works. Choose a textbook that adequately covers literary periods and major writers and, ideally, includes timelines, extensive editorial commentaries, challenging questions and exercises in critical thinking. This teaching guide is designed to be a detailed resource that supplements and enhances material found in any literary texts. It includes benefits not found in most textbooks that as the following:

- Detailed analyses of each literary work
- Different teaching techniques
- Essay topics
- Review questions in a different way
- Tests that cover major works or units
- Classroom handouts
- Audio-visual aids
- Out-of-class reading lists
- Suitable tasks and activities

Reading and writing assignments: This is an important task that improves students understanding of literary work. To reiterate comments made in the preface to this series of teaching guides, students generally come to class having read a short story or a novel or other any kind of work. A teacher should inculcate the habit of reading literary texts. Students do not depend on the text prescribed for the course. Reading and writing are complex language skill which helps students to understand literary work intensively. The master should distribute authenticate literature reading list from which they select books to read in their free time. He/she should encourage students to write in the class or out of the class stories, essays on a novel or volume of short stories etc. ATeacher should distribute a reading list to safeguard against their reading the paranormal and sexually explicit fiction especially written for present students.

Review Questions and Literary tests: Review questions and literary tests provide an opportunity for students to assess their knowledge of a specific work or era. They discuss their answers before they take a unit test, assignment or any project work. Literature tests should be a challenging one. Generally to evaluate students knowledge on their taught topics can be observed by some techniques like true or false, fill-in-the-blank, multiple-choice tests and composes some questions that require paragraph responses and short and essay type questions are suitable. When composing tests, one should bear in mind that questions should vary in scope, level of difficulty and should target different aspects of a persons' understanding. Benjamin Bloom's taxonomy helps here; the taxonomy lists the types of questions and their weight-age, one should ask to correctly ascertain students' grasp of a subject. Essays are essential for literature that students write about literary topics covered in class. They should be required to respond to many pieces they read, more or less, in essay form. For a descriptive type of answer while, students have to focus on organizing their ideas, well-developed discussion of one subject, coherence, cohesion and length are important. While writing essays they learn paragraph writing like how to write a paragraph with a good beginning, development and proper ending with the conclusion.

Teaching Methods in the classroom:

To evaluate how a teacher taught and how much students learned can be assessed with the help of teaching methods and techniques. For a successful teaching selection and presentation of suitable methods are very important. In the past there was only lecture method. Present more innovative methods are using. Some suitable methods are discussed here. They are appropriate for teaching poems and frequently uses for literature students.

a. *Making small study groups:* During class, students exchange ideas and take notes about a topic.
b. *Giving Brainstorming topics:* Teacher raises an issue and students share their ideas and the results have written on the board.
c. *Review questions*: students work in small groups using their notes and literature books to complete review questions. Working as a group, they become more familiar with a specific literary work. After they discuss their answers during class.

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d. *Class presentations:* Individual students are assigned a topic to research and study. They prepare a handout of notes for the rest of the class. Teacher requires them to talk over difficulties with her/him before the presentation is due. Master takes notes and grades each student on the interest and comprehensiveness of the discussion. The presenter should be prepared to answer other students' questions on the work. Make an effort to match poems to students, for instance. Master keeps a list of the presentation, and by the end of the time, each student has explicated two poems depending on the size of a given class. If a class is large, master assigns two students to each literary work. They must both participate in the discussion, and they both receive the same grade. But should not encourage student giving their presentation in their mother tongue. If this instruction sprightly follows they develop their English language also.

Suggested tasks and activities:

If we are to teach literature effectively, then, we need to have some specification of the characteristics of typical learners when they start our course, and of what we want them to be like when they finish. Particularly, we need to recognize that we cannot claim to be teaching specific books, rather we are teaching attitudes and abilities which will be relevant to the reading of any major works of literature. To do this we should in addition have some view of what being a good reader entails, and of how the various kinds of classroom activity available to us will promote effective response.

Reading makes students great literature matures and they convert into thoughtful, compassionate human beings and instil them the joy of reading. As a result, is more likely to have a lasting and beneficial effect upon the learners' linguistic and cultural knowledge. It is important to choose books, therefore, which are relevant to the life experiences, emotions, or dreams of the learner.

Pre-reading activities

Master should encourage students to read about the author's life, mini project on the historical background, predictions about the genre of the short story, discussions about events in history.

- Using pictures to make predictions, group discussions, predictions about the first paragraph and questions on general discussions.
- Brainstorm a lexical set, matching important words in the story with a dictionary.

While Reading Activities:

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It is an important activity. Students will do overall questions forming, writing summaries, and giving titles to the paragraphs, jumbled sentences to summarize the plot and sentence completion with cause-effect.

- Choose from adjectives to describe characters and rank the characters.

Post-reading Activities:

- This is the final part of the literature work in the classroom. Students discuss the different critical interpretation of the story or any other work, provide general questions to debate and master can ask students to note down any lexical areas which they found in the work. Students can also analyse the literature by using other sources that are available out of the classroom like social media (YouTube, facebook, literature apps, films etc.)
- Write diary entries, describe the narrator of the story. This makes the students intellectual thinking of literary work.
-

Apart from these some other activities are also suitable for literature students. They are skits, dramas, role plays, imitations, parody, project works, language and literature tours, meeting to living authors and collecting authentic materials etc. Conducting a literary association for higher students is very preferable. It facilitates the students to participate actively in the event. It builds up curiosity for learning students those who have an enthusiasm and excellent knowledge of literature and helps for duller students to improve themselves following by others.

Conclusion:

Coming to the conclusion, if the language of the literary work is straightforward and simple, that may be helpful to develop classroom teaching but is not in itself the most crucial yardstick. Whatever the approaches and methods are used students' interest, appeal and relevance are more important. As a result, teacher is essential in the teaching literature in the classroom. To justify the additional time and effort, this will undoubtedly be needed for learners to come to grips with work of literature in a language. An important point is to teacher that instead of telling students that many works they are about to read are esoteric pieces they will have to stumble through, the intellectual teacher talks about the benefits what they will gain from the literature what they read and how the sheer gives fun of literary study. Enjoyment, suspense; a fresh insight into issues which are felt to be close to the heart of pupils concerns; the delight of encountering one's own thoughts or situations encapsulated vividly in a works are very significant in literature teaching.

Most importantly, although all the innovations that discussed above are rooted in a very strong sense of the pedagogical affordances of the medium, they belong to the academic genre which has called 'pedagogical and curricular best practices' also suggests that although the literature has made a comeback to the language classroom. Hence Literary texts, if used in relation to a serious view of extending literary competence, will provide a particularly suitable base from which motivated language activity can develop. In this study, necessarily somewhat condensed, it has been possible to give only the barest outline of a new approach. But this seems to be a direction worth exploring in further studies.

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MUSIC AS A COMMUNICATING FACILITATOR IN ENHANCING ENGLISH LANGUAGE SKILLS IN THE CLASSROOM

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Abstract:

Though it is known in some western literary circles that music has been a powerful means to communicate and convey feeling as well as meaning, little or any research has been done in the Indian context to show how this connection works. This paper is keen in spelling out the ways in which the medium of music can be incorporated in the classroom in order to facilitate the teaching of English language and literature in India. It focuses on collaboration and communication pattern through creative endeavors. In their seminal work 'Musical Communication' (2005) Dorothy Miell, Raymond MacDonald and David J. Hargreaves have written about the various ways in which this type of communication comes to take place in the western context. Western musical tradition and its chief proponents such as Bach, Mozart and Beethoven have used the musical scale, especially polyphony, pitch and harmonics to successfully create moods and thereby an aesthetic experience. In the Indian context too, since the time of Bharata Muni who penned the 'Natya Sastra' in the 3rd century A.D., great composers and musicians such as Baiju Bawra, Tansen, Saint Thygaraja, Shyama Sastry, Muthuswamy Deekshithar and Annamacharya exploited and expanded upon the original seven notes to create melodic forms that express various moods or ras. These impart a sense of devotion, wonder and awe at the various aspects of the mundane as well as the Divine. Indian film music, too, has exploited the twelve-note melodic scale to convey a variety of feelings and emotions such as happiness, love and pathos, and managed to hold generations of listeners in thrall. Neuroscience has proved music to be vital in healing the mental and physical illness to a greater extent. The phenomenon goes well in the process of teaching and learning a language even.In a language classroom premises the use of contemporary songs as one of the teaching methodology not only motivates the students to acquire language competence in terms of vocabulary and comprehension but also aids in enhancing their skills of analytical thought. Building on this proposition, this paper attempts to showcase the role of music, as one of the communicating facilitator in enhancing English language acquisition for the students in a classroom.

Keywords: Analytic thought skills, Unconventional approach, Rhythm and Intonation

ELT could be made much more pleasurable and effective by integrating English songs in the application of the pedagogical approach in a classroom scenario. Music in terms of songs is a wonderful combination of lyrics and rhythm besides having powerful inherent virtues, such as expressions, recitations, therapeutic implications and a medley of culture, which condense it as an instrumental source for language teaching. For quite a longer period of time English language teaching in India has been instructed in a confined conventional approach limited to prescribed Vocabulary and Grammar textbooks, stuffing students with an extensive volume of exercises followed with tedious evaluation of their comprehension through successive examinations. Hence, this system gives little or hardly any scope for the students to perceive and acquire the language in an edutainment manner. It is no amazement that the language learners interpret English language learning as uninteresting and an unattainable impediment. In reality, ELT can be instigated in a stress-free and pleasant way by using English songs in the classes.

More than speech songs have an immense impact on human beings. Therefore it could be taken as a fundamental or a prime factor in experiencing the foreign language learning. Songs retain innumerable attributes in enriching and stimulating a classroom environment as well the young minds. Georgi Lozanov, the Bulgarian scientist known as 'the father of accelerated learning', was also a neurologist, psychiatrist, psychologist and educator, creator of suggestopedia, an experimental branch in pedagogy and integrated psychotherapy. During the time of 1970s the theories and method propounded by him were circumspectly analyzed and appraised worldwide on the basis of languages learning done by a committee which got ultimately certified by UNESCO as "the most cultural integral and effective learning method" in the acquisition of a second language which is today popularized as the Accelerated Learning Method(Larsen-Freeman, 1985).The Physical atmosphere or surroundings inside the classroom plays a vital role in making the students feel energized and convinced in acquiring a foreign language through various techniques, including art and music, via trained teachers.

Lyrics being one of the essential elements of songs serve as a central valid source of teaching materials in a language classroom which cannot be unnoticed by the teachers. A good number of researches have taken place globally on songs as are liable teaching resource in language acquisition. (Maley, 1997; Eken, 1996; Gaston, 1968; Geoff, 2003). Being an amalgamation of rhythm and lyric, songs have inestimable qualities that justify one's interest. Their affluence in ethnicity and themes, their colloquial and rhythmical terminology, their therapeutic function strengthens them with perfect tool for language teaching.

A medley of culture

Song which is a combination of language and music well knitted and well woven helps in transcending the cultural reality in a very unique way. It gives ample scope to the English speakers to showcase their own culture thereby symbolizing unity in diversity. In the words of Kramsch "Language expresses, embodies and symbolizes cultural reality" (Kramsch, 2000, p.3) It molds people's attitudes in one thread towards finding expression in the lines and rhythmic melodies of the songs. Community singing in the form of national integration songs was introduced by the Ministry of Human Recourses, Govt. of India in 1983. This proved a huge success because the participants received it as empowering them in uniting them culturally, linguistically and pedagogically.

Power of expression and recitation

Songs have that magical spell of embodying emotions juxtaposed with ideals, themes, reminiscences which can mark a lasting impact on the learner's heart and mind. "Acquisition of automatic language skills depends on rich, meaningful, repeated exposure to comprehensible input without awareness" (Bolitho et al., 2003, p.253).Circumfused with conversational speech, beat poetic expression and the selective vocabulary context the recitation of the lyrics serves the very purpose of comprehension by attracting the learners with the beauty of the composition.

Healing Therapeutic functions

One of the significant features of songs is to soothe or heal the listener's stressed mind and energize with the zeal of novelty or creativity. Gaston (1968) has opined that music succumb several therapeutic functions thereby overcoming the physical and emotional pain. The study, published in the Journal *American Journal of Critical Care*, noted that critically ill individuals who listened to slow tempo, relaxing music with 60 to 80 beats per minute had decreased need to sedatives, fewer days of delirium, and were more awake.

Psychological implications

In the words of Gardner (1993) who projected and expounded the theory of Multiple Intelligence (MI), there is a number of distinctive intelligence possessed by every individual in capricious degrees. As per MI, human intelligence is classified into at least nine primary types: verbal/linguistic intelligence, mathematical/logical intelligence, visual/spatial intelligence, body/kinesthetic intelligence, musical/rhythmic intelligence, interpersonal intelligence, intrapersonal intelligence, naturalist intelligence and existential intelligence. These all are not irrelevant, but are interdependent and corresponding with each other. Heeding to English songs is of prodigious worth to ignite the learner's linguistic abilities through captivating melodies, varying rhythms and lyrics, which entreaty to multidimensional development of human intelligence.

Psycholinguistic Research on Language Learning

Various psycholinguistic researches divulge that music facilitates in the acquisition of a language and fosters learning in both the hemispheres of the human brain (Carroll, 2000; Larsen-Freeman and Long, 2000; Williams and Burden, 1997). An insistent study on the functioning differences between the ear and the hemispheres by the psychologists prove the fact that right ear, which happens to be the frontrunner to the left hemisphere (LH), makes significant influence over left ear for prompting the speech stimuli, so "the LH does seem to possess an innate and highly specialized linguistic mechanism" which undertakes the chief accountability of analytic dispensation of language (Carroll, 2000, p.349). Likewise the right hemisphere's imperative utility in language processing needs similar attention. Left ear, which happens to be the frontrunner to the right hemisphere, is stronger to nonverbal sounds such as tunes and emotions. There is a difference in the impact between speech and songs while entering the human brain. The effect assumes keen influence for sounds travelling from left ear to right hemisphere; it differs in case of speech transmission and thus plays a major role in stimulating language learning in the right hemisphere (Ellis, 1985). "Formulaic Speech consists of expressions which are learned as unanalyzable wholes and employed on particular occasions" (Lyons, 1968, p.177). To conclude, application of English songs in English Language Teaching is substantiated on the vitality that it emancipates psychological affective power in language acquisition and promotes awareness about language.

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LANGUAGE ACQUISITION FROM MOVIES

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Abstract:

Ecofeminism is a term coined by French Feminist Francois d'Eaubonne in her writing Le Feminism ou la mort ("Feminism or Death"). The word is formed from the two words 'ecology' and 'feminism' also referred to as ecological feminism. The connection between how women who depend on natural resources and the exploitation of these resources foreshadows a connection between feminist and environmental issues. Sarah Joseph's Gift in Green and Anita Desai's Fire on the Mountain have been analyzed from such Ecofeministic rendering of nature and woman revealing the dystopian future of the planet subject to environmental degradation, destruction and commoditization of landscape and non human forms of life. The paper focuses on the analyses of how the novel deals with the threats of pollution, displacement of people, disease and the concept of resistance in both the novels.

Keywords: Ecofeminism, destruction and degradation, development, resistance

There are hundreds of methods to make learning a language easy and according to me, movies are one of the best methods for acquiring a new language. The statement is readily accepted without surprise if I say that visual media like songs, movies, soap operas, serials, comics, animated movies are playing a crucial role in acquisition of language. In fact they have become one of the learning methods of any language. There are quite many evidences to prove that they help in learning language with interest and more over, one can learn it with fun. They make the learner empathize with the situation, which is a step ahead in learning rather than creating a situation. Movie-based learning is not any more an unconventional approach of language learning.

Learners can easily learn the target language in very short time only when there is some similarity between target language and his/her mother language. For instance, Telugu and Kannada sound similar, like wise Hindi and Urdu, unlike Telugu and English, English and French or Russian. For a person from Andhra Pradesh, whose mother tongue is Telugu, the ease of learning Kannada is easier than Hindi. To explain this, I have shown an example in figure 1

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given below. Let us assume the outer circle as the mother language, Telugu. Its area is larger compared to other two inner circles. Very next to it is Kannada and the innermost circle is Hindi.

The area of the circles can expand with the increase in the efficiency with the language which is represented in figure 2. But these figure are based only on ease of acquiring the language without any formal exposure. One can raise a little controversy with the example because in Andhra Pradesh, most of the people know Hindi rather than Kannada. It is because Hindi is introduced in schools as second or third language thereby giving a formal exposure to the language. Also, Hindi is accepted as national language even though not formally declared. So, they prefer watching Hindi movies rather than Kannada.

It is same with English too. Even it is totally different to any other Indian languages, many Indians can speak and understand English besides their mother tongue, because most of the schools in India are English medium schools. So, the two possibilities of learning a language easily are, either the target language is close to the mother tongue, or the person is introduced to the target language formally through educational institutions. The common element in both the points is they need an exposure to the target language. People always want to learn a language which they hear and listen and depending on its necessity of knowing the language in the place they live.

Figure 1

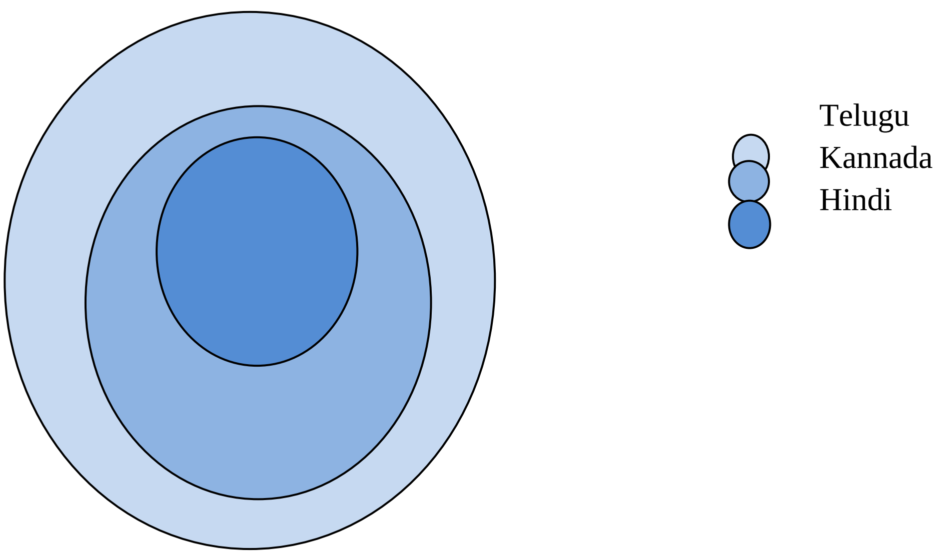

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Figure 2

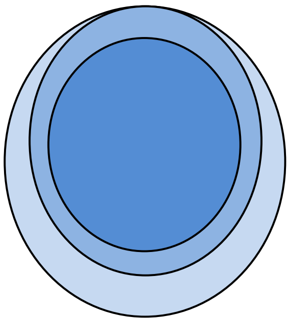

Figure 2 represents that the speaker is very efficient with all the three languages. People who translate text of language to another fall under this figure.

There is a similarity in literate learning a new language or the target language and illiterate learning a new language spoken in his/her area provided the condition that they are completely naive to the target language. Both find it difficult to learn because they are not acquainted with the sound patterns and script of the target language. Second language learning theory proposes that acquisition is possible in second and subsequent languages, and that learning programs have to create the conditions for it. The belief that acquisition is possible lies at the heart of any method that involves engaging the learner in natural communication and authentic input, these include task-based learning, CLIL, and some story- and activity-based programs. **CLIL (Content and language integrated learning)** is an approach for learning content through an additional language (foreign or second), thus teaching both the subject and the language. One has to be acquainted with the target language with its sound system, letters, meanings of at least 1000 words, and their pronunciation.

When the learner knows some words, initially the learner tries to arrange the words to form a sentence in the target language similar to the structure of his/her mother tongue. This leads to many mistakes but due to constant listening to the target language, the learner comes to know the structure of the sentence in the target language along with its grammatical form for tense, gender and what to use for singular and plural. This is explained in **Language Acquisition Device (LAD)** proposed by Noam Chomsky in 1960. The theory also states that, humans are born with the instinct or "innate facility" of acquiring any language.

In acquisition of any language and for proficiency, four skills **Listening, Speaking, Reading and Writing** have to adopted. This is the order for natural acquisition and they are interconnected. It is said that listening and reading are passive process and speaking and writing are active processes. When we want to acquire a new language, listening is taught first followed

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by speaking. We need to listen to the target language to acquire its sound system. Language means speaking and not writing. A person who can speak more than three languages is called a multilingual. A multilingual can either only speak in more than three languages or they can also read and write. In advanced learning, the fifth skill of learning language is **Viewing**. What is viewing? In the Canadian Common Curriculum Framework, viewing is defined as follows: 'An active process of attending and comprehending visual media, such as television, advertising images, films, diagrams, symbols, photographs, videos, drama, drawings, sculpture and paintings.' So 'viewing' is about reading – analyzing, evaluating and appreciating – visual texts. Viewing is an active rather than a passive process. Out of numerous methods in language learning, **audio-lingual** is an advanced method. William Moulton's slogan, " Language is speech, not writing" formed basis of the audio lingual method. Native speaker's pronunciation should be emphasized by mimicking to the teacher or listening carefully to the tape. The audio lingual method postulates these features. It is succeeded by **audio-visual method**. Learning with the help of movies fall under audio-visual method.

Extensive reading, reading for pleasure, advocates and promotes language learning. It initiates and expands our imagination which can be expressed through narration, painting and drawing images. Movie according to Merriam Webstar, "is a recording of moving images that tells a story and that people watch on screen or television." Movies put before us already imagined pictures by others with colors and emotions.

They rather condition our minds and constrict our own imagination. But they play an important role in inducing emotions. Movies are based on either own creation or on stories adapted from novels, dramas, and plays. So, novels and movies are closely related as novels can be made into movies with visual graphics, or with some changes without changing the main concept. If a movie is made from a play or drama, no changes are made in the dialogues though they can be modified slightly without making any affect on the story or situation. One example to state is, many times attire and dress colors are not described in stage setting. These small modifications are left to the director's imagination. So, it is also advised to watch a movie after reading the play because it leaves visual image in our brain and helps to remember it well. Enacting the play is another interesting way of learning the language.

The two best ways of learning a target language is through repetition and positive or negative reinforcement with real life like situations. These two atmospheres are provided by movies. Not only are that, learning through movies fairly interesting and entertaining. Later, enacting dialogues, singing their favorite songs from the movies provide stage for repetition and mastering pronunciation. Learning through movies can be graded under met cognition which means the learner does not depend on any expert or guide. The learner becomes his/her own guide. This helps in social constructivist learning. Social constructivism is a dialogue between a learner and a person more experienced in the language. The more this type of dialogue occurs, the more is the possibility to acquire abstract thinking skills. Movies help not only to learn new language but also to enhance the language skills of what second language one already knows. The advantage of learning language through movies is that, one who does not know the language can also watch and understand!

An enquiry from English medium teenage students whose first language is Telugu (Mother tongue for people from AP) shows that they experienced improving English through movies. Initially, they were not able to understand or enjoy the movies, as English movies are without many songs, and dances like Tollywood movies. English humor is different from their own culture, and it varies with style, accent, dialect, sarcasm, plot, which are very much different from Indian cinema. The students also said that watching English serials rather than movies makes learning English easy. So, to learn a language, we need to learn its culture holds true in this case. On frequent watching, they were able to catch words without subtitles.

They further said that movies help in improving communicative English, free conversing and confident speaking. Some students also adapted the style of speaking the language. This is not possible with school learning, because it does not provide full fledged atmosphere to learn the language, even though some of them are from a prestigious English medium schools in Visakhapatnam. Learning English from English serials and movies provides a chance of learning from the native speaker itself. They also helped them in controlling pace of learning. The opinion is similar with one of my colleagues, whose mother tongue is Hindi but she can speak English and Telugu other widely used language across Andhra Pradesh fluently. Her opinion is that learning Hindi is more quick watching Hindi serials rather than movies as they bring home like atmosphere in rate of speech and more realistic than movies. I for one learn lot of phrases in communicative English and vocabulary by watching animated movies and fiction movies in English.

The drawbacks for learning language through movies are they create a situation but do not give the learner to participate. It is not applicable for learning target language which does not have any resemblance with mother tongue or the language what we already aware of. For instance, I cannot learn French or Spanish watching movies or serials. Another drawback is, movies help in fluency but not accuracy. Movie-based language learning is slow and needs lot of patience and practice. Viewing gives scope only for listening and speaking skills. In fact these two skills are enough to communicate in target language. Finally if you are watching movies only to learn language, then you certainly fail to enjoy the movie!

In spite of a few drawbacks, we cannot deny that movies, or any visual media play an important role in learning a target language. If one is learning for communication, serials and movies are the best option, as they lay ground for repetition and practice. We can learn at our own pace and there is no one to ridicule when we repeat something wrong!

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TECHNOLOGY BASED TEACHING IN AN ENGLISH CLASSROOM

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Abstract:

The researcher focuses on the usage of Technology based teaching in an English classroom. Technology enables teachers to adapt classroom activities thus improving the English language learning process. It has transformed the Traditional teaching methods. Even Technology enhances the learning interest among the students as it provides both through visual and auditory senses. Various techniques of using Technology are CALL (Computer Assisted Language Learning Program), Digital Dictionaries, Mobile phones, Listening to CD Players, Observing Video clips, Learning Web sites and so on. Even other Devices such as Radio, TV, Internet, Audio Cassettes, Power point Videos, Skype, DVD etc are used. The application of technological inventions such as Computers and Internet create opportunities for the students to compose learning material. Internet plays a vital role in enhancing the students Interest and making learning experience lively and Enjoyable.

Keywords: Technology, Traditional Method, CALL (Computer Assisted Language Learning), Digital Dictionary, Enhance, Learning websites, Internet.

Introduction:

There are various kinds of Students in a classroom. They may vary in their IQ levels. A classroom consists of students from rural and Urban, Telugu and English medium background. So in order to create interest among the students towards the English language learning, Technology plays a vital role. Teaching with technology can deepen student learning by supporting international objectives.

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21st century students are digital natives. They have grown up with technology. So usage of technology in teaching learning process enhances interest and concentration among the students. Technology is generating new learning opportunities by providing digital content. Using Technology in schools includes expanding or reinforcing lesson content and motivating student to learn.

Technology makes learning interesting, enjoyable and interactive. It offers a number of potential opportunities to enhance both the content and delivery of the pedagogies typically associated with traditional English language instruction. It enables the students and teachers to revisit problematic content time after time until it is fully understood and assimilated.

Definition of technology: Technology refers to methods, systems, and devices which are the result of scientific knowledge being used for practical purposes. The most simplest form of technology is the development and use of basic tools.

Purpose of the study: The study focus on the English language teaching and learning by the use of technology. Even most of the Educational institutions are following the technological or media based pedagogies as there is an enhancement in learning outcomes rather than by using traditional teaching methods.

Significance of the research: The study aims to identify the different factors that inhibit the students from effective English language learning and then implement various technological methods to enhance their English language learning. Teachers need to motivate their students by using technology. Using different technological tools, students can practice along by which in turn transforms students from passive listeners to active learners. It also helps them to be more creative and participative in the classroom.

Traditional method of teaching: The teachers merely relay on precise curriculum content and teaching aids such as blackboards and textbooks. It is a teacher centred approach where the student learns information without understanding it. In this method, a teacher directs the students to learn through memorization and recitation techniques thereby not developing their critical thinking, problem solving and decision making skills.English language teaching through technology: In this modern era, English language plays a vital role to have a better career. There are various tools like CALL (Computer assisted language learning) digital dictionary, mobile phones, and internet. Much Technology based teaching methods and resources effectively engage students and build their skills.

Technology based teaching strategies: Technological teaching is defined as the use of techn logy in the classroom or in some studies. We live in an age where everything is operated and accessed through technology. Educational activities like video watching, role playing, practical activities and Examinations that deals with day to day events etc. For example, the portability and connectivity of mobile devices such as tablets or laptops, provides children access to the broader classrooms and more flexible source of learning materials than materials that are offered in traditional classroom settings such as blackboards or books.

Use technology to empower students: Technology can give them a platform to explain their ideas and learn more. Modern Technology encourages artistic expression.Using variety of resources: Along with the text books we can use videos, podcasts, OERS, blogs and other resources to deliver knowledge by which students enjoy a lot while learning.Use of social media: In the present scenario, every teacher and student uses and enjoys social media. Social media helps in sharing and exchanging ideas which helps the teacher in assigning tasks, assignments and other class related activities effortlessly. Various social media like face book and twitter are being used by educators worldwide.

Multimedia: It can hold students' attention longer. It gives the students the ability to create and utilize different types of multimedia and allow students to communicate and apply what they are learning and enhances overall educational experience.

Uses of technological tools:

Smart phones: All kinds of video's and study materials are available to students through various apps.

Course management tools:

They allow the teachers to gather all the resources that are necessary for students in a class. For example, assignments, readings, online tests, quizzes, syllabi and so on. There is a lot of scope for discussion, sharing of documents, videos and audios.

Projectors and computers:

Students and instructors can communicate through text, drawings, diagrams and videos by using computers and projectors.

Internet:

Students and teachers share documents online and project them on a screen by using Google apps. Google apps are also known as collaboration tools as it provides a platform for the students to document their work by using available text and images.

Videos:

If we create a PDF with video, it makes the readings come alive easily for the students.

English language teaching through technology: Virtual or online learning and the use of open educational resources and the technological tools can enhance the English language learning.

Open educational resources: The teaching, learning and research resources those are freely available to anyone on the web. For example: podcasts, digital libraries, digital text books and games.

Digital resources:

Electronic grade bodies, digital portfolios, learning games are the few ways that technology can be utilized to improve learning.

Learning by games:

I will give the credit for the persons who are at top positions because they spent time on games also. The games are not only the reason for developing skills. There are awesome types of programs which maintain and develop skills of a normal person. They may help teachers also. They make the technology very interesting to develop so much knowledge. Learning should be with fun. Using gamified learning in the classroom is very advantageous to achieve the goals. Learning software is very useful. It makes the study easier to understand, write and gain knowledge. Every one of us know that how much love kids have for the games and hence educational games help them to learn important lessons while playing amazing games. Even games make students enthusiastic for learning.

Benefits of using technology: When technology is integrated into lessons, students show more interest in learning English language. It improves knowledge, attention, encourages individual learning and collaboration. Technology enhances problem bsed learning, Collaborative learning, Competency based Education, Blended Learning, Flipped Learning and Active Learning. Technology is also beneficial for teachers.

Motivation in learning:

Technology is the most important one in the present modern world. There are many uses with technology in this world. The use of technology in English is that it makes every lesson easy to understand. You can have a doubt how it can be? Technology is the representation of the lesson. It makes the lesson in a different way. It means that it makes the lesson in a pictorial form or video form, especially creative. It makes a dull lesson an interesting lesson. It motivates the students with innovating ideas. If the students get interested in the lesson they understand and create more information on their own.

More practice, more perfection: For the students who are less familiar with Technology, they need to practice the use of technology in their class. We have some apps like BYJU'S, TOPPR and so on. These are the apps which makes the students understand and practice more. Because of their effectiveness towards learning, they are creating awareness in the students.

Encourage collaboration:

Students need collaboration to practice. Technology provides collaboration to students. Collaboration skills are involved in different online activities. While doing different projects collaborative learning helps to form new ideas. Technology connects all the classrooms of the world and encourages more collaboration.

Encourages individual learning:

Technology provides great opportunities to every student. It makes the learning more affective for students who are with different needs. No one learns in the same way. Each Student has different style of learning. Technology will provide these facilities. Some students have immediate learning capacity. Some have low learning capacity. Some students struggle and feel unable to learn some lessons. For all of these problems Technology has a solution. It increases individual learning.

Benefits for teachers:

Teachers who are new to teaching struggle while teaching. For that they should develop some skills. They can use some special apps for learning how to teach or to watch some teaching videos on you tube and so on. They give some plans, grading software and online assessments and can help teachers to save a lot of time. Teachers can use this software to teach the students so that they can create interest and motivate the students towards the class.

Conclusion: Technology enhances the learning interest among the students as it provides both through visual and Auditory senses. Especially in the development of four language skills i.e. Listening, Speaking, Reading and Writing, Technology plays a vital role. Students listen to various Audios and CD players and learn pronunciation .They read and verify Digital dictionaries and learn vocabulary. Various teaching materials are available by using Computer and Internet. Various Learning websites and Computer Assisted Language Learning Programs are available to enhance the learning experience lively and enjoyable.

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TRANSLATING PURANDARADASAKRITIS INTO ENGLISH FOR AN INSIGHTFUL UNDERSTANDING USING A FOUR-TIER MODEL

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Abstract

The analysis in this research article aims at translating a Purandaradasa'skriti into English using a four-tier model, which underlines the hollow rituals that were plaguing the society during his times. English as a language is exploited to gain admittance into vernacular literary world of India. In this context, it refers to the lyrical gems of Southern India, especially, Haridasa literature, which is on the verge of becoming obscure to the new generations.

English has become an integral part and an important means of communication for young Indian psyche. This makes the objective of this analysis two-fold. The first part emphasizes on an insightful understanding of Dasa'skriti and in the second part of analysis, the focus is on translating Dasa'skriti into English for deeper comprehension of the content and the intent of the poet. The four-tier model will be used to facilitate international readers to appreciate his kritis to study his times and establish their relevance in the today's society. The kriti is examined through transliteration, word to word translation and by paraphrasing it into English. This approach helps the reader to understand the kritis in English, without deviating from the content and the intent of the writer. The poetic fervor and meaning are retained to the closest possible, in the target language.

Keywords: four- tier, kritiparaphrase, translation, transliteration

Introduction

According to Ralph Manheim (Folkart, Burt A. 1992), the great translator from German, translators are like actors who instill life into the lines as the author would, if the author could speak English. A gifted practitioner of the art, Manheim's reflections on translation is amazingly insightful and revelatory. Translation in Manheim's view is a kind of interpretive performance. It is similar to the relationship of the original text to the actor's work as the script and the musician's to the composition.

The history of translation activity in India is both complex and rich. When we glean the pages of ancient Indian history, the oriental knowledge was passed on to the generations through oral and

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written traditions. The political and social milieu brought in tremendous changes in the Indian culture.(Shodhganaga.inflibnet.ac.in)

British empowered the translators to understand India as it was necessary to understand her indomitable spirit, a binding force that made India unconquerable. India derived its strength from its diverse culture and the amalgamation of all these cultures was the binding force. This perplexed the foreign rulers and they introduced Indians to English as a language, which was later exploited by many Indian translators to translate oriental manuscripts.(Shodhganaga.inflibnet.ac.in)

In modern times, with the advent of technology, the need for mutual exchange of knowledge and instant global communication was augmented. This has resulted in the need for translation, especially the translation of classics into possible number of languages across the world.

Translation as a literary activity in English, gained momentum and became an important medium to make ancient classics available to the English readership and promote Indian writing (Literature) in English translation.(Shodhganaga.inflibnet.ac.in)

In spite of several foreign invasions, Indianness(Let Us Celebrate-PM Musings from Goa) never allowed them to become a dominant factor and is still a home to oriental knowledge systems.In order to comprehend the essence of oriental texts, translation was the chosen mode for written literature in the past. With the advent of technology, the translation studies in India have augmented the study of oriental texts and classics. The manuscripts available in India are in profusion in various languages pertaining to different eras of history (Manuscripts).

"They have contributed to the emergence of national literatures, the dissemination of knowledge and the spread of religions. Importers of foreign cultural values and key players at some of the great moments of history translators and interpreters have played a determining role in the development of their societies and have been fundamental to the unfolding of intellectual history itself "(Jean Delisle, Judith, Woodsworth).

As translators, when we try to transmute work into target language, it is not easy to make it feel like the original source. It is a constant struggle, where the translator works unswervingly on the structural rhythms, explore the linguistic charge, the subtle implications, the intricacies of meaning, vocabulary and phrasing, cultural inferences and tonalities. These findings allow us to deduce to understand a literary text and there is a pressing need to translate Purandaradasa'skritis into English, as lesser known kritis could be lost in oblivion.

Hence, this article focuses on the need of translating Purandaradasa'skritis(compositions) into English, as it has engrained in the young Indian psyche to communicate with the world.

English as a language, acts as a stimulus to gain insights into vernacular literary world of India and to be specific in this context, it refers to the lyrical gems of Southern India, especially, Haridasa literature that has become obscure to the new generations. In this regard, it becomes extremely important to translate the works of Purandaradasa'skritis into English reach the wider audience. The translations establish their relevance in today's society and they aid in preserving the legacy of Haridasa literature.

Bhakti Movement

India was witnessing a piquant situation between 15th and 16th century and the developments that were taking place in the northern and the southern parts of the country were unique. The Bahamani sultans and Hindu kings were at war in the Deccan, and in the northern part of India, Moghuls were expanding their empire. Amidst this political turmoil, Bhakti movement was gaining momentum in down South. It had become a cult which was being promoted through devotional songs written by poets from the South as well as the North. The genre was appealing to the common masses and there was a major shift in the style of literature that was developed. The colloquial and vernacular languages appealed to common masses across India.(M.K.V. Narayan, 2010).

A spiritual milieu was being woven by the saints from Andhra, Karnataka, and Gangetic plains through their devotional compositions in vernacular languages like Kannada, Marathi, Telugu, BrajBhasha, Khadiboli and many others. The torchbearers were Purandaradasa, Vyasaraja, Kanakadasa, Annamayya, Tukaram, Meerabai,Surdaas and other contemporary poets. This movement took the common masses of various castes that were prevalent during the 15th and the 16thcentury, into its fold. There was a massive shift in devotional mores and the masses were able to gain access to simplified form of epics, the Upanishads and the Puranas, which were considered as mystic knowledge, through simple rustic languages and their dialects. The composition structure was termed as "Sankeertana." This was practiced by orthodox groups and masses of all castes which reflected inclusiveness of Hinduism.(M.K.V. Narayan,2010).

Haridasa literature

Haridasa literature played a pivotal role in Karnataka from the 15th century onwards and flourished under the patronage of Saluva Narasimha, who was one of the rulers of Vijayanagara Empire(Sastri, Nilakanta,1955). The language used to promote this literature was Kannada. Haridasas were the ardent devotees of Lord Vishnu. It is difficult to establish the exact beginning of Dasa Literature and is still a debatable subject. Amidst uncertainties, one can rely upon the oft-quoted shloka which speaks highly of Sripadaraja, Vyasaraja,Purandaradasa and Vijayadasawho were considered as forerunners of Haridasaliterature.

"Namaha Sripadarajaya Namaste Vyasayogine, Namaha Purandararyaya VijayaryayateNamaha**"(**Datta,Amaresh,1987).

Sripadaraja(1404-1502) belonged to the 15th century and was a revered pontiff of Mulabagilu, a small village in Karnataka. His compositions were replete with different forms of Haridasa Sahitya such as Kirtana, Suladi, Ugabhoga, Vritattanama and Dandaka, where he used ankitanama(non de plume or pen name)as Rangavithala. Looking at gradual developmental phase, one cannot deny that Sripadaraja was a frontrunner of Haridasa literature. It was already two hundred years since Madhva charya began to propound his philosophy and established his school of thought. Dvaita philosophy was already deep rooted through Sanskrit books produced by Madhva Saints. However, common masses were inaccessible to their teachings. (Sharma, B. N. Krishnamurti (2000).

There was a dire need to propagate Madhavacharya's teachings among common masses in Kannada. This task was viewed by Haridasas as a huge responsibility. Sripadaraja took the initiative to disseminate the cannons of Dvaita Philosophy among people through simple Kannada compositions which were brimming withbhakthi(devotion). This tradition wascontinued further by his ardent disciple Vyasaraja. His incredible contribution popularizedDasaliterature further. Vyasaraja, a great disciple of Sripadaraja and profound scholar of Sanskrit and Kannada was equally insightful and able about Dvaita philosophy. He lived during the glorious period of Krishnadevaraya, which was a golden age for Haridasas(Pandurangi, K.T).

Vyasaraja passed on the reigns to Purandaradasa who was ordained to propagate the truths of Madhva Philosophy(Datta,Amaresh,1987).Purandaradasa renounced the material world on his own accord and was determined to dedicate his life in the service of his deity of worship (Vithala of Pandharapur), Maharashtra. The bhakthi movement acquired a stimulus because of great Haridasas who had a strong urge to serve people and society. They had an uncanny sense of conveying complex and abstract philosophical connotations into simple words which appeased common masses.

Purandaradasa's canvas was vast and he addressed various social evils in his kritis that were ailing the society during his period. Devotion, philosophy and rituals were the prominent channels to realize God. Individual convictions and beliefs added to the complexity. Elite were

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tainted selfish and their approaches mislead the common folk. Veritable practitioners who delved deep into philosophy and believed in simple devotion were rare and are exceptional even today. The imbalance and disparity were rife among the communities that existed during his period. The practices followed were politicized and campaigned for the benefit of the elite classes. On one hand these classes engaged in various spiritual activities like homas, yagnas etc. with great pomp and grandeur and on the other hand muddled masses indulged in animal sacrifices, self – torture and tantric orgies. It was widely believed that bhakti was meant for recluses and philosophy for the seers and poets. Rituals appealed to all and were used and abused by many to fulfill their material desires. He donned the role of a social reformer to reinstate peace and to encourage people to realize that divinity was for all. His style of reforming the society through kritis was called "madhukaravrutti" where in Haridasaas visited houses for bhikshatana(alms) and sang kritis in simple lucid Kannada. He is said to have composed 4,75,000 kritis out of which only 1000 and odd kritis are available today (MadhwaYati-Let us remember them,2019).

One of the aspects of Purandaradasa's themes underlines the false rituals that were practiced and was opposed by Dasa.A sample kriti which is provided below explains the approach to translation to elicit the intended meaning.

The following kriti is based on the four-tier model which analyses every line of the stanza in four layers to come up with the findings. The first line is from the stanza of the kriti in Kannada. The second line is in the transliterated script. The third line is word to word translation and the fourth line is paraphrased in English. The objective of choosing this four – tier model is to make Purandaradasa'skritis to reach the wider audiences of the readers across the world. The non-Kannadigas can understand a kriti at phonemic, word and sentence level followed by a brief summary of the kriti.

Analysis

Kriti in Kannada Language (Source Language)

ಏನುವ್ರತವೇನುಸಾಧನಗಳೇನೋ||ಪ||

ಸ್ವಾನುಭವದಜ್ಞಾನಹೀನಮಾನವನೇ||ಅ||

ಶಾಕವ್ರತವೆನುತಫಲಶಾಕಗಳಬಿಡುವಂತೆ|

ಬೇಕಾದಆಕಾಂಕ್ಷೆಬಿಡಬಾರದೇ||

ಸಾಕೆನಿಸಿದರತಿಗೆಸತತಮನಕೊಡುವಂತೆ|

ಶ್ರೀಕಾಂತನೊಳುಮನವನೀಡಬಾರದೇ||೧||

ನೇಮಗಳಮಾಡಿಪರಿಪಾಕವಬಿಡುವಂತೆ|

ಕಾಮಕ್ರೋದಂಗಳನುಬಿಡಬಾರದೇ||

ತಾಮಸರಕಣ್ಣಿಂದನೊಂದೆನೆಂಬುವನಿಷ್ಠ|

ನೇಮವನುಪರಸತಿಯೊಳಿಡಬಾರದೇ||೨||

ಹೇಸಿದುರ್ಘಂಧಗಳಿಗೊಸರಿಸುವದಿಂದಲಿ|

ಆಶಾಪಾಶದಿಗಳಬಿಡಬಾರದೇ ||

ಈಶಶ್ರೀಪುರಂಧರವಿಠಲನಸೇವೆಯೇ|

ಲೇಸೆನುತಸಂತೋಷಿಸಲುಬಾರದೆ||೩||

Translation in English (Target Language)

What is the use of practicing rituals?

Without personal experience or knowledge. Oh human!

We quit eating vegetables and fruits under the garb of rituals,

Can't we quit those intense select desires?

It is like relentlessly succumbing to the charm of sensual desires,

Why don't you fix your mind on Srikantha?

In the name of rituals, can't we shun eating sweet delicacies?

Why can't we renounce desires and anger?

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Frustrated feeling of being eyed by the toxic people,

Why can't we have the same attitude when we deal with other women?

Tangled in a murky world,

Can't we severe with desires and attachment

Considering the bliss why can't one be ecstatic?

In service of Lord Sri Purandaravithala.

Four – tier Table

RaagaKambojiAatataal

ಏನು	ವ್ರತವೇನು	ಸಾಧನಗಳೇನೋ‖ಪ‖
enu	vRatavenu	saadhanagaLenoo
what	rituals	practices
What is the use of practicing rituals?		

ಸ್ವಾನುಭವದಜ್ಞಾನ	ಹೀನ	ಮಾನವನೇ‖ಅ‖
svaanubavadajnaana	heena	maanavanee
personal experience knowledge	without	human Oh
Without personal experience or knowledge. Oh human!		

ಶಾಕವ್ರತವೆನುತ	ಫಲ	ಶಾಕಗಳ	ಬಿಡುವಂತೆ|
SaakavRatavenuta	phala	ShaakagaLa	biduvante
vegetables rituals saying	fruits	vegetables	quit to
We quit eating vegetables and fruits under the garb of rituals.			

ಬೇಕಾದ	ಆಕಾಂಕ್ಷೆ	ಬಿಡಬಾರದೇ‖
beekaada	aakankShe	bidabaaradee

select	Desires	quit can't
Can't we quit those intense desires?		

ಸಾಕೆನಿಸಿದ	ರತಿಗೆ	ಸತತ	ಮನ	ಕೊಡುವಂತೆ|
saakenisida	ratige	satata	mana	koduvante
enough of felt	pleasures of skin	continuous	focus	give like
It is like relentlessly succumbing to the charm of sensual desires.				

ಶ್ರೀಕಾಂತನೊಳು	ಮನವನಿಡಬಾರದೇ||ಽ||
Srikanthanolu	manavanidabaradee
Srikantha in	mind in why don't
Why don't you fix your mind on Shrikantha?	

ನೇಮಗಳಮಾಡಿ	ಪರಿಪಾಕವ	ಬಿಡುವಂತೆ|
neemagalamaadi	paripaakava	biduvante
rituals perform	sweet delicacies	to quit as if
Like, in the name of rituals, we shun eating sweet delicacies.		

ಕಾಮಕ್ರೋದಂಗಳನು	ಬಿಡಬಾರದೇ||
kaamakroodŋgalanu	bidabaaradee
desires anger	quit can't
Why can't we renounce desires and anger?	

ತಾಮಸರ	ಕಣ್ಣಿಂದ	ನೊಂದೆನೆಂಬುವ	ನಿಷ್ಠೆ|
taamasara	kanninda	nondenembuva	nishthe
toxic people	eyes with	frustrated like	pernicious feeling
Frustrated feeling of being eyed by the toxic people			

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ನೇಮವನು	ಪರಸತಿಯೊಳಿಡಬಾರದೇ‖□‖
neemavanu	parasatiyolidabaarade
Principles	together women apply
Why can't we have the same attitude when we deal with other women?	

□□□□	□□□□□□□□□□□□□□□□□□□□□□□□□|
heesi	durgandhagaLigosarisuvadindali
Murky	foul tangled with
Tangled in a murky world	

□□□□□□□□□□□	□□□□□□□□ ‖
aaSaapaashaadigala	bidabaarade
desires tangles	quit can't we
Can't we severe with desires and attachment?	

□□	□□□□□□□□□□□□□□□	□□□□□□□|
Eesha	Sri purandaravithalana	seeveyee
Lord	Sri Purandaravithala	services in
In the service of Sri Purandaravithala		

□□□□□□□	□□□□□□□□□	□□□□□
leesenuta	santooSisalu	baarade
blessed saying	happy to be	why can't
Considering the bliss why can't one be ecstatic?		

Paraphrase and Analysis

In this kriti, Purandaradasa attacks imposters who feign rites and rituals without any experience or wisdom. Dasa further emphasizes on hollowness of rituals through an example which nullifies the purpose of an individual who quits eating vegetables to complete a ritual. However, one fails to let go one's worldly desires and pleasures. He further states that instead of relentlessly thinking about sensual pleasures, one can always fix one's wandering mind on Shrikanta (Consort of Goddess Lakshmi). Dasa further jeers in a rhetoric tone at those, who shun eating sweet delicacies but refuse to let go worldly desires and anger. He also includes the masqueraders who avoid the company of toxic people, but they fail to adhere to the same principle while eyeing other women. Purandaradasa concludes the kriti, with an observation that people are ready to get tangled in the maze of the murky world but shirk from being away from worldly enticements. He signs with a commendation which states that one should submit to serve Purandaravithala and enjoy the divine bliss.

The kriti used for analysis here is in third person singular and has rhetoric tone. Every possible effort has been made to bridge the gap between source language (Kannada) and the target language(English) and there is no deviation from the content and the intent of the original kriti.

Conclusion

Based on the findings that have surfaced from the four – tier model it can be concluded that a kriti can be understood at word phonemic and sentence level coupled with the brief summary provided at the end of the kriti.The above discussion reiterates the need for translating Purandaradasa'skritis into English, using a simple framework that bridges the gap between the source language and the target language to comprehend the message without diverting from the intent and the content of the kriti.

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NEW TEACHING LEARNING METHODOLIGIES – GLOBALISATION

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Abstract:

In changed circumstances of the world we shall accommodate our country in a safe position. In this connection the teachers have a dire need to play a vital role in imparting knowledge to the students' fraternity and train them to face future challenges in the present globalization. The impact of globalization on the present education system. It is necessary to change the mode of teaching. The traditional class room teaching is not sufficient to reach the higher realms of learning. The teachers have to change their attitude in imparting knowledge to the students to changed circumstances rather than traditional class room teaching. We need to establish e-class rooms besides traditional classrooms in each and every college that comes under higher education. Certainly the audio-visual teaching can draw the attention of the students. All the students are prepared to use technology properly that can be useful for obtaining knowledge and settle well near future. A lecturer should not just deliver the lecture but substantiate with pictures, latest updates to create interest among the students and make a lasting impression on students. The use of information and communication technology is a must in the present globalization. The self-appraisal reports are kept aside in traditional way of teaching. Is academic audit is necessary? For what extent it is. Let's examine it. A teacher is expected to opt this noble profession by choice but not by chance. Then only we can do justice to this profession in terms of adopting new methodologies and updating of knowledge. Education doesn't mean dumping some information to the students without assessing their capacity of grasping it. In this case a teacher must be a good psychologist and what methods are suitable to the needs of the students in the present globalization. The student is able to utilize this knowledge to lead his life in a splendid way. The teacher always be a learner and an ever a student. The teaching must be student centric and involve the students during process of learning methodologies. The teachers have to give a scope to students finding innovation in teaching instead traditional way of teaching. Enthusiasm should be created among the students. The students should be involved all kinds of activities and the teaching should be activity based. The students are prepared to pay attention on research oriented activities besides textual knowledge. They are supposed to take everything challenging during their life time. Life skills are to be taught by all the teachers besides their subject. It's the prime responsibility of the teachers to see the students make use of digital class rooms and send them to different places to enhance their life skills. Every teacher is competent enough to teach necessary skills besides their subjects by using methodologies which are suitable to that particular context. In this context teachers are to be given training on different areas. Each and every participant of this training must enjoy it and make fruitful in terms molding the student into the required shape. The new methodologies are to be adopted to impart the knowledge thorough our teaching and students make use of applications of theory what they learnt so far. My paper mainly focuses on various new and unique methods are to be used for the betterment and prosperity of the students in the present globalization.

Keywords: Teachning, English, training, language etc

Teaching and learning methods at undergraduate level can be very different. How you teach will largely depend on your course content, level of study. The learning process should be student centric. What new methods we being teachers use should be useful to the students in terms of creating interest on a particular topic or area of study. Then only students are expected to get contentment. In this connection we motivate the students should come out of rote learning. This rote learning basically depends on memory. The student may understand or may not understand the explanation given by the teacher concerned. This type of learning cannot be useful to lead his or her life comfortably and also gets a good position or placement in the society.

In the present globalization students are encouraged to participate in fruitful discussions on any area they have read in class or independently, weighing its merits or considering its application. Then only they are expected to get equip them with the practical knowledge besides theoretical knowledge. It's better avoid providing study materials to the students. Instead of this, the teacher enable the students have prepare notes in their own in terms of pay attention on the lecture given the teacher in the class room on a particular topic. Discussions are an important part of the overall masters experience, giving the students not only access to other viewpoints on the same subject matter, but also enabling you to consider different rationale and logic, hugely important elements of professional post study life. The basic thing or barrier is most of the students hail from the rural areas. They may not be good at communication skill. The teacher has to motivate them to participate in interactions either in telugu or English. I ensure that they gradually enrich their skills. We have to provide a platform for them. Learning by doing is an essential part of study. The students are asked to work independently, in pairs or as part of a small team and for most courses. We have to consider that practical is the complement of theory.

It is also an essential way of learning. As we know it but it should be implemented in a unique way. Problem based or enquiry based learning. We have to give a problem to the students which are pertaining to real life or ask students to make an enquiry to get the results connecting with your life. This way of learning enables the students to get equip themselves with life skills. Now a days many of the students are lagging in this area. It is highly potential. If necessary, some project works should be given to the students.

The technology is advanced in our day to day life in the present globalization. In this connection, E-learning plays a vital role in the present education system. The teachers as well as the students have a dire need to take training in this perspective. Many institutions now have a virtual learning environment of some sort. What I mean to say that the students are required to study online, using material created by the teachers, download papers and take online tests, or access relevant audio and video material. In this technical age, many institutions around the world are creating technology-rich learning spaces across campuses, including access to a wide range of digital resources available only at undergraduate level study.

The students are motivated and involved in co-curricular activities. Interest should be created among all the students and make them to participate in them. Certainly they are not affected by stress management. Involvement of students in co-curricular activities is another way for students to build upon the knowledge, skills, and abilities they are developing in their graduate level programmes. Further, they develop their soft skills. Student, career and professional clubs, internships, voluntary activities, work project, diversity and multicultural events, and academic competitions are the most common co-curricular activities in which students are involved. The teacher always gets new ideas from the students. An open minded attitude can help the teacher in innovating new teaching methods.

The teachers not only confined to old traditional methods but also try to find our new methods which are useful to imparting knowledge to the students besides the methods formally recommended by collegiate of higher education. Why because the teacher's main objective is to make the students to lead their life in splendid way. Stimulating environment is to be created in the classroom. It will help stimulate a student's mind think and learn better. Such a creative and stimulating environment will help them explore and will encourage them to learn about the subject. We have to organize social, networking and cultural activities. Project based learning in the classroom is also to be initiated. The method which is used shall cater to the needs of the students.

Many rapid changes in this globalization have caused the Higher Education system to face a great variety of challenges. In this context, training is a very essential component, thoughtful individuals in interdisciplinary fields is required. The students are prepared to learn something with research oriented bent up of mind. A lot priority is to be given to research work. There has always been emphasis on equal attention to research and teaching quality and establishing a bond between these two. Any new methodology is to be introduced by keeping this point only. Teaching and learning in higher education is a shared process, with responsibilities on both student and teacher to contribute to their success.

Within this shared process, higher education must engage the students in questioning their preconceived ideas and their models of how the world works, so that they can reach a higher level of understanding. But students always thinking about the highest scoring in terms of marks in the public examinations. The teacher's prime responsibility to make students realize the fact and able to face the future challenges. New teaching methods such student-centered active methods, problem based and project based approaches are highly useful to the teachers to impart the knowledge to the students. The problem –oriented approach in addition to improving communication skills among students not only increased development critical thinking but also promoted study skills and an interest in their learning. The students are given liberty to learn at their own choice. We should not stop them and confine to our ideas only in teaching learning process.

The above mentioned new methods may be useful for effective teaching and learning in the present globalization. Everything is be planned and executed for the interest of the learner. Innovation is required as far as situation demands in this process. The teachers are required to attend the training programmes and update their skills in teaching. If necessary, they may use some innovative methods in their own way. Any way the final objective is to justification to the students in terms of giving the knowledge that is useful to lead his life in a splendid way.

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THE PROFOUND INFLUENCE OF NEW ENGLAND ON ROBERT FROST'S IMAGERY

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Abstract:

Frost's creative mind turned largely to the innocence and beauty of New England rather than to its puritan leanings of the mind. He observed that the New England farmers were well known for their reserve, their positive lack of frankness, and innate love of concealment. Very often they are capable of disguising their thoughts, feelings and emotions. They hardly appear what they are. As Frost's own turn of mind is similar to theirs, the folk look normal to him, and his Yankee mind is transmuted and raised to a higher level. Indirectness and suspiciousness are transmuted in him into an extraordinary subtlety, which shows itself in his narratives as subtlety of analysis and portrayal of character, in his lyrics as subtlety of thought, feeling and imagination. His poetry carries sincerity, indeed, to the point of absolute naturalness. As an expert artist, Frost could manage the feat, which is a triumph of art to be so natural. His is the *ars celare artem* with a difference: It is not merely that he attains the apparent ease which Horace had in mind, the classical simplicity, but his poems seem spoken impromptu, not written at all, as we overheard him speaking aloud.

Keywords: profound, imagery, portrayal, character etc

Introduction

Robert Lee Frost (1874 - 1963), member of a New England family, was born in San Francisco and at the age of ten, he was taken to the New England farm country which is the seat of his creative experience so much so that his poetry is identified with it. With his early schooling at Dartmouth, where he disliked the academic attitude and worked as a bobbin boy in a Massachusetts Mill. He was at Harvard for a short period, which was followed by further work, like making shoes, editing a continuous newspaper, teaching at a school, and finally he turned to farming. The early years in this manner, were far from being happy. As these details confirm that, he emerged stage by stage from his isolation, gaining confidence in his creativity with the passage of hard times. This aspect of his growth is presented in these words:

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> "Although there are many factors responsible for this change, yet Frost had strong character, a sensitive mind, the strength of will, his inner urge to be, what he wished to seek and to be sure of what he sought in his quest… and gave him maturity, though at the unusually late age of thirty-seven"[Brar 35][1].

Frost's career as a teacher broadened his canvas. At this stage, he came to know a variety of men and women who added diversity and colour to his creative experience. It is said that whatever work he did, he failed but his failures never filled in him a defeatist tendency. He knew for certain that he had great promise in him and his unhappy experiences with his jobs made him more and more optimistic. Gradually,

> "his character changed, deepened and arrived at outcome of the act of conscious will which led him to loose himself only to find himself completely"[Brar 35].[2]

Impressions of New England

Since Frost is known as a New England Poet par excellence, in spite of his California birth, it is necessary to know the influence of New England upon his sensibility. He is interested in a non-urban New England with its rail roads and a small number of cars. His New England, really a nineteenth century phenomenon, "the New England of subsistence farming, in which social organizers are minimal and in which consequently the individual effort counts for everything" [Nitchie 154].[2]

The great industrial boom, as well as its absence, was yet to be experienced by the New Englanders; and its absence as well. Simplicity and innocence could be observed everywhere in the society. Such a world was almost vanishing but Frost turned to recapture the beauty and value of this world in his lyrics. Frost conveys his experience of this particular society from two points of view: first, the old New England of the family farm is the real New England and second, the values of this pre-industrial and pre-mechanized world, are extended to the coming generations of men and women. It is not suggested that the values associated with the industrial and mechanized world are accidental. If Frost, like Wordsworth was inclined to the old New England norm it was, perhaps, because of his infatuation of the innocent ways of living.

During this period of social and psychological changes, Frost was not very happy with his failure to make the soil yield full harvest at Derry, where he temporarily worked as a farmer, felt the awakening of the poet in him, for he drew his early poetic material from the stage of pastoral isolation. It is said that he failed almost in everything he ventured to do but his creative sensibility had an edge over his failures. He knew his destination of a creative artist. Although he considered himself as an ordinary individual, his own individual losses and gains were creatively apprehended. Prof. Brar feels that like the great masters of the past..."Emerson, Thoreau, Hawthorn, Poe, Whitman, Frost's imagination, too, was steeped in the spirit of the age. And he shared its impulses for a fuller communal and personal life as well as its doubts with equal intensities" [Brar 36].

The development of his poetic career shows that he is inclined to distil the essence of New England in his poems. As a result of this attitude, the reader experiences in his poems a variety of characters seen in the natural setting of New England. Frost's socialism is, however, not his weakness but his real strength... as the poetry appeals to every one and not only to the inhabitants of this region. Very cautiously he has moved from the scenes and sights of New England to universal human experience. Nowhere he is different about the actual sources of his poems. The hilly farm country keeps on appearing in his poems. He is not only concerned with the present, with its reform crusades and elevated philosophizing but with the essential human nature of which, this particular region is the microcosm. Prof. T.K. Whipple makes the following observation about the New England surroundings:

> "His is the New England, which, most of us know only from the varandas of summer hotels, a land of great natural loveliness, with a sprinkling of uncomfortably giant natives, the Bretons or Basques of America, strange fragments of forgotten peoples, somehow more remote from us than the Poles and other immigrants, who are settling the abandoned farms. Frost maintains that it is the glory of his New England to produce nothing in commercial quantities, nothing to sell; and as to commercial products it is true enough" [T.K. Whipple 95-96].[3]

Nature in New England is neither glum nor is she niggardly. She is lavishly beautiful with her jumbled hills, excitable streams and granite covered with compound plants consisting of a fungus and an algae living symbolically, forming crusts and tufts. A rich variety of vegetation like silver birches, fox grapes, blue berries, wintergreen apples and bay berry-bushes, luxuriously grow in the island of New England. Except the apple trees, all other kinds of vegetation are useless, as they do not provide any nourishment to man or beast. But they are remarkable for their peculiar tang and flavour. Here, the farmers live in their little old gray houses under the shadow of great elms. What is remarkable about these houses is that, they are far from the

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complexities of modern life. The farmers have to work hard for providing for themselves everything they need, and in addition to the poor yield of crops, they are obliged to follow a trade or craft. They are undoubtedly the inheritors of their wealth of traditions. Among them there are people "who have valued knowledge and mental independence and intellectual achievement, the strain, which produced Emerson and his associates, and others who have rebelled against the dominant tendencies of American life" [T.K. Whipple 97].

New England witnessed in Frost's boyhood days the exodus of the more ambitious people to the Mississippi Valley. A majority of the farmers, however, never thought of leaving their ancestral houses. Because, they loved their unsophisticated ways of living, believing firmly in self-reliance. They are molded by the natural conditions:

> "Frost's Yankees are like winter green in the sharp pungency of their flavour and their lack of sustaining body; they differ from other men as their fox grapes differ from Muscat grapes. They are distinguished for individuality rather than for flourishing heartiness. In fact, it is a temptation to say that mankind is one of the crops which cannot thrive and grow vigorously in New England, that it, like corn, needs richer earth" [T.K. Whipple 97].[4]

Frost's creative mind turned largely to the innocence and beauty of New England rather than to its puritan leanings of the mind. He observed that the New England farmers were well known for their reserve, their positive lack of frankness, and innate love of concealment. Very often they are capable of disguising their thoughts, feelings and emotions. They hardly appear what they are. Whipple points out that out of this tendency "grows suspiciousness, a tortuous habit of mind, which is a constant source of surprise to the more credulous and easy going alien" (Whipple 98). The general view of the New Englanders is observed in the following statements:

> "Emersion said, "The God who made New Hampshire taunted the lofty land with little men". Another Massachusetts poet said, "I go no more to summer in New Hampshire, I've given up my summer place in Dublin". But when I asked to know what ailed New Hampshire, she said she couldn't stand the people in it. The little men (it's Massachusetts speaking), and when I asked to know what ailed the people, she said, "Go read your own books and find out" [Whipple 98].

Emerson's "little men" inhabit the poetical world of Frost and around their life-style a large number of poetic images have been woven. They are little men because they display

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meanness and pettiness. Far from being unfeeling or frigid, they are found to be extremely sensitive. They cannot, in spite of their reserve and control, hide their emotions of love and hatred. A very startling example of Frost's observation of the New England farmers, specially their hatred of anyone, is found in his poem, "The Vanishing Red". Here is a miller who does not like an Indian's voice and tone and decides to drown him; and this reaction is presented through a remarkable image, showing Frost's observation of, how the miller drowned the Red Indians:

"He took him down below a cramping rafter,
And showed him through a manhole in the floor
The water in desperate straits like fantic fish,
Salmon and sturgeon, lashing with their tails.
Then he shut down the trap door with a ring in it
That jangled even above the general noise,
And came up-stair alone – and gave that laugh,
And said something to a man with a meal-sack
That the man with the meal-sack didn't catch-then [CPRF 179].[5]

The morbidity of the miller is pictured by his taking the Red Indian in 'desperate straits' and the condition of the latter is remarkably visualized by the image of a 'frantic fish'. The harsh ringing of the tap-door brings to the reader an auditory image and the miller's laugh is almost devilish. All these observations show, how Frost has observed the innate cruelty of some of the spokesmen of his poems. It amounts to the dark background of life in rural New England. Surprisingly, these observations are not tinged with any imaginative turn of the mind. The spokesmen are real and the situations of life in which, they are seen are equally real. There are examples of abnormality and total madness in his depiction of life of such characters. Another example of such morbidity is seen in "Home Burial", which presents the story of a woman in grief for the loss of her child. So much so that, she displays violent hatred of her husband.

As Frost's own turn of mind is similar to theirs, the folk look normal to him, and his Yankee mind is transmuted and raised to a higher level. Indirectness and suspiciousness are transmuted in him into an extraordinary subtlety, which shows itself in his narratives as subtlety of analysis and portrayal of character, in his lyrics as subtlety of thought, feeling and imagination. Similarly, he has all the Yankee intensity; but this keenness, instead of manifesting itself as meanness and pettiness, undergoes a metamorphosis and weights details with feeling and significance. Because, so sharply he feels the details; he is unexcelled for minute and exact observation. He is no less an Yankee in his restraint. To alter Keats's saying, "he surprises by a

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fine deficiency…", perhaps omission or suppression would be the better word. He never wipes up his emotion or strives for a spurious effect. His flashes of intensity are the more effective because his manner is uniformly easy and unforced. The language and the rhythm remain colloquial even at his colloquial, his method is to build up a dramatic situation and then, in the same even tone of voice, to condense the whole into one touch, as at the end of "The Fear":

> Joel!' She spoke as if she couldn't turn. The
> swinging lantern lengthened to the ground, It touched, it
> struck, it, clattered and went out" [CPRF 116].

In the same manner, the grotesque 'independence' which irradiates in "The Code" is so altered in Frost and becomes astonishing sincerity. His peculiar virtues may not appeal to many tastes, but not his harshest critic would charge him with pretense. But the quality of his genuineness, most poetry of the day looks more than a little forced. His poetry carries sincerity, indeed, to the point of absolute naturalness. As an expert artist, Frost could manage the feat, which is a triumph of art to be so natural. His is the *ars celare artem* with a difference: it is not merely that he attains the apparent ease which Horace had in mind, the classical simplicity, but his poems seem spoken impromptu, not written at all, as if we overheard him speaking aloud. Partly, of course, this is an amazing gift of mimicry but it is more than that; to the mimetic skill is added a gift for condensation and selection and an exquisite sense of form, which has given his work not only verisimilitude but also the typical and essential quality of high art.

His Touchstone of Reality

Frost's image-consciousness is embedded in gum like experience of life. It is very well observed by critics like Carl Van Doren: "Poets understand that the love of reality is the root of most poetry. Diffuse love too much, and it loses meaning as well as power; fix it upon specific things, and they become first important and then representative. Always Mr. Frost reaches his magic through the door of actuality [Whipple 101].

His love of reality is so pronounced as to constitute a danger, the danger to which Thoreau succumbed, of coming to feel that any fact, however, insignificant, was important. None of his lines is more characteristic than the early, "The fact is the sweetest dream that labour knows" and it is evident that he regards poetry as not unlike an ax-helve:

> "He showed me that the lines of a good helve
> Were native to the grain before the knife
> Expressed them, and its curves were no false curves
> Put on it from without" [CPRF 230].

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He carves his poetry out of experience, merely educing what is already implicit. Here, we can visualize the inmost secret of his poetry… "he values the fact because: to him it is more than mere fact. He said that 'sight and insight' are the whole business of the poet, and the second term is even more important than the first. As Untermeyer has observed, Frost's writing possesses "the double force of observation and implication"; in it are sounded "spiritual overtones above the actual theme;" In short, Frost has not a little of the transcendentalist in his makeup. As to the significance of the fact, sometimes his feeling is worked out into overt and explicit symbolism and even allegory, as in "Mending Wall", "Birches", "Wild Grapes", "Two Look at Two", but the feeling of mystery is left in his most characteristic and appealing work, merely as a mood of strangeness and not developed intellectually.

As an example of writing full at once of actuality, and of the suggestion of wonder, we can cite "The Wood-Pile", in which the poet tells how, when out- walking in a swamp, far from home, he found a cord of maple wood, piled years before and left to rot. He tells, it conveying a sense of the eerie and uncanny, just the sense, which the experience itself would give to anyone at all impressionable. Because, it might be a relic of the savage's primeval feeling on coming across human traces in a desert place. "After Apple-Picking", more powerfully, illustrates the same union of minute observation with the evocation of an enigmatic mood — here, the indefinable state of mind, which overtakes one in the fall of the year. The clearest instance of the power, which a detail may have so to elicit feeling, is found in "The Death of the Hired Man". Mary sends her husband to speak to the hired man, and says:

"I'll sit and see if that small sailing cloud
Will hit or miss the moon".It hit the moon.
Then there were three there, making a dim row,

The moon, the little silver cloud, and she" [CPRF 54-55].

A common man will ask, "What of it?", but for any one sympathetic with Frost, the above lines contain the essence of his special magic, for there is something primitive and archaic about it. The above poetic lines bring back the feeling with which men regarded a world they understood not at all, in such coincidences, the feeling ought to be something important and significant, that there is certainly something mysterious. In all these cases, the gist of the matter seems to be a suggestion of some elusive meaning. We feel that there must be some mystery lurking in it, if only we could guess what it is. And sometimes, Frost develops the meaning for us; but more often he probably has no more notion of what it is than we have.

Frost is so constituted that his reaction to a sense impression is simple and direct in proportion to the force of the impression. His reaction bears no obvious and calculable relation to the stimulus; on the contrary, the relation of cause to effect is sometimes unpredictable, perhaps, incomprehensible. It is a relation as incommensurate and arbitrary as that between pushing a button and turning on an electric light or ringing a bell. As he progresses, it is not only with him, sensuous pleasure that counts, but a subtle train of emotion and thought, which the perception rouses in his mind. He is devoted to the fact, because the fact is necessary to light the fuses of suggestion in his mind. A birch tree for him is symbolic and not an arabesque in its natural colours: It is suggestive of some hidden import. Sometimes, he may be greatly moved by something quite devoid of sensuous appeal — a grindstone or ax-helve or wood pile — because to him it is tinged with hints of meaning that impart a feeling of the mysterious and the wonderful. These shapes and colours are transmuted into images.

It becomes especially true if the perception is such as to excite the buried savage who sleeps within the most sophisticated of us. Resultantly, in such a man's account of what he sees and hears, we get sounds and sights not simply as they are, but on the one hand almost far removed from their physical beauty, on the other, so transfigured that they become real form. We discover the poet's love for the beauty of nature in such images but there is no idealistic philosophizing through them.

This is Frost's habit of mind, that the subjective element is fully as strong as the external, the following bit of a lyric adds some more evidence:

"The way a crow
Shook down on me
The dust of Snow
From a hemlock tree

Has given my heart
A change of mood
And saved some part
Of a day I had rued" [CPRF 270].

Conclusion

If we emphasize this aspect of Frost since much has been made of his realism and his objectivity, the qualities are overestimated. After having a close observation of minute details of his images, he is not a markedly sensuous poet, in fact, he is markedly ascetic and prophetic. Because, the imagist would have done with the picture in green, white and black. Though Frost deals with preference in the concrete, his writing abounds in images that are sharp and specific, he does not luxuriate in sensuous gratification in a frank relish for colour and sound. To illustrate this point, we can refer to Keats and Swinburne: There is no 'purple-stained mouth', no 'cloth of woven crimson, gold and jet', and no 'lisp of leaves' and ripple of rain in Frost. Perhaps the sensuous austerity is more in the expression than in the image itself. He all but eschews the appeal of musical sound, preferring the effect of talk to that of song; such lines as 'the slow smokeless burning of decay' are conspicuous by their rarity. In his treatment of feeling also he is ascetic; his language seldom swells or rises; the emotion is conveyed by implication only, by economy and elimination. So, a reader less abstemious by nature than Frost may make the mistake of thinking him severe and stark, even bleak, bare and cold.

The sense of loneliness and isolation, which he often expresses, most emphatically in "The Road Not Taken", is one of the plainest signs of this ascetic temperament:

> "I shall be telling this with a sigh
> Somewhere ages and ages hence:
> Two roads diverged in a wood, and I…
> I took the one less travelled by,
> And that has made all the difference" [CPRF 131].

The same sense of separation, of a temptation to seclude himself from the world, appears in the first poem of A Boy's Will and again in a Grace Note to New Hampshire:

> "The woods are lovely, dark and deep.
> But I have promises to keep,
> And miles to go before I sleep,
> And miles to go before I sleep" [CPRF 275].

In either case of the fascination of solitude and sometimes in the terror of it — he feels strongly. He carries the matter a step further in "The Tuft of Flowers":

> I must be, as he had been… alone,
> "As all must be", I said within my heart,
> "Whether they work together or apart"…
>
> "Men work together", I told him from the heart,
> "Whether they work together or apart" [CPRF 31].

In "Mending Wall", by implication sets forth the mystery of isolation and comradeship; the one is necessary to the other, the sense of solitariness whets the longing for companionship:

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"Something there is that doesn't love a wall,
That wants it down…

He says again:

"Good fences make good neighbors" [CPRF 47-48].

There is a touch in Frost, but no more than a touch of Robinson's feeling of estrangement from the world. Because, Frost refers not only to other men, but to all things. Unlike Robinson, however, Frost doesn't reject experience, or refer to 'the life we curse'; on the contrary, the love of life is central in Frost's thinking.

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- [1]B. S. Brar, The Poetry of Robert Frost in Symbolism [New Delhi : Anmol Publications, 1978] 35. Professor Brar discovers a sustained growth of Frost's creative sensibility, which is deeply steeped in the natural and human surroundings of New England.
- [2]George W. Nitchie, "Robert Frost : The Imperfect Guru", Robert Frost : An Anthology of Recent Criticisms", Ed. Manorama Trikha [New Delhi : The Sterling Press, 1980] 154. Nitchie rightly argues that in any study of Frost's poetry the New England surroundings are of very great value. It is felt that it is a world, "without collective social institutions of any very elaborate sort, and that may be the key to it all" [154].
- [3]T.K. Whipple, Spokesmen [Berkeley and Los Angeles: University of California Press, 1963] 95, 96. Whipple argues that Frost "is not local in the derogatory sense; he is provincial. But to say that Frost is not a New England poet would be like saying that Burns is not Scottish or that Synge is not Irish' [95].
- [4]T.K. Whipple, "Spokesmen" [Berkeley : University of California Press, 1963] 97. Whipple argues that the farmers of Frost believe in "denying themselves other experiences of equal importance such as lophing and sensual pleasures" [98].
- [5]Robert Frost, Complete Poems of Robert Frost [New York: Holt, Rinehart and Winston, first published 1930, 12th Printing, 1961] 179. This book is abbreviated as CPRF for all textual references to his poems.

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TEACHING TEENS THROUGH TECHNOLOGY

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Abstract:

Technological advancement liberalization globalization have paved way for the high demand of communication skills . Communication skills play an important role in enhancing employability skills. English language teaching has undergone tremendous and changes drastically over the years especially during the last decade. The proliferation of Technical devices such as computers and mobile phones and in the first two decades has influenced upon the various aspects of our life and our styles of learning and teaching. Technology has transformed the field of Higher Education specifically English language teaching for communication. Nowadays Technology based education is just like fast food to the minds of students .Technology appeals and enthuses the students towards learning. It creates something new beyond human mind and human resources .Technology is intended to improve and enrich English language skills of this 21st century for tech-savvy teens. In the light of the above this paper tries to share a few popular and insightful concepts.

Keywords: Technology , Globalization, Liberalization, Proliferation, Technical devices, Language Skills, Employability skills,Digital world.

Social networks are the platforms to build social relations among the people especially teenaged students who share their interests, activities ,backgrounds and real life situations. Most of the social network services are the web based. They provide means for users to interact over the internet using instant messaging and email. Social Networks provide wonderful opportunities for sharing ideas, opinions, feelings, pictures posts, activities, events and interests with others in their network. Social network applications such as Face book, Twitter, LinkedIn, Instagram ,YouTube ,What's App and many others have become very popular and are being used phenomenally for communication worldwide. The recent most popular social networks are WhatsApp and Twitter. The social networks have been playing a crucial role in our daily life and particularly among the teenaged student community. loan
Computer Assisted Language Learning:

CALL which stands for computer assisted language learning is a popular technical tool which has brought a drastic change into teaching. In this CALL Lab ,the students are exposed to all the four language skills LSRW .Students also get exposure to different topics which are activity based . There are different activities for listening skills .They can do reading comprehension also .They can also record their voice and hear it with the help of different software's .Thus the students can improve their pronunciation better. They can concentrate on their stress, rhythm, length ,speed, volume and repetitive practices and so on. So the computer gives a stimulus to the learner by being not mere a tool but also as a tutor.

Web Based Learning

Web based learning also otherwise called Technology based learning or distance learning or online learning or e-learning is one of the fastest developing areas. It provides excellent opportunities to create learner centered, learner friendly interactive e-learning environment in teaching learning process.Students can find varied web based classes offering a variety of basic language skills such as Learning ,Speaking ,Reading and Writing. Teaching can be made interactive and lively in order to serve the interests of the modern tech-savvy youth for inculcating communicative abilities and skills.

Webinars:

Webinars are very useful for students because they provide a variety of teaching tips to improve their conversation and dialogue practices.

Email:

Electronic mail invented by Ray Tomlinson is a powerful tool of exchanging messages between people using electronic devices. The students can respond with native speakers of the target language by creating a personal email account like Gmail ,Yahoo Hotmail Rediff mail etc. Students can mail their home works to the teachers and get it corrected in turn. The Google Classroom is a finer example. The teacher can also provide revisions and feedback sessions for the betterment of every work or assignment and mail them back to students for their immediate follow-up.

Blogs:

Blogs are most popular blogging services being used today. A blog is discussion or informational social website world wide web .It is also a personal or professional Journal frequently updated for public consumption. These blogs enable uploading and linking the files which are very much suited to server as online personal journals for students.

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Skype:

Every internet service has audio functions. Technological instruments like laptops and tablets contain cameras. The students can communicate with their teachers classmates and friends who are far away .They can also communicate well , especially with the speakers of native language and grasp their pronunciation and try to improve their speaking abilities well.

Smart Phones:

In the present global scenario mobile has become a common source to a simple common man to convey and to communicate with others, then what to speak of tech-savvy young students .It has emerged as a powerful technological source for communication and English language teaching .Every teacher can better utilise technology to teach effectively as every learner stands well equipped with the knowledge of using mobile phones efficiently . Teachers can provide project based tasks by creating atmosphere for the students to use their imagination and creativity. So that learners can actively participate in learning. They express their readiness themselves to involve in a variety of interesting and enjoyable tasks. Mobile assisted language learning focuses on students interests which helps to transfer the limited facilities of the class room setting to the real world where by students feel free to use their individual talents and learning styles and make personal choices.

Students can take up lively activities like drama projects by using mobile phone for recording it .They feel motivated in a group when they receive approval, cooperation and support from their peers. A drama project through mobile phone is a wonderful task to get students to use language for different communicative functions like description, narration documentation, identification debate and discussion. Drama also integrates four fold language skills as students have to be engaged in script writing, peer correction and so on. students can get ideas for video projects as well. Students can acquire more ideas to make short films and documentaries based on facts or fiction .At present, many students feel more motivated and interested for making short films as this category offers a large spectrum of genre of options such as drama ,action ,horror and comedy. As students work through different stages of a project they have to negotiate and use all their language skills to communicate among peers to achieve their desired goals.

iPod:

iPods are one of the multimedia devices playing key role in enhancing and enriching the users to generate , deliver and exchange texts,images ,audios, and videos scripts. The teachers send text messages and the students can read and answer to them. Besides,the students can record and listen to their speeches, poems, news short stories etc. Thus ipod is a wonderful tool providing opportunities to the learners of language to improve their listening skills speaking skills pronunciation, vocabulary, general grammar and also writing skills.

Multi Media:

Multimedia teaching will make student alert converting a class into a brilliant learning hub whereby they can interact with the teacher and peers and about the subject. Multimedia teaching is more intuitive now. Teachers can create situations from the real life. Though teachers are not present, students can learn on their own in the class. Thus teachers will have more approaches to stimulate student's passion for learning.Technology provides a wider scope for enhancing their communicative skills. Students are seen with personal laptops along with headsets. Projectors and screens are connected with audio boxes. Online dictionaries help the students to know meaning and to check spelling and pronunciation of a new Word. internet facilitates the students to get images for the words which are unfamiliar to them. Internet provides ample websites for learning grammar and vocabulary for the modern learners. .

Conclusion:

Students of the present generation are adept in adopting themselves to the new digital culture very rapidly .So the teachers have to take up technological platforms like blogging ,pod casting collaborative mind mapping, micro sharing ,photo sharing, screen cast sharing, video sharing social bookmarking collaborative editing , collaborative working and cooperative presentations which not only exite the students but also teachers for enhancing communication skills among the teens.

With the advent of app culture apps are designed for every aspect of the customer needs. As this app culture is fast growing, it is unavoidable even in a classroom situation as the learning climate has to adopt to its requirements and demands. There are many critics who oppose bringing the technology into the class room as it causes serious dangers like loss of inquisitive mind , addiction, loss of human values, loss of human touch and relations .In spite of the above dangers and fears , if Technology used appropriately, carefully and need fully, beyond doubt , Technology is the most powerful tool as it enriches the modern teens to become better communicators with innovativeness and creativity to enhance their career prospects and empower them for excellent employable opportunities and wonderful careers in this digital world.

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PORTRAYAL OF GLOBALISATION: *THE SHADOW LINES*

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Abstract

In this paper I make clear to the reason and forceful situations of globalization. I have taken Amitav Ghosh's second novel, *The Shadow Lines* (1988). Ghosh had purely Indian upbringing but shifted and settled in foreign land. He studied and has been working in different places. For his experience he mentioned a sense of alienation, resistance, reaction, acculturation, assimilation and so on which are results for globalization in his writings. For that he became diasporic writer as he is one of the writers who always go back to India's historical sensitive issues. He starts the novel, *The Shadow Lines* from colonial period of Second World War then he highlighted the post-colonial issues Independence, Partition and riots in India. He has a great researcher who collected more information of mother land. He got an opportunity for his collection from his family members and relatives who are in India. So he had all the collective memories of his mother land. Ghosh talks about the result of globalization issues like the immigrants' painful experiences, racial discrimination, assimilation, footlessness, alienation, nostalgia, dislocation culture, religion and language etc.

Keywords*:* Migration, globalization, post-colonial, culture, identity, tradition.

Amitav Ghosh's second famous novel *The Shadow Lines* (1988) was received the Sahitya Akademi Award and the Ananda Puraskar in 1990. He chose different country people why migrated from their native country to various alien lands with different reasons. The main reasons are during the Second World War, education and business. This Migration is reason for globalization and people were being in cultural dilemmas and social conflicts. Ghosh is a great contributor who reveals historical impacts of globalization on tradition and culture of country. His historical writings give strength and potential to all the academicians, who wish to explore different areas in their quest for excellence. His *The Shadow Lines* is moved around the post-colonial situations. The time period, after the death of colonialism, was the transitional period of cultures. After the dark clouds of colonialism, a bright rainbow of cultures comes up in the post-colonial sky.

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The Shadow Lines have bundle of characters from India and England. Some are major and some are minor characters. Those are Tha'mma, Mayadebi, The narrator, Tridib, Ila, May Price, Mrs. Price, Nick Price, Robi, Jatin, The Shaheb, Queen Victoria, Alan Tresawsen, Snipe, Dan, Francesca, Mike, Kerry, Malik, and Lionel Tresawsen. The meaning of globalization is people of the world interact and integrate. Globalisation eventually leads to global cultural, political and economic integration. Globalization promotes and increases interactions between different regions and populations around the globe. The contemporary global socio-economic and geopolitical patterns facilitate transnational activities across the borders of nation states.

The expansion of trade in cultural products is increasing the exposure of all societies to foreign cultures. Although there is no consensus on the consequences of globalization on national cultures, many people believe that people's exposure to foreign culture can undermine their own cultural identity. The end of Second World War brought in its wake the largest population movements in European history. During the Second World War (1939–1945), India was controlled by the United Kingdom, with the British holding territories in India. British India officially declared war on Nazi Germany in September 1939. Millions of Germans fled or were expelled from Eastern Europe. Hundreds of thousands of Jews, survivors of the genocide perpetrated by the Nazis, sought secure homes beyond their native lands. And other refugees from every country in Eastern Europe rushed to escape from the newly installed Communist regimes. Second World War on India was on account of war expenditure.

> "The realities of the bombs and torpedoes and the dying was easy enough to imagine--mere events, after all, recorded in thousands of films and photographs and comic books. … Nobody knows, nobody can ever know, not even in memory, because there are moments in time that are not knowable: nobody can ever know what it was like to be young and intelligent in the summer of 1939 in London or Berlin." (p.59).

Mayadebi and Tha'mma both are Bengali sisters. The story begins with Mayadebi's family moving from India to England during Second World War in 1939. Mayadebi marries the Shaheb, a wealthy diplomat. As such, she travels often throughout her life, including to London in 1939 with the nine-year-old Tridib, her middle son. She has an older son, Jatin, and a much younger son, Robi. Jatin's wife Queen Victoria (Nickname to Mayadebi's daughter-in-law and Ila's mother); granddaughter Ila (Jatin's daughter). In her family Tridib was the only person who spent more time taking care of his old grandmother in India. Because of Mayadebi's husband and elder son Jatin's jobs abroad, Mayadebi spent less time in India and more time in other countries.

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Because Mayadebi moderately respected Indian culture she distinctly assimilated both Indian and London cultures.

Mayadebi's in-laws and Lionel Tresawsen had been friends in India. Lionel Tresawsen was a business man, North London family who traveled extensively from London to India. Actually Lionel Tresawsen was born in Mabe, Southern Cornwall. He had little education and but had ambition to settle in well, he went to a nearby town to work in a tin mine in Malaysia. After that he worked all around the world – Fiji, Bolivia, the Guinea Coast, Ceylon – working in different employment in mines, warehouses, plantations and whatever came his way. Soon after, he had landed in Calcutta as an agent in a company. At last his wish launched small factory of his own, in Barrackpore. After bore two children, he sold his factory and move back to England for would have all the advantages of a proper education, university and all to his children. He settled in the rural area of a small Buckinghamshire village. His daughter Mrs. Price was a widow who had a daughter, May Price and son, Nick Price. In England, Mayadebi's family had stayed with Mrs.Price.

Mrs. Price and her husband, Snipe, live in West Hampstead, London. Decades later, when the narrator (Mayadebi's sister's grand son) went to London for his Ph.D work stayed at Mrs. Price's home. She and her husband are extremely generous, as over the years they provide lodging for several of the narrator's family members, including Mayadebi's family. Narrator's father also went 'a business trip to Africa' (p.36) when Mayadebi's family was there.

Alan was Mrs. Price's brother and an intellectual living in London in time leading up to Second World War. Alan lived in a communal house with Dan, Mike, and Francesca. Francesca is a young German woman whom Alan Tresawsen possibly smuggled out of Germany. She was extremely beautiful. The Price family lost track of her after the house on Brick Lane was bombed, as she was put in an internment camp for enemies and never heard from again. Later Alan dies during the war. Mike is a pudgy Irishman didn't like the Shaheb, and implied that he believed that all Indian people want to kill Englishmen.

Second World War touched virtually every part of Indian's life, even things so simple as the food people ate, the dress people wear, the films they watched, and the music they listened to. But all these different country people became friends due to war. When Mayadebi's husband at Second World War operation she was helped by other members who are along with her at Mrs.Price home.

> "People were becoming friendlier; in the shops, on the streets, she couldn't help noticing. Everyone was so much nicer now; often when she and Tridib were out

> walking people would pat him on the head and stop to have a little chat with her; the shopkeepers would ask her how her husband was, and when he was to have his operation." (p.57)

Mrs. Price's home became a small globe with different people at her home. Moreover, in many cases their works and creators were actually part of the war effort. There is a wide range of ways in which people have represented Second World War in popular culture. Many works were created during the years of conflict and many more have arisen from that period of world history.

During the Second World War many were converted to build emergency prefabricated houses for those made homeless and became children as orphans in the bombing. Ila, Mayadebi's grand-daughter also participated for collecting funds for homeless people in the bombing. "With the Save the Children Fund, said Ila. It won't pay much, but it's something." (p.93) German audience went on to discuss the issues with friends or family. Many who telephoned the broadcaster afterwards to express their shock were in tears. The history of humanity is one of globalizations.

By 1939 the UK had established a chain of radar stations along its coasts to detect incoming bomber planes. After Second World War promoted British style and established London as a fashion centre. There has been a rapid growth in air travel, enabling greater movement of people and goods across the globe. The factors that have been behind globalization in the past are likely to continue. It is possible to change certain factors are Mobility of labour, willing to move between different countries in search for work, Global trade remittances so on.

Characters suffered cultural predicaments in the foreign land and at the same time they stuck themselves into their own style of traditional and cultural beliefs and imbibing the cultural traditions of the host country. Ghosh had portrayed the result of globalization in Indian and foreign culture and tradition very aptly and in realistic terms in *The Shadow Lines*.

Ila traveled so much as a child because of her father and grandparent's profession. During her childhood, she lives in London at Mrs. Price's house for a while and attends school with Mrs. Price's son, Nick. When she visits Calcutta and plays with the narrator, she indirectly tells the narrator about being bullied and beaten for being Indian, and the narrator doesn't piece together what actually happened until years later. Because Ila grows up in a lot of western cities, she thinks about freedom differently than the narrator and Robi do. She loves to talk about having promiscuous sex and wears mostly jeans and T-shirts. She feels London is her own land and she questioned the citizens:

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> "I said: I'm not meeting you for the first time; I've grown up with you.
> He was taken aback.
> That must have taken some doing, he said drily, since I grew up right here, in boring suburban old West Hampstead.
> I've known the streets around here for a long time too, I said." (p.48)

Third generation Ila and First generation Saheb were being insulted about their colour, nationality race and culture. Though Ila born and grownup in foreign land later married Nick, she was not accepted by Nick. Those incidents can make migrants feel like they are not important or don't fit in. They might feel upset, depressed or angry. They can be affected by it even when it's not aimed at them, like if they hear someone discriminating against someone's culture.

Conclusion

Globalization is a result of both positive and negative developments. It will give rise to new industries and more jobs in developing countries as well as it will force poorer countries of the world to do whatever the big developed countries tell them to do. Due to globalization, Identity became a universal problem. The present situation is an example for that. Through *The Shadow Lines*, Ghosh exemplified the spreading of globalization is Second World War, increasing education, employment and business. This globalization is result for westernization, changing of every culture and tradition in post-colonial period.

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ESSENTIAL TOOLS OF A TEACHER FOR EFFECTUAL TEACHING ENGLISH

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Abstract:

In this paper, we are going to know what the teacher's tools are and how they will be useful in the class room. The tools are very useful and effective only when the teacher knows how to use them efficiently. If the teacher knows tools also, if he or she has no efficiency of using them it is futile in the teaching profession. The teacher cannot depend always on those tools instead he or she has to know that through the preparation for teaching those tools only guide him or her for insight of a learner in the class.

Keywords: Teacher, Tools, Teaching, English, class room.

The curriculum, course book, blackboard and teaching aids are the tools which are available for a teacher for class room teaching. As teachers, we must have efficiency to use these tools effectively. A proficient craftsman is one, who knows how to use all his or her tools competently and reasonably at correct time in the correct place. When we use those tools for teaching, we should use them astutely because, we cannot use them at all the time otherwise it becomes dull and in effect. And as we all know that if we don't use them at all it is not at a tool only. It is obvious about the teacher's tools also. We cannot always depend on the textbook, or teach in the class room according to the syllabus, we cannot depend on teaching aid to become a good teacher rather we must use tools in such a way that the tools we follow must be useful for a learner in the class room and outside as well.

Syllabus is the primary tool for a teacher to have Effectual teaching but it must not as copycat. Syllabus must be a channel for a teacher to teach effectively. Syllabus only directs the teacher to train a student to perform the examinations very well and portion to be completed in the course of given period of an academic writing. It tells you to teach only necessary things in the class room. To become a successful teacher in the class room, a teacher must have knowledge about syllabi. The syllabi which are followed by a teacher must quench the learners'

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thirst. Let us analyze the characteristics of syllabi. A good syllabus must provide the aims of learning, content, techniques of reading, and necessities of examination.

Textbook is second tool for a teacher. A teacher is always aware of a text book if the syllabus is avoided or not. Because a text book always obtainable by the teachers. Without text book a teacher can't teach the classes confidently. By the reference of the some text book related to the syllabus a teacher will teach effectively. Now let us analyze this idea of text book teaching very practically. A teacher has to ask himself ' what is a text book to himself or herself' whether it is a teaching aid , a crutch, is it a side-dish and more over whether it is an Educational set of choices?

According to my opinion, most of the teachers will come forward to admit that the text book is either a teaching aid or Educational set of choices. Very few teachers declare that text book is a crutch for them. But I say that it must not be a crutch. The way of using the books may be showing that teachers are likely following the text book as crutch by conducting the learning activities and home work similar to that of text book guide lines. If a teacher doesn't permit students to move away from the exact response of a question in the text book, then he is following the text book as a crutch.

A teacher will not go out of the text book at the time of teaching classes even though the points of the topics are giving you some extra information. It happens because he is following the text book as a crutch.A teacher who follows the text book as a crutch will not meet the learner's requirements in spite of covering the entire text book. And such kind of teacher may not concern the present language enhancement even though he is telling the stories and teaching grammar and lessons.

Examination system is the third tool. It is one of the essential for a teacher who assesses his teaching abilities in the profession. Through this tool, a teacher has the chance to improve his skills based on the performance in the examination by the students. There is a lot of encouragement to a teacher through this system rather feedback given by the students. In requisites of teaching skills of language, it will provide the way that tests affect the class room teaching that leads up to them regarding performance. The examination must insist on open, stretchy which have the concentration on skills that are provided by the language teacher.

Examinations must be a resource provider for a teacher to enhance his ability where he has to improve. Internal Assessment will be done only through the tool of Examination only. The examination can concentrate upon the progression of being educated. Any teacher who is

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teaching on his own interest and a teacher who is very skillful man are part of the society to change the learning environment productively.

Therefore, the tools of teaching can be used practically wherever is needed to improve the standard of teaching in the class rooms. There is a possibility for some tools to be used spontaneously in various standards. And there are some tools which have to be analyzed, sophisticated in advancement of using by the teacher in the class room. And a teacher must know must know basics of their use before get into practice.

Finally, this paper discussed the mentor and his manner that teacher should have towards his class room teaching. These tools will make a teacher to be aware of utilizing resources for his improvement.

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UNDERSTANDING EMOTIONAL LANGUAGE TEACHING METHODSUBSTANTIATED BY GROUNDED THEORY IN QUALITATIVE RESEARCH: A CASE STUDY OF ENGLISH LANGUAGE TEACHING

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Abstract

Communicative disorders have affected the fluency is language communication. Dysphagia is an important disorder which is about swallowing dysfunction linked to neuro-muscular or esophagus spasms. So, in this case speech impairment and swallowing function are inter-dependent & directly proportional. Speech Language Pathologists have over a Century paved way for articulatory mechanisms to cure oropharygeal dysphagia. Teaching English phonetics by classifying sounds based on the place of articulation serves dual purpose of increasing the proficiency and releasing the cricopharyngeal tension/tightness. English Language Teachers are increasingly being called as Emotional Language Teachers because of their role in developing Emotional Intelligence & Holistic Development. Thereby, we can assume that Speech Language Pathologists can turn into Emotional English Language Teachers for Linguistic Therapy of Dysphagia. My paper delves upon the review of such literatures which focus on English Phonetics & Dysphagia Management.

Keywords: methods, teaching ,English ,language etc

Introduction:

Language Teaching methods have been developed and evolved over time with respect to various parameters with situational criteria such as learner's goals, acceptance and acquisition, social and cultural background, uniqueness of the target language, previous learning experience etc., and parameters with research criteria such as the pros and cons of existing language teaching methods, research methodology adopted, data reliability, literature review,

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generalization of contemporary language teaching and learning goals. As a consequence of awareness on language learning and acquisition, various methods such as Direct Method, Grammar Translation Method, Audio-Lingual, Total Physical Response, Immersion, Communicative Language Teaching, The Silent Way, Task-based Language Learning, Suggest opedia have been devised through an inspirational as well as a critical standpoint on the methods preceding each of the theory of language teaching. Parallel to this understanding, we evaluate Language Teaching Approaches such as Natural Approach, Structural Approach, Cognitive Approach, Psychological Approach, Functional/Communicative Approach, Emotional Approach. Employing grounded theory in Qualitative research, there is substantiation on Emotional Language Teaching method which was developed as a result ofthe research that began with a series of questions such as:Is there an efficient Language Teaching method? What is the role of native language in learning a foreign language? etc. The approach leading to Emotional Language teaching method is consistent with the grounded theory methodology which is based on inductive reasoning.

English as an Emotional Language:

People know that learning English helps them in being intact with present world. People can learn English and teach their children as English is a global language and everyone needs to understand. They may also communicate with their children in English and improve their fluency. By looking at these many advantages an English speaker has, it is natural that everyone tries to make English as their emotional language. Emotional language is something that one acquires and imbibes in ones' hearts. Making English as ones' emotional language is not an easy task. The primary reason for this is that Indians are all native speakers of languages other than English. And English now becomes their second language. But as it is well known, nothing is impossible in this world, making English as the Emotional language is as certain as the sunrise.

The following are the reasons why English must be Emotional Language:

Language of Science

English is the dominant language of science. Hence, most of the research in the field of science will be written in English. At university level, the students study almost all the subjects in English to make the material accessible to international students.

Improves skills

Researches proved that speaking a second language improves the cognitive functions and listening skills. It may also delay the onset of dementia in old age.

Easy access to information

In the fields providing information like press media and internet, English is a dominant language. Most of the important websites are written in English. It has been observed that about 80% of the web material is composed in English. Even websites in other languages have an option of translating the entire information to English in one click. Majority of books are written in English. No matter in which nook and corner of earth one is at, one will find at least one English book or newspaper available. Since English is dominant in international communication, people will be exposed to a large amount of information of a particular topic.

Around the globe

One can travel around the globe with a good grip on English language. This is because it is the most widely spoken language across the globe. If one keenly observes, every travelling site will have English as an option.

World-class entrepreneur

If one wants to become a good entrepreneur, one must be well acquainted with English. Any big company will hire their staff basing on the fact that they are good scholars of English or not. When one wants the companies to function at an international level, the knowledge of English is of utmost importance. Knowing English will make one bilingual and more employable in every country of the world.

Easy

English is based on a simple alphabet and it does not include any special symbols. The written and spoken forms of English are one and the same. Some languages including French, German have very different formal written and causal spoken forms. Hence, it is easier to learn when compared to other languages.

Words don't change

In many languages, one word has many forms but in English words do not change. For instance,

English: The man is blind.
German: Der Mann ist blind.
English: This is a blind man.
German: Das istein blinder Mann.
English: I see a blind man.
German: Ich seheeinen blinder Mann

Here one can observe that the word blind means the same in any context in English. Whereas, in other languages,one may have to use it differently.

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Grounded Theory Methodology

Grounded theory methodology employs systematic inductive methods for performing qualitative research targeted toward theory development. There are two referents to grounded theory, the first is a method consisting of flexible methodological strategies and the second is thinking about the products of this type of inquiry. Over the time, researchers use the term to mean the methods of inquiry for collecting particularly analyzing data. The methodological strategies of grounded theory are intended to construct theories right from data analysis.

This methodology was founded on the seminal 1967 book 'The Discovery of Grounded Theory' by sociologists Barney Glaser and Anselm Strauss. Since their original publication in 1967, Glaser and Strauss have differed on how to apply the grounded theory method, resulting in a split between Straussian and Glaserian paradigms.According to Glaser, Grounded theory method accentuates induction or emergence, and the individual researcher's creativity within a clear frame of stages, while Strauss's theory is based on validation criteria and a systematic approach.

The Glaserian method claims the aphorism "all is data". This means that not only interview or observational data but also surveys or statistical analyses or "whatever comes the researcher's way while studying a substantive area" (Glaser quote) can be used in the comparative process as well as literature data from science or media or even fiction. Therefore, Glaser describes this method as Qualitative Data Analysis (QDA). Glaserian method emphasizes conceptualization abstract of time, place and people. A theory discovered with the grounded theory method should be easy to use outside of the substantive area where it was generated.

In substantiating Emotional Language Teaching method, we have employed Glaser's paradigm to Grounded theory methodology wherein we have considered the literature review, surveys, interviews as data to evolve the resultant Emotional Language Teaching method. The method developed can be used outside the boundaries of where it was created (emphasis on English Language), that is can be extended to other languages and subjects. This aspect of our research goes hand in hand with the Glaser's theory of Grounded theory method.

Grounded theory research includes the following basic steps:

Coding text and theorizing: The quest for developing theory involves taking a small part of the text and coding it line by line. Coding is done by identifying useful concepts and marking key phrases. The same process is repeated with consecutive chunks of text/data. According to Strauss and Corbin, this process is called open coding and Charmaz called it initial coding. Coding is followed by Theorizing where examples of concepts are developed and the relation of each concept to a larger more inclusive concept is analyzed.

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Memoing and theorizing: Memoing is the process wherein the real time notes of each of the concepts that are being identified are kept. It is the step that follows coding but is done before putting down the first draft of the completed analysis. Memos are field notes wherein observations and insights are jotted.

Integrating, refining and writing up theories: Linking the codingcategoriesto theoretical models around a central category that hold everything together. The constant comparative method comes into play, along with negative case analysis which looks for cases that do not confirm the model. Basically one generates a model based on the process of how one is studying right from the first interview/situation and see if the model holds up as one analyze more interviews/situations.

I. Emotional Language Teaching Method Example for English Language developed through Grounded theory Research

Emotional Language Teaching method for English Language teaching is developed through Grounded theory methodology. As a part of this research, the Weekly timetables of various Language classes have been considered as the data, and coding is done based on the effectiveness of language acquisition, memorizing the real time experience of the students, and thus theorizing a weekly timetable to bridge the gap between learning and acquiring. Emotional Language Teaching Method thus resulted as a creative approach to enthuse students to acquire English language effectively.

The following is a proposed Weekly Timetable developed through Grounded theory Research implementing Emotional Language Teaching while able to teach the prescribed syllabus for a 45 minutes duration class:

Day1

*5 minutes: Preparedness (Soothing Music)
*10 minutes: Exposure to verse of a song and drilling (speaking)
*5 minutes: Reading activity using Newspaper
*5 minutes: Listening activity using Radio or TV
*20 minutes: Structured Learning (Grammar and phonetics)

Day 2

*5 minutes: Preparedness (Soothing Music)
*10 minutes: Audio-Visual display (YouTube, English Movie or Multimedia clip)
*5 minutes: Discussion on the Video clip (Speaking)
*10 minutes: Reading & Listening activity using Emotional Narrative (one student reads aloud)

*5 minutes: Discussion on the topic (making note of the vocabulary, phrases and structures
*10 minutes: Structured Learning (Vocabulary & Semantics)
***Day 3 and Day 5** are same as Day 1
***Day 4 and Day 6** are same as Day 2

Weekly once

*1 hour of Outdoor activity (Experiential Learning)
*1 hour of Soft Skills based LSRW Activities (Holistic Learning)

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LITERATURES IN ENGLISH: POSITING CANADIAN LITERATURE IN PEDAGOGY OF 'ENGLISH CURRICULUM'

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Abstract:

In the curriculum of universities, the emphasis is on 'literature' written in a language, rather than the language per se. However, as observed in most cases, British Literature is given a primal position, leaving out the 'other literatures' written in English. Since English as a language was often reinforced unto the residential schools in the settler colonies, many indigenous literature too came up, scribed in English; but none of them are co-opted in the curriculum of 'English'. Despite universities striving to include 'Indian English Literature' and 'Major Classics' like *Antigone* or *Phaedra* translated in English into the curriculum, the diasporic and indigenous literature of Australia and Canada could not share space in it.With close reference to the short stories by Lee Maracle- a Canadian indigenous author and Anita Rau Badami- author of the diasporic literature, the paper aims to explore and establish why such literatures need to be co-opted in the curriculum to provide a view of entire literary field to the students across the world. Why should "English Literature" only indicate the works of English author and not the Canadian authors when that very language was the mean to write the Canadian Literature?

As Himani Bannerji stated in 'Barbara Godard: In Memoriam' :
From pursuing Canadian Studies, one could read politically and comparatively, as an attempt to challenge the hegemonic drive, to show the fractures and contestations, the power driven society of Canada, a space of convergence of multiple other,

That call inevitably deserves scholarly attention and demands inclusion of 'Canadian Studies' into the majorly practiced curriculum for worldwide circulation of the cries of marginalized Inuits,Metis and First Nations, and introspection into the colonized lived experiences of settler colonies. That inclusion would also probably challenge the hegemony that persists in literati and would lead way to breach boundaries of conventional curriculum.

In the process of including the literatures that spoke of how the fragile indigenous communities suffered in the hands of the colonizers, how residential schools created the 'stolen generation' and how the 'invisible minority' of Diasporic communities in Canada grew out of political unrest in South East Asia, the students would also get the opportunity to be acquainted with not just the Victorian England or the 'crisis in dukedoms',but also with other historical literary realities.

How the literatures of Indigenous communities and Diasporic communities unfold the realities of multiple lived experiences will also be scrutinized to establish how those approach qualified 'Canadian Literature' to be a part of 'English Literatures'. The objective of literature is surely not limited to interrogation and comprehension of the language structure or thematic essence, but also to analyze the associated history and its nuances. Probably, for that comprehension of socio-political contextuality, Canadian Literature too deserves to be included into the curriculum of 'English Literature' across the world.

Keywords: Canadian Literature, English, curriculum etc

[1] *"Native literature in Canada is rooted in the oral traditions of storytelling and includes all types of traditional narratives such as myths, legends, animal stories and various other tales".*

Despite that rich mosaic of narratives and diversity, the curriculum of English literature in India is flooded with British texts, neglecting the indigenous and diasporic literature that emerged across the colonized and post colonized corners. Scrutinizing the curriculum of the majority of universities in India, the Curriculum of English is majorly seen to be categorized into British Period patterns, enmeshed in the literary pieces composed by Shakespeare, Milton, Sonneteers and poets like Wordsworth, Keats and Coleridge. Apart from few, curriculums are majorly flooded with texts of male authors. Only few of the universities include work of poets like Elizabeth Barret Browning, Mary Shelley, and include Indian English writings by Toru Dutt and Anita Desai. Amidst the overwhelming ripples of Liberalism and Glocalization, it is indeed questionable how those stereotypes of including 'British pure English' and 'Canonical Studies' perceives in the academia. Does that mean the colonial fervors are still embraced by the colonized themselves? Isn't this top heaviness of curriculum with male white authors also indicative of imperial patriarchy attested by worldwide networks of academia?

As an alternative to the existing framework of the curriculum, we need to envision a larger portion of 'literatures' that exist outside the purview of academia, written in English, and worthy to be included in the curriculum. The world needs to know how the marginalized voices of the indigenous communities came up in their literature, even though their 'literature' was composed in English because they were imposed with that language in the residential school set

[1]Chakraborty, Prarthana. " Neglected Traditions: Oratures of the First Nations" in *Unified Self, Fractured Identities?.* Series eds. Chattopadhyay Suchorita. Vol eds. Gupta Seemantini. 2002, Department of Comparative Literature,Jadavpur University, Kolkata.

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up by the colonizers in the settler colonies like Canada and Australia. Universities like Jadavpur University, Delhi University, Jawaharlal Nehru University and Presidency University began to include the literatures translated into English with the view to aware the students about the literary aura that pervades in certain period or context, but besides that, it is also required to include the works of poets like Ali Cobby Eckerman and Lee Maracle, who wrote about the oppressions they faced under the colonizers and about how the indigenous lives shared close ties with nature and environment. Probably the inculcation of these literatures and scholarly attention to these marginalized texts would offer new avenues for literary critiques to understand the exploitation based on resources, linguistic identities, community-based impositions and classist racist sexist dynamics working across the international borders. From the perspective of Marxist and Ecocritical Feminism, these texts would be fruitful for analysis.

Apart from the indigenous writings, the literature that came up with the hands of Diasporic communities as well, should be included in the curriculum, with the aim to gauge how English as language also gained currency and became a mean to express the experience of diasporic communities. When a language is used by a foreign community, that newness away from native usages perhaps also provides new syntax, new application, new essence and few inculcations of native concepts, worthy to be discussed in new academic light.

Ali Cobby Eckerman as an Australian indigenous poet wrote much about how as a member of the 'Stolen Generation', she faced atrocities in the residential schools and crisis of identity when faced with the interrogation of her identity in the white family. Her writings were largely replete with details of colonial oppression, the forced socialization processes and the in-betweens faced by the 'Stolen generation'. However, this paper will be limited to discuss Canadian indigenous literature and Diasporic literature, primarily emphasizing on short stories by Lee Maracle and Anita Rau Badami's *Can You Hear the Nightbird Call?*

Neglected Traditions and the Strangled Voices:

[2] *"The writings of Native Women assimilate two crucial trends of past, ancient oral tradition with the present new literary traditions. Thereby, its women writers are a bridge between their community and the reader from the outside world- a bridge between the past and the present, a connection uniting various sections of society. The inherent spiritual energy of the Native culture finds an eloquent expression in the literary contributions of the writers reveal faith and courage*

[2] Guhathakurta, Arlene. " Invoking Memory: The Voice Of The Colonised Women Writers" in *Solitudes and Solidarities.* Eds.GuptaSeemantini. 2003, Department Of Comparative Literature, Jadavpur University, Kolkata.

in the face of desolation and grief. These women writers acknowledge to be 'native women'with a great sense of pride, confirming that their creative flow cannot be curbed by external pressures or internal tensions."

The narratives by the Canadian First Nation can offer an understanding of traditional history, morality and religion of their communities. The mythic tales were used as public records, citing them to prove their claims to various rights and privileges, such as that of painting emblems on their homes. Images of animals are predominant imageries in the indigenous myths and legends. The creation stories deal with the creation of the world and the other natural forces. Different tribes of the native people have their own versions of the creation myths and they attribute the creation to different legendary, mythical figures.

There were also orators on 'The Thunderbird': a cross-cultural symbol of the native North-American mythology. It has also found itself as an icon for non-indigenous people as has been on featured automobiles and United States Air Force Squadron. The indigenous people have totems bearing his representations. The Tales of survival are a crucial part of the native people's mythology. The narratives provide a dulcet description of the community's lived experience in the natural calamities and rugged topography of Canada.

Tales about heroic battles and conquests are very famous among the various native tribes of Canada. The tribesmen narrated these tales of valor when they gathered around fire at night. These tales were about the adventures of chase, war, experience of travelers among the tribes like Salish and Anishinaabe, and the rivalries between the tribal chiefs. Legends and stories also had issues on medicine men and medicine paraphernalia. Oratory or the gift of eloquence was extremely important among them. It was an essential practice to be expertise by every tribal leader for the maintenance of prestige and power in his tribe. Unanimity in the tribal council was maintained by the art of persuasion and rhetoric.Perhaps, all of these narratives could qualify to be studied in academic curriculum, nourishing a holistic understanding of literature across boundaries

Lee Maracle and her stories on Residential Schools:

Lee Maracle , born on July 2, 1950, is a Sto:lo Canadian author. Of all her stories, "Charlie", "Maggi" and "Dear Daddy" from*Sojourner's Truth and Other Stories*(1990) are discussed to analyse how these stories would enrich the comprehension of residential schooling system and socialization process in the settler colony.

The short stories such as *Charlie* and *Maggie* put forth how the 'stolen generation' felt the void intrinsically and were restless to escape into eternity than facing the brutal tortures at the hands

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of dormitory teachers. The very tone and structure of narrative that Maracle employed in "Charlie" uphold the gaze of the Christians towards the indigenous children and the mutual suspicion that persisted between them. Neither the priests were dedicated teachers who wished the well-being of the children, nor were the indigenous parents sure of their children's future even after sending them to the missionary dormitories. For them, it was just a 'Law' that the children should be sent without the assurance that they would be trained enough to earn the daily needs. The skills that the indigenous children were expected to learn in cradle days lost its vitality; the stolen generation was indeed not only detached from their biological parents but also detached from those very essential traditional trainings that could have fetched their livelihood.

Charlie's father wasn't the only one perplexed and worried about the boys who left dormitories and never came back. He too again was a representative of the community where men were unsure about their children's future; worried about the children not learning the traditional hunting skills but also helpless in the face of a law that left them with hardly any agency to do anything about it. Jimmy's uncle and Charlie's father could have heard of the frequent runaways, the priests could have sent police to catch those runaways, but for those helpless puppets, there seem to be absolutely no way outs.

[3] *"At home no one served you or stopped you from ladling out some of the pot's precious contents. Here at school, they lined you up to eat. Each boy at each level got exactly the same portion. A second plate was out of the question. He felt ashamed to eat."*

Maracle's elucidation of the monotony of the children about their daily rigid lifestyle, strictness of the priest, the psyche of the teachers to look for alternative schools with so called 'eager civilized students' perhaps suggests how they felt miserable and monotonous to tolerate each other. In one hand the teachers dreamed of completing degrees and teaching 'eager students', while on the other hand, offspring like Charlie dreamed of peeping unto their home kitchen, imagined how their family members would have been relishing their lives and the probable ecstasy they would express when Charlie would go back to his home. 'Returning the gaze' had been a prominent trait between the exchange of orients and occident: similarly, the priest's attitude towards the children and the children in turn looking at the principal as a 'wolf-like' figure prowling by, highlights how each gazed towards other one with sheer disgust and suspicion.

Scientific improvisations are said to have facilitate communication; but for those who embraced nature from birth and felt more comfortable in following the rabbit's trail and relishing

[3]Maracle, Lee. "Charlie" in *Sojourner's Truth and Other Stories*. 1990: Press Gang Publishers, Vancouver.

in the wonderment at the stars on gloomy nights than being concerned about mathematical tables, 'scientific developments' such as railway tracks are merely bits of iron laid down to show the way back to home. The occident might have propagated 'progress' as directly proportional to the quantum of technology, but for those people whose livelihood and measuring distances relied on nature, the landmarks to be followed while escaping remains to be the natural reliefs such as the pine orchard and rocky crags. Charlie was no exception. As a child he could have learnt to measure distance by footsteps and the railway tracks, but the very crave to scale and judge using nature and her natural markers remain as his primary instinct which in turn highlights the communal sentiments and habitual practices.

The strangled voices were left with almost no ways of protesting against the exploitations. Beginning with exploitation of the aboriginal women as prostitutes, leaving the illegitimate children to be nurtured by churches, and finally pushing them to be cheap labours for factories, to the present day's coercive sterilization of the indigenous women: the political and domestic scenario, by and large represents the lack of agencies on the part of indigenous communities, sanctioned by laws such as the Indian Act of 1876. Amidst the initiated assimilation, acculturation and isolation, the silent tears of the indigenous people went unheeded by the Whites. Perhaps, Maracle's accounts on her story "DearDaddy" is not just the scenario of an exploited woman being deserted by the White yet bearing his children but also a representative of the victimized group of women who faced such exploitations and had to combat many obstacles on the paths of survival, that put their very existence into question. Just like the narrator's quest to ventilate her thoughts to the 'daddy', the illegitimate children too perhaps craved to meet their biological father and wished to share their feeling or be shielded by the father figure.

Their daily search for shelter, the unrepaired damaged roof, running out of daily food, and the struggle to hold the family together perhaps sums up the lives of the entire community of women who were in one hand victim of encroaching colonizers and on the other hand, had to pay the price of being 'aboriginal'. Had the lady not been strong enough to fight back the odds, her children could not be secured enough to have their daily bread and butter. The underlexicalised sentence structure used by the author besides marking the received language and half appropriated application also marks how the indigenous women were exasperated to chart out their survival through the crooked political hegemonies and standardized social norms.

Why was it mandatory for the narrator's mother, to scribble through mathematics, physics, chemistry and English? Was it absolutely necessary to be skilled in these subjects to provide for her family? Why was Charlie forced to be trained in mathematics and English instead of learning how to hunt, gather food and take care of himself just as his father and grandfather

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learnt? But, they had to, because in the land of settler colony, only the trainings stipulated by the Occident could qualify someone to be appropriate for the so called 'mainstream society'. The charms added by the yellow blossoms and slithering worms to their lives, perhaps lost its essence, because the lives of the first nations are no more ruled by nature and governed by the traditionally passed down mores, but by the will of the Colonizers.

Articles by survivors of residential schools such as John Tootoosis and Daniel Kennedy suggest that it was strictly forbidden to speak their first languages and were stripped off their traditional clothes. They were neither allowed to write letters to their parents nor were allowed to step out of the schools without written permissions. They were forced to chop off their hair and were even given new names so that the" Europeans could pronounce it easily". As Kennedy stated in his *Recollections OfAssimiboine Chief* (1972), his name was said to be 'barbaric' because 'no civilized tongue could pronounce it and the inadequate English alphabets were not fit enough to register the name'. Perhaps, these approaches by the Whites were not only denigration of indigenous traditions but also proved the manifestation of superiority complex they used as a tool to establish their reign.

By preventing a child from communicating with his parents, ways are not only paved for psychological turmoil and depression, but also lead to terrible and traumatic sense of insecurity .Traditional clothes and haircuts are usually markers of clans and hold immense cultural values; so when the children are forced to give up those valued markers, identity crisis is bound to drown them .The attempts to strip off the identity markers and the superiority complex on the part of the colonizers recurred back and forth in the stories of Maracle through the narrator's description of the treatment they faced in the hands of the authority. Maggie's position as the detained child and Charlie as an uninterested student coagulates and intersects the fictional world with the non-fictional world to create and uphold the panorama of atrocities the authorities applied to weaken the indigenous clans.

The residential schools propagated the norms as per Victorian morality. However, reports by *Gender, Sexuality, and Eugenics at the Turn of the Century* presented that about 18% female students were sexually harassed in the schools and were often threatened or murdered to avoid the blots on the reputation of the so called 'civilized' .Gender stereotypes too were preached by the schools by assigning the works such as washing and cooking to the girls and gathering woods and fuel to the boys. The monotony of regular diet can be traced from Charlie's description of how he craved to smell the stew at his home. Indeed, the whites could mechanize ways to 'civilize the pagans' but they themselves were not free from the chains of stereotypes.

The final report of the *Truth And Reconciliation Commission* published in 2015 accepted that the educational curriculum consisting of reading, writing, arithmetic and religion was not merely irrelevant to the student's need but also suggested the belief of the Whites that the indigenous people were intellectually inferior. Perhaps, Charlie too belonged to that group of students who could hardly acknowledge the relevance of the strict instructions.

The attitude of the school principal that Maggie questioned too adheres to this scenario where as a student she could not comprehend the prescribed curriculum. Even though authority set and preached ways of behaviour expected from students to prove them to be 'civilized decent human', the attitude of school principal and teacher on the contrary proved how they were the embodiment of impatience and imprudence. Maggie could not really balance the equation of unused text books and exercise books or the need to learn English at the university level, and it can surely be comprehended that she was another representative of that perplexed group of indigenous people who could hardly trace the need of residential schools and the extreme tortures.

By analyzing the stories that reiterated the traumatic and perplexed experiences of the indigenous children in the hand of dormitory teachers and the accounts by the survivors of residential schooling system, it can vehemently be asserted that the schooling system besides crumbling the traditional knowledge system passed down generation after generation, also weakened the roots of the lives of the indigenous communities. Either the students had to run away like Charlie and sometimes it priced them their lives, or they grew up to be adults stuck in the in between-ness and unable to earn their livelihood. As outcome of the several years of detention in the residential schools, they neither learnt the traditional professional skills, nor were they trained enough for vocational placements. After all, the aim was not to train them to be sufficient enough to secure a better life but to impose the power and weaken the community of 'first nations' so that the reign of the Whites remains unchallenged. The framed characters and their pondering over the question on essentiality of the residential schooling system perhaps echoed the crisis faced by thousands of indigenous students in the residential schools, and the accounts by survivors of those schools juxtaposes and brings out the reality behind the shams of Victorian morality and 'enlightening missions'.

Indeed, the short stories by Lee Maracle and its intersecting narratives, presented the readers a facet of colonial torture on the indigenous communities operated through the Residential schooling systems. Despite the propagated agenda of assimilating first nations, Inuits and Metis into the Euro-Canadian society, their hidden motto of curbing the strength of the indigenous clans and to Christianize the young generation for the sake of establishing control on religious sector can be well interpreted from the fictional stories and the factual accounts by survivors.

Accounting these nuances, expressions and indications of the lived experiences of the lives of the marginalized that came up in these stories, it can indeed be asserted that the stories inevitably deserve to be accumulated in the curriculum of English. If the curriculum relaxes its boundary from including texts of only British or French authors, these 'literatures' written in English can surely offer new horizons and open up space of understanding the literary production of the world.

Diasporic Literature: Anita Rau Badami's *Can You Hear The Nightbird Call?*

Anita Rau Badami, born on 24 September, 1961, is a writer of South Asian descent living in Canada. Few of her works are: *Tamarind Mem* (1996), *The Hero's Walk*(2000), *Tell It To The Trees*(2011) and *Can You Hear The Nightbird Call?* (2006).

In order to highlight on the diasporic nostalgia and diasporic identity crisis recurring in the literature that may offer new horizon of theme in 'literature', our discussion will be limited to her *Can You Hear The Nightbird Call?*

The novel, with its chief motif of displaying the three registers of experience: the personal experience of home in three different contexts of migration-chosen, forced and non-belonging, revealed that belongingness is often problematically constituted through its other: the experience of violent separation, loss or exclusion. She accounted the readers with a dulcet description of the identity crisis and nostalgia of the Indo-Canadian diasporic community, settled there, in search of a better life. The three protagonists and their life stories convey the readers the psychological tussles and how the macrocosm of the politics of homeland affected their microcosm of daily behavior.

As she started the novel by describing Sharanjeet Kaur's claustrophobic life in a village of Panjaur, and how she stole her sister's luck and stepped unto Vancouver with her husband and becoming the Bibiji, complexities twined and interweaved the histories of the two countries. Her father as an escaped victim of the Komagata Maru Incident of 1914, always accounted her with descriptions of what could have happened if he would have been allowed to reach the land of 'damp earth' and 'dark tress', and how rich they could be if he could reach his dreamland in search of fortune. Indeed, through the very first chapters of the novel, the writer explored the social and political reality of The Continuous Journey Act of 1908, and emotional conundrums that boosted patriotism which made Bibiji's mother cover up the elopement of Harjot Singh with nautanki dancer with the boasted story of his death as a martyr.

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Khuswant Singh's letter about the history of the Sikhs in North America, in no doubt conveyed about the long lasting diasporic communities present in the land of Canada. The 'we' feeling of the 'invisible minority' persisted throughout the novel and the series of intersecting personal narratives in the arduous conversation highlighted the fervent tussle of the protagonists.

Bibiji, after settling in Vancouver, could understand the contemporary scenario of the home country she had left behind, through the letter of her sister, Kanwar. Kanwar's letter could make her contemplate how paper map could ruin the relation between the neighbours with whom they used to share a warm bonding. As Pakistan emerged as an independent country and chaos took over the scenario of India marked with trains carrying dead bodies to the supposed borders, women killed by the husbands to save honour, millions of people losing their homes, families, memories and communities, the fight between the Muslims and the Sikhs made her awe-stricken. Bibiji and Paa-ji naming their home 'The Taj Mahal' and their dependence and constant referring to 'oopperwala' as a way of constantly falling back upon their own culture, once again pointed how the couple along with the diasporic community projected their rooted Indian-ness within them, deliberately as a mean of deviance from the 'Gora' or the Whites, through their lifestyles, habits, practices and believes.

The gathered people in Bibiji's apartment discussing about the conflict between Hindus, Sikhs and Muslims, the killings, rapes and beatings occurring daily in the villages that were located on the supposedly border line between India and Pakistan, about Sir Radcliff and how the Hindu majority was supposed to stay in India and Muslims in Pakistan, unfolded the psychological connection the immigrants shared with their distant homeland.

While Bibiji and her husband set up a café in Vancouver and named it The Delhi Junction, it's decoration with lithographic prints of the ten Sikh gurus, coloured paintings of the Golden temple, maps of the India, photos of Nehru, Gandhi, Bhagat Singh, and Dev Anand , echoed their eagerness to uphold the Indian-ness, even in their land of Canada. On the other walls of the café were the clocks displaying the times of India, West Pakistan, East Pakistan, Vancouver, England, New York, Melbourne and Singapore, that also conveyed the readers about ties and tendencies the immigrants had, to imagine the daily chores of the friends and relatives whom they left far behind. Bibiji's careful charting out the menu of the café, 'deliberately excluding pork and beef so that none of the religious communities' sentiment gets offended', highlighted the native practices and believes followed by the diasporic communities even though they stayed far away from the land of their origin.

Although she and her husband were always glad to host new immigrants and served them as paying homage, it was their very own café that witnessed much debates and change of behaviour as the repercussions of the political events of the distant homelands, of the customers of that cafe. The Indians and the Pakistani customers fuelling their conversations on issues like families and politics of their country of origin were so much passionate, as if they could see their distant homes through a telescope, exciting their imaginations and their emotions, bringing tears to their eyes.

The Chinese invasion of 1962,referred to by the customers as 'The Chinese betrayal', and the way the immigrants refused to patronize Mrs.Wu's vegetable shop, indeed emphasized how the macrocosm of Indian political history had its shadow over the microcosm of the immigrants. Bibiji's conclusion during the partition that her loyalties laid with India and not with Pakistan, and her celebration for Indira Gandhi becoming the Prime Minister of India by distributing free sweets to all the customers of The Delhi Junction, proved how even though she stayed in Canada for a long time, her personal patriotic emotions always twined with the land of 'milk and honey'. Her affectionate smile at the portrait of Mrs. Gandhi that her husband hung at a wall of the café suggested the distant ties that she embraced as an Indian lady, who was glad to realize another Indian woman controlling the land. Diasporic nostalgia indeed!

As the immigrant customers of the café always shared a table and used to discuss about issues of their distant land, Bibiji always appreciated the traditional Muslim gestures of Hafeez Ali and his elegant Urdu accent. She was also enchanted by Menon's heavy Malayali accent. However, the seat arrangements of the café altered when war broke out between India and Pakistan, in 1965. Hafeez and Alibhai moved to a separate table as if the linoleum floor between them turned into the Line Of Control.

[4] *"Anger, hurt and loss simmered on both sides. As the war across the world went on and casualties mounted on both sides, conversation between the two factions in The Junction ceased altogether, and when Paa-ji began to vocally support the Indian side, Hafeez and Alibhai stopped coming to the café."* (pp-67).

Thus we see how not only the protagonists but also the minor characters of the novel expressed their bonding with their homelands through their day to day behaviour.

Although, as soon as the war ended, they reappeared to the café, because the attraction for "*familiar spices in a foreign country meant more than the enmities generated by the distant homelands*." (pp 67)

[4]Rau Badami,Anita. *Can You Hear The Nightbird Call?*.2006:Viking Publishers, Toronto.

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Perhaps, we may state it as a pertinent example of identity crisis where the immigrants felt their bonding and emotions with the homeland, yet in order to fit comfortably in their mainstream society of Canada and get the taste of familiar spices, hovered back to the café. Laloo too, in quest of fitting in that society took to dress with hat and suit, giving up the *desi* dressing style, despite his sense of belongingness.

Leela, another protagonist of the novel was a victim of identity-crisis too. As she was the daughter of an Indian and a 'casteless German woman' , she was always mocked for her '*trishanku*' state, and finally when she moved to Vancouver with her husband, she always pondered and oscillated between the thoughts of which was her home, Bangalore or Vancouver, besides her attachment and acquaintances to the lifestyle of South India.

The issues about building of new Gurudwara in Vancouver and Leela's feeling in Bibiji's house as if she was in a house of Punjab that was further clarified by Bibiji that inside her house, it would always be Punjab, was a clear instance of how the immigrants kept alive their native culture in Vancouver.

Leela too was intolerant towards the Chinese and blamed them for Nehru's death, as if she shared a filial bond with him. Bibiji's conveying Leela about the 'Minority Boat' and how all the Chinese, Japanese and Italians in Canada were in the same boat, dawned the realization upon Leela how they were the members of a Minority lumped together as " all in between people". The conflict over Blue Star Tragedy of 1984, followed by Indira Gandhi's assassination by her Sikh body guard, between the Sikhs and the non-Sikhs, reflected upon the relationship between the regulars of The Delhi Junction as well. Even the non-Sikhs of Vancouver claimed how the 'turbaned hooligans' deserved the attack on The Golden Temple!Bibiji, the lady who used to have affectionate smile towards the portrait of Indira Gandhi, after her husband's death, took to protest against her. Once again, the heated argument in The Delhi Junction began, about the faults of Gandhi and the Sikhs about the Blue Star operation, as soon as the café reopened. Laloo too gave up his western dressing style and proudly dressed like a Sikh, as if it was a means of protesting against the atrocities towards the Sikhs. The concept of 'Us and Them' too began to usher between the Sikhs and Non-Sikhs, in Vancouver.

Paa-ji being killed by the bullets in Blue Star operation, Nimmo's son Jasbeer's move to Canada and then back to Punjab, his involvement in the Khalistani Movement , and finally Leela's loss of her life in The Air India Disaster of 1985 that was the outcome of the Sikh separatist movement, along with the loneliness faced by Bibiji and Nimmo, gave a vivid picture of the social reality and the lives that were all interconnected with each other..

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The series of intersecting personal narratives and retrospective chronological narration indeed demanded an increased recognition of the historical harbingers of loss that have gone unheeded in Canada to disastrous effects. Just like the 'Indra's net', the net of tremors too had global consequences that wrecked the lives of many, magnifying the ethnic divisions which eventually priced lives, families, homes and perhaps sanity.

The facets of diasporic lived experience that came up in this novel, too perhaps deserve to be scrutinized in new light. As a part of curriculum, this novel too caters to the understanding of how 'literatures written in English' came up with new facets, themes, concepts and contexts.

Inclusion: A new horizon

HimaniBannerji stated in "Barbara Godard: In Memoriam" :

[5]"*From pursuing Canadian Studies, one could read politically and comparatively, as an attempt to challenge the hegemonic drive, to show the fractures and contestations, the power driven society of Canada, a space of convergence of multiple other*."

From exemplifying the narratives, it can indeed be concluded that Bannerji's envisioning of challenging hegemonic drive could bear fruits when these narratives would be co-opted in the curriculum, breaching the barriers of canonical studies. Not to demean the need of including Shakespearean plays and texts from Victorian England, the narratives by Lee Maracle, Alice Munro, Margaret Atwood and Anita Rau Badami too deserves to be included for a holistic understanding of 'English Literature' that flourished. Recounting of the 'crisis in dukedoms', Romantic essences and 'pleasure in pains' inevitably deserves to be in curriculum, but besides those, the narratives enumerating how political boundaries shook the lives across ocean shores and indigenous communities expressed their view in that very imposed language, also seeks a place, as alternative for the pre-existing models of curriculum.

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FICTION – A REALITY: A CONSTRUCTING DEVICE AND A SORT OF MAGICAL LINGUISTIC WAND IN THE SELECT NOVEL *HAROUN AND THE SEA OF STORIES* BY SALMAN RUSHDIE

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Abstract:
Haroun and the Sea of Stories (1996) is a book written by Salman Rushdie. With the publication of ***Haroun and the Sea of Stories*** Rushdie made his way into the sphere of children's literature and the complexity of the novel makes it a fit subject for study at a higher level. The novel is the tale of Haroun Khalifa and his father Rashid Khalifa and their adventures in *Gup* and *Chup* city in search of the lost talent of storytelling of Rashid Khalifa. In ***Haroun and the Sea of Stories,*** Rushdie uses imaginary people and places with the purpose of not only expressing profound social, political, and religious ideas but also stresses the importance of stories and storytelling in people's lives. Rushdie focuses on the use of his own mother-tongues - which include Urdu and Hindi, to convey his messages. The author uses pop-cultural reference throughout, allowing for otherwise impossible occurrence to convey messages that are understood by the reader. Some of these references even make political observations.

The characters whose names are meaningful and are related to the significance of storytelling and communication include *Batcheat*: "Chit-chat", *Bat-Mat-Karo*: "Do-Not-Speak", *Gup*: "gossip", *Kahani*: "story", *Khamosh*: "Silent" and *Khattam-Shud*: "The End". The Moon *Kahani* is, divided into two sections equal in size, one of which is kept in perpetual daylight and the other in perpetual darkness. The two are separated by a narrow strip of twilight, which is marked by a force field named Chattergy's Wall. The daylight side is called *Gup*, a Hindi and

Urdu word (meaning "gossip", "nonsense", or "fib" in English) and the night-darkened side is called *Chup* (meaning "quiet").

Inhabitants of *Gup* value speech and are called "*Guppee*s", meaning "talkative people", while inhabitants of *Chup* are stated to have historically valued silence and are called "*Chupwalas*", meaning "quiet fellows". At the South Pole of *Kahani* is a spring known as the Source of Stories, from which (according to the premise of the plot) originated all stories ever communicated. The prevention of this spring's blockage therefore forms the climax of the novel's plot. ***Haroun and the Sea of Stories*** is thus an absolute fantasy, but with a real though ingeniously interwoven socio-political basis. In the novel Haroun must travel to *Kahani*, an invisible moon of the earth that holds the Sea of Stories. Haroun must find a way for his father Rashid Khalifa to tell stories once again. To do so, he travels to the Old Zone in the Twilight Strip of *Kahani*, a place in between darkness and light, to battle *Khattam-Shud*, the Prince of Silence.

The fight between the *Gup* and the *Chup* thus becomes a figurative political struggle between the hegemonic power and the man's natural yearning for telling a story. This story, however, may turn out to be a true story which speaks unswervingly against power. It is so because the journey of every individual shows an answer, that the journey is intended for a surge towards an ultimate answer for the life. And the ultimate answer is the basic truth of our life. And through this novel Rushdie gives a clear picture of his views. Haroun's journey through the novel is an answer to the question of the importance of story. The ultimate answer is that story gives meaning. If one considers the implications of truth for fiction, they are vast. In this way, one can claim fiction to be a reality – constructing device, which is a sort of magical linguistic wand.

Key words: Hegemonic, perpetual, surge, twilight, unswervingly.

> And inside every single story, inside every Stream in the Ocean, there lies a world, a story-world, which I cannot Rule at all. (*HSS.* 161).

Haroun and the Sea of Stories is a book written by Salman Rushdie. With the publication of ***Haroun and the Sea of Stories*** Rushdie made his way into the sphere of children's literature and the complexity of the novel makes it a fit subject for study at a higher level. ***Haroun and the Sea of Stories*** is an allegory and exposes several problems existing in society today, especially in the Indian subcontinent. It looks at these problems from the viewpoint of the young protagonist Haroun.

Rushdie dedicated this book to his elder son Zafar, from whom he was separated for some time due to the controversy of ***The Satanic Verses***. However, the remarkable point is that in the name of gifting his son Zafar he provided a valuable service to the world of literature. This is clearly evident in the novel ***Haroun and the Sea of Stories*** as follows:

> Zembla, Zenda, Xanadu
> All our dream-worlds may come true.
> Fairy lands are fearsome too.
> As I wander far from view
> Read, and bring me home to you.

Characters in the novel personify literary devices such as alliteration, rhyme, and orality. The rhythms and eccentricities of the language signify that particular character and illuminate their scrupulous traits. On another level, Rushdie is also commenting on the imprecision of language. He creates words and phrases to emphasize the fact that the reader can never quite seize the true meaning of a text or an author's intention. The reader is confounded by the language and patterns of convention so that the moon of *Kahani* feels foreign. On one level, the novel can be read as a plain children's adventure tale, but Rushdie also intended for the novel to be a political metaphor.

It incorporates many of the themes of Rushdie's other works; magic realism, identity, politics - and others. The gossip, discussion, and arguments of the *Guppee* army on the way to *Chup* are an example of one of the novel's major themes: the apprehension between free speech and absolute silence. Rushdie means for the reader to question precisely how much free speech is too much and whether too much free speech can develop into counterproductive or even useless noise. Rushdie means for the reader to question precisely how much free speech is too much and whether too much free speech can develop into counterproductive or even useless noise.

Magic realism is a style of fictional literature in which magical elements blend with the real world. These magical/fictional elements could be used to elucidate realistic events. This form of writing can also be used to wrap up disturbing images by creating a fictional story to cover it up. Magic realism may also help the reader comprehend these events in a deeper meaning, instead of the event being written practically and the reader misses the meaning absolutely. A great example of magic realism in the story ***Haroun and the Sea of Stories*** is when Haroun goes on a fictional journey to try and bring back his dads story telling ability.

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The novel is the tale of Haroun Khalifa and his father Rashid Khalifa and their adventures in *Gup* and *Chup* city in search of the lost talent of storytelling of Rashid Khalifa. The story begins with a proper fairy tale line as follows:

> "There was once, in the country of *Alif bay*, a sad city, the saddest of cities, a city so ruinously and that it had forgotten its name." (*HSS*. 15).

The binary opposition of Silence/Speech takes main seat in the novel. Rashid Khalifa, the Shah of Blah's – storytelling ability disappears at the same time as his wife who elopes with his upstairs neighbor, Mr. Sengupta. Rashid's silence shows that the very source of the stories, the sea of stories, is being gradually poisoned by the Arch – Enemy of stories, the tyrant *Khattam-Shud*.

Silence (*Chup*) reigns in unending darkness, while Speech (*Gup*) is saturated in everlasting light. The war between Speech and Silence, however, is fought on many fronts: between good and evil, between freedom and repression, between democracy and dictatorship. The binary qualities in Rushdie's Haroun and the Sea of stories can be severally depicted. To begin with, the topography of the moon *Kahani* and its distribution of light and darkness suggest a colonial conflict rather than a simple resistance between the freedom of speech and censorship. The sunlit Land of *Gup* is in the north of *Kahani*, whereas the eternally dark *Chup* is in the south.

In the same way, the inhabitants of the north are characterized as good and their enemies as evil and intimidating. It is also worth mentioning that the metaphor of light and darkness was all-pervasive in colonial discussion. In keeping with their civilizing mission, the progressive colonial societies were bent on eradicating the savage customs, pagan religions, and unawareness of the dark peoples. These provided the power for the colonizers to exploit and make use of the world's resources for their own advantage. That is accurately what happens on *Kahani* too. The Eggheads of *Gup* discover a way to prevent the alternation of their planet, which allows them to have suitable daylight, a most essential resource, from the *Chupwalas*.

The novel suggests that self-proclaimed good can be seen as evil. There are indications that the light side of *Kahani* is not as good as it is made out to be by the *Guppees*. It becomes clear that they are duly proud of their technological achievements. In their conceit they seem absolutely unaware of the consequences the loss of light for the *Chupwalas*, and repercussions that follow the loss of light.

The (mis)use of language is a further element of the *Gup- Chup* conflict. The *Guppee* side has not only stolen light, they also have appropriated speech and the description of what is meaningful. Speech stands as the symbol of democracy and individual freedom of expression.

However, the ceaseless chitchat in *Gup* can also be interpreted as their repressed guilt over stealing the sun from *Chup*. In contrast, the dark other is silent—what it thinks goes unheard because its language and culture are strange. Prince *Bolo's* remarks show this kind of outlook when he hears unknown language. He also designates as inhuman the sounds a *Chupwala* warrior makes when trying to speak the *Guppee* language. The silence of the dark side on this moon could be seen as a conscious attempt by the light side to ignore it.

One of the most striking elements of play in language is in Rushdie's use of names. Almost all of the names in ***Haroun and the Sea of Stories*** either allude to other stories or parts of culture, or have been derived from other words in the Hindustani language. For example, *Batcheat* is derived from '*baat-cheet'*, meaning 'chit-chat.' *Bolo* is derived from the verb '*Bolna*,' meaning 'to speak.' *Gup* means 'gossip," and *Mudra* is the name of any gesture in the *Abhinaya* language, which is in fact a real language of gesture in Indian classical dance. The names in the novel all correspond with the essence of the culture from which the character comes. For example, all of the names of the people of *Gup* correspond to wordiness, gossip, or speech. The names of the people from *Chup* (which means 'quiet') correspond to silence or the lack of speech. The gossip, discussion, and arguments of the *Guppee* army on the way to *Chup* are an example of one of the novel's major themes: the tension between free speech and complete silence.

Haroun and the Sea of Stories aims at exploring the precision of the proposal of the Rushdian parable as well as at analyzing its explicit narrative strategies. In ***Haroun and the Sea of Stories,*** Rushdie uses imaginary people and places with the purpose of not only expressing profound social, political, and religious ideas but also stresses the importance of stories and storytelling in people's lives. Rushdie focuses on the use of his own mother-tongues - which include Urdu and Hindi, to convey his messages. Many of the names of characters and places throughout the work are derived from these languages. The characters whose names are meaningful and are related to the significance of storytelling and communication include *Batcheat*: "Chit-chat", *Bat-Mat-Karo*: "Do-Not-Speak", *Gup*: "gossip", *Kahani*: "story", *Khamosh*: "Silent" and *Khattam-Shud*: "The End".

The author uses pop-cultural reference throughout, allowing for otherwise impossible occurrence to convey messages that are understood by the reader. Some of these references even make political observations. Rushdie names the "Grand Comptroller" of *Gup* City, "The Walrus", and his cabinet, the "Eggheads". This, of course, is a reference to the Beatle's song, "I am the Walrus", as is actually stated in the novel, and similar to the lyric in the song, "They are the Eggheads. He is the Walrus" (*HSS*. 58).

Salman Rushdie's ***Haroun and the Sea of Stories*** exercises the importance of storytelling in life. Rushdie - depicts the social, political and cultural ideals in a tale and in ***Haroun and the Sea of Stories*** are counted irony, interconnection between humor and seriousness. The Moon *Kahani* is, divided into two sections equal in size, one of which is kept in perpetual daylight and the other in perpetual darkness. The two are separated by a narrow strip of twilight, which is marked by a force field named Chattergy's Wall. The daylight side is called *Gup*, a Hindi and Urdu word (meaning "gossip", "nonsense", or "fib" in English) and the night-darkened side is called *Chup* (meaning "quiet"). Inhabitants of *Gup* value speech and are called "*Guppee*s", meaning "talkative people", while inhabitants of *Chup* are stated to have historically valued silence and are called "*Chupwalas*", meaning "quiet fellows". At the South Pole of *Kahani* is a spring known as the Source of Stories, from which (according to the premise of the plot) originated all stories ever communicated. The prevention of this spring's blockage therefore forms the climax of the novel's plot.

At the center of the Valley of K is the Dull Lake, which is said in the novel's appendix to be named after the *Dal Lake* in Kashmir. This implies that Kashmir is the place on which K is based. The Dull Lake itself is the location of the Moody Land, a landscape whose weather changes to replicate the emotions of the people currently present in it. It is the place where the lead characters go at the behest of a corrupt politician, and where their adventures begin. In the novel Haroun must travel to *Kahani*, an invisible moon of the earth that holds the Sea of Stories. Haroun must find a way for his father Rashid Khalifa to tell stories once again. To do so, he travels to the Old Zone in the Twilight Strip of *Kahani*, a place in between darkness and light, to battle *Khattam-Shud*, the Prince of Silence.

Haroun and the Sea of Stories is thus an absolute fantasy, but with a real though ingeniously interwoven socio-political basis. The political catastrophe in the fable revolves around the loss of Rashid Khalifa's speech. He is not capable to tell his magical stories any longer. Even the politicians are fond of welcoming Rashid to speak at their political rallies, because there is magnetism and power in the way Rashid tells his tales. The instantaneous cause for his loss of ingenuity is the order of *Khattam-Shud* to poison the ocean of stories. He represents the political, religious and authoritarian tormenter who is the enemy of all the noblest expression of human attempt. The fight between the *Gup* and the *Chup* thus becomes a figurative political struggle between the hegemonic power and the man's natural yearning for telling a story. This story, however, may turn out to be a true story which speaks unswervingly against power.

The central part of the novel in particular is extremely fantastic and follows the tradition of ***The Arabian Nights***. With such magic-realist and fantastic mode, however, Rushdie exposes and parodies the unseen obscurantism underneath all religious bigotry. The novel is thus a delicately veiled allegory and Rashid's fate intimately parallels Rushdie's own pain. The first time is at the beginning of the novel, claiming to have heard about a certain sad town that has forgotten its name. The setting of the novel shifts to *Kahani*, the earth's second moon and source of the Sea of Stories. *Kahani* is where all of earth's stories originate. They are distributed throughout the world by the forces of gravity. The moon travels at the speed of light. This speed allows light to be discovered, but it also allows things to be concealed since they move so fast that the human eye cannot see it. The theme of revealing and concealing with light recurs throughout the novel. Similarly, "Rashid" is a very close anagram to "Rushdie".

To conclude, Rushdie creates his scholarship in a broad framework. Therefore, there may be other angles from which the books may be read or examined. But, without a doubt, it may be said that with the publication of the present book, the writer has entered into the arena of international children's literature with the purpose of securing the reality of life. It is so because the journey of every individual shows an answer, that the journey is intended for a surge towards an ultimate answer for the life. And the ultimate answer is the basic truth of our life. And through this novel Rushdie gives a clear picture of his views. Haroun's journey through the novel is an answer to the question of the importance of story. The ultimate answer is that story gives meaning.

If one considers the implications of truth for fiction, they are vast. In this way, one can claim fiction to be a reality – constructing device, which is a sort of magical linguistic wand. It is also an ultimately optimistic way of looking at the world; but then again, we (the readers) are told that,

> "[B]elieve in your own eyes and you'll get into a lot of trouble."
> (*HSS*. 63).

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MODERN METHODS OF TEACHING ENGLISH- ISSUES AND CHALLENGES

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Abstract:

The traditional way of teaching English classes underwent a revolutionary change due to the present pandemic of Covid-19. The worldwide lockdown compelled the practitioners to embrace and use modern methods of teaching like Online, Remote or Flipped mode during these testing times. Teaching in classrooms and particularly English has become passé. Most of the Universities have resorted to modern methods of remote, flipped or online teaching due to the pandemic. MOOCs gained popularity and students have registered themselves for various online courses offered by International universities for value added certificates. A study was conducted on the learners and practitioners using modern methods of teaching and learning English.The data was collected from faculty teaching through remote classes and students learning through such digital platforms. This paper concentrates on identifying preferred modern tools, platforms, issues and challenges faced while implementing these modern methods of teaching English language.

Keywords: Online, Flipped, Remote, English language, tools, Modern Methods, learners and practitioners.

Introduction:

The traditional way of blackboard and chalk or using smart board in classroom for teaching English language has become passé. The Modern methods of teaching have revolutionized learning English. The pandemic and the resultant lockdown in India and worldwide has necessitated or hastened the process of Modern and technological advanced methods of teaching. While traditional approaches do provide a solid foundation for effective language teaching, it is important to understand that these methods cannot be used currently due to the prevailing circumstances. In fact, earlier, to be creative, the use of smart phones or smart boards was a good option in the classrooms. Students could/would respond to answers and themselves involve in activities using such digital gadgets which was a perfect way of receiving feedback using internet and technology. But such modern tools were selectively used on some tasks and activities of learning the English language.

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On the other hand Online, Remote and flipped teaching has gained a lot of importance in the current pandemic. Online courses like MOOCs, Swayam, etc. have seen a sudden surge in enrolment and so have many other online courses offering international certifications.

In the last couple of months teaching and learning such modern, advanced technological tools like remote learning and flipped classes have thrown up many challenges. It is no longer possible for practitioner to just stand in front of a class and teach, one has to rely on technological teaching aids and power point presentations to do the job effectively. Even verbal instructions of teaching have to be clearly recorded and presented or uploaded online. Reading material, reference notes etc. have to be formatted and made available to students online for easy access and understanding. Recording your own instructions and uploading it online as with a flipped classroom is one way of dealing with the issue, even that includes the technical dimensions and it takes a considerable amount of time as well. Both the teachers or practitioners and Students or Learners being 'digital natives', find it a challenge to adapt and implement. Many arenot that technologically proficient enough when it comes to tackling unfamiliar software, hardware or using it in the right way.

Many new and Modern tools like Quizzes, Kahoot, Invision, Flipgrid, Loom etc are exciting ways of engaging students to learn their subjects in an interesting way. All this needs a lot of time to prepare and create to ensure quality in content and to arouse interest in the lessons. A humungous amount of time goes into planning the teaching material to be delivered, and this is a challenging task.The practitioner (Teacher)also has to be tech savvy and patient.

Literature Review:

Hsiu-Ting Hung (2015) explored teaching in language classrooms by using the WebQuest active learning strategy. It studied the impact of Flipping classrooms on students learning the English language and the resulting performance, attitude and participation.

Jamuna A.S (2016) highlighted innovative ways to use technology in teaching the English language. The study focused on the role of a teacher in making the subject interesting by using technology Post-Graduation levels. It is up to the teacher to develop students' interest in the English language by integrating technology to encourage students to hone their skills in Reading, Speaking, Listening and Writing skills while learning the language.

Jamuna, A.S and K. S. SrinivasaRao (2016) have analyzed how technology plays an important role in developing Entrepreneurs among the MBA Students from B-Schools. The authors indicated that the Role of Faculty in a B-School will become vital in usage of Technology to inculcate ideas through creativity among the future Entrepreneurs.

Kamalja, Mahesh(2016)emphasized therecent trends and developments that depict the dynamic role of the sector of education and its internalization of the education process, and also the importance of quality over quantity was emphasized. The paper opined that to better professional talent, adoption of technologies was a must.

Hazarika, Zoheb.(2017)explored the impact of technology in the context of Teaching English to Students of Other Languages (TESOL).It analyzed the background of theevolving field of technology in English language teaching and delineates the growth ofEnglish through technology. It explains the various necessities of technology in teaching English. It also highlights the possible disadvantages of technology.

Objectives: 1.To understand the modern methods of teaching and learning English Language

2. To analyze the issues and challenges faced by learners and practitioners.

Methodology:

Research was conducted where in responses of 100 people were studied. Study was conducted and respondents from India and abroad participated. The study included the modern methods used for learning English language, the issues and challenges they faced while using such methods of teaching.

Analysis:

Table-1: Distribution of Respondents as per the Challenges faced

Challenges	Frequency (100)
a. Uploading a Video	16
b. Audio issues	19
c. Slow internet speed	41
d. Other technical problems	14
e. No Issues	10
Total	**100**

The above table shows the challenges faced by respondents while using such digital tools of learning and teaching was slow internet was 41 % , and 14% of them faced some technical issues while respondents having audio issues was 19% and uploading a video was 16% respectively.

Table-2: Distribution of Respondents as per Tools Preferred for learning English Language

Priority	PPT	Smart Board	Video	Polly	Google Forms
1	29	21	37	14	35
2	34	21	17	21	12
3	17	32	16	32	26
4	15	18	21	18	17
5	05	08	09	15	10

(**Note:** Each cell frequency is out of 100, therefore percentage not shown separately)

From the above table distribution of the respondents video is the most preferred tool 37% followed by Google forms 35% for learning English language.

Discussions: Engaging the students and motivating them has been a daunting task for English language teaching. One has to assess whether the students have reliable access to technology before starting the flipped or remote classes. Not every home will always have a reliable internet connection or readily available devices (laptops, desktops, tablets, mobiles etc.) for students to use. Many have to traverse long distances or climb up a hill to get a reasonably good internet signal and speed. Even the practitioners have to struggle to get acquainted with these new methods and tools.

An email, message or text in advance will give students ample time to fix and rectify internet issues and an opportunity to flag these issues well in advance so that one can prepare to accommodate such students ahead of time.A faculty development program for practitioners and Training and on-boarding sessions for learners is therefore a good option.

Conclusions and Findings: Out of 100 respondents, the challenges faced while using such digital tools of learning and teaching was slow internetwhichwas 41 % and 14% of them faced some technical issues while respondents having audio issues was 19% and uploading a video was 16% respectively.37% of the respondents felt that teaching and learning with video as the most preferred tool followed by Google forms 35% and PPTs 29% respectively for learning the English language. Most of the respondents were facing multiple challenges like bad network connection, not being tech savvy and lack of interest or motivation in such distancing learning. Due to Covid-19 Pandemic it is important for the learners and practitioners to get acquainted to such Modern methods of teaching English language.

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ECOFEMINISTIC RENDERING OF NATURE IN SARAH JOSEPH'S *GIFT IN GREEN* AND ANITA DESAI'S *FIRE ON THE MOUNTAIN*

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Abstract:

Ecofeminism is a term coined by French Feminist Francois d'Eaubonne in her writing Le Feminisme ou la mort ("Feminism or Death"). The word is formed from the two words 'ecology' and 'feminism' also referred to as ecological feminism. The connection between how women who depend on natural resources and the exploitation of these resources foreshadows a connection between feminist and environmental issues. Sarah Joseph's *Gift in Green* and Anita Desai's *Fire on the Mountain* have been analyzed from such Ecofeministic rendering of nature and woman revealing the dystopian future of the planet subject to environmental degradation, destruction and commoditization of landscape and non human forms of life. The paper focuses on the analyses of how the novel deals with the threats of pollution, displacement of people, disease and the concept of resistance in both the novels.

Key words: Ecofeminism, destruction and degradation, development, resistance

Ecofeminism is a term coined by French Feminist Francois d'Eaubonne in her writing Le Feminisme ou la mort ("Feminism or Death"). The word is formed from the two words 'ecology' and 'feminism' also referred to as ecological feminism. The connection between how women who depend on natural resources and the exploitation of these resources foreshadows a connection between feminist and environmental issues.

As Karen J. Warren, American ecofeminist speaks of the interconnection between woman and environment in her work *Ecofeminism: Women, Culture, Nature*: "Trees, forests and deforestation. Water, draught and desertification. Food production, poverty, and toxic wastes. Environmental destruction and women. And women? What do these environmental issues have to do with women?" (2) one can identify this binary. Sarah Joseph's *Gift in Green* and Anita Desai's *Fire on the Mountain* have been analyzed from such Ecofeministic rendering of nature and woman revealing the dystopian future of the planet subject to environmental degradation, destruction and commodification of landscape and non human forms of life.

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The novel Sarah Joseph's *Gift in Green,* narrates the story of Aathi, an island with its natural purity untouched by the outside world. Aathi, is a serene land full of stories and storytellers who were nomads coming year after year to narrate those stories. The villagers who lived in Aathi loved to be mesmerized by the words of Thampuran's voice. "The storyteller identified dates for our daughter's weddings. He showed us where to dig wells. We received him as Thampuran's voice" (16). All the stories narrated the spiritual significance of water and these stories were listened with utmost reverence. Sarah celebrates the myth of water in the appendix too, at the back of the novel with allusion to various texts: "These stories have come down to us from an assortment of sources: the Bible, the holy Quran, Zen and Sufi traditions, the Puranas, folk narratives, historical events and those attributed to the life of St. Francis of Assisi. These stories have been created and reinterpreted within the alchemy of Aathi" (353).

Aathi has a historical reverence for one of the five elements of nature and the nectar of life – water. For in Aathi, water was related to human beings from birth till death. All their rituals, culture and their existence depended on water and land. The interdependence of man and nature could be seen in the very oath they took in the name of water 'Jalam Sakshi!' The existence of Aathi was only because of water as is described: "Innumerable canals, water drains, ponds, water springs, wells, paddy fields brimming with water and slushy marshes criss-crossed the place-the network of Aathi's nerves" (33-34). To understand the significance of water Sarah provides us with a protagonist named Kayal who had lost her way in the city could only say 'po-po' to everyone she met. Kayal and her mother return to Aathi with the hope that the water might cure her. "Not know in the usual sense of the term. We must know the water as the lotus knows it" (61).

The villagers treat nature gently whereas ill treats nature and talks of ownership of land. Kumaran's arrival into the village makes changes that spoil nature. "Ever since this thing began, baskets full of empty liquor bottles, plastic bags and rotting food had been accumulating in the mangrove forest" (86). The degeneration starts with the arrival of Kumaran, a native, who left Aathi earlier for a better livelihood and comes back to turn Aathi into a paradise with a profit motive. Kumaran brings with him the concept of development, modernism and commercialization. Kumaran comes with a project of filling the land and making Aathi into a high- tech city. Dinakaran along with Kunjimathu, Ponmani and Shailaja protested against it. They sought the help of Adv Grace Chali to file petitions against the filling up of land. However, Kumaran had securely closed the questioning mouths successfully.

The serene, calmness of Aathi disrupts and the waters get dirty, muddy and violent. An anonymous character, a girl cleans the water by herself is Aathi personified: is the nature of water to clear; it cannot help it" (35). She is depressed over the waters getting muddy and tries to

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clean it but deep inside she can understand that it's not possible any longer. Shailaja, as a woman has an emotional attachment to the ruining of nature. She is restless when she finds the medical wastes polluting the waters and she sees murdered fetuses, placentas, severed limbs, plastic bottles, chemical agents, garbage etc., and feels terrible. She recollects Markose who said: , "Behold the earth. Everyone chokes her with dirt and garbage. And she? Gives flowers, fruits, nuts, rice and wheat in return"(76).

The reference to Chakkam Kandam, a village serves as the best example for polluted village which turned uninhabitable because of the careless mistakes committed by people who fail to recognize the provision of nature. Prakashan, loves Shailaja and earned his livelihood by fishing. But he too is caught into the fold of greed by Kumaran and leaves the village. Velayudhan, Shailaja's father rejects him to marry his daughter. Shailaja is married to Chandramohan of Chakkam Kandam which had backwaters, mangroves, fish etc. Shailaja gets shocked on seeing the village's polluted waters. 'None of us ever eats or drinks anything here,' the women said, their faces creasing with aversion. Shailaja was horrified. The wells, the ponds, the channels, the streams and backwaters, which spread like an ocean in front of the house, were all covered with layer upon layer of shit. (80)

Nature's behavior changes soon as is evident from the rising waters: "No sooner had they vanished from sight than Kumaran's army marched into the water. Booted legs kicked and splashed in unison. The battered water rose, splattered sideways and crashed flailing its head. Never before had Aathi witnessed such an exercise (39). The people of the village failed to understand to what was happening but knew that cultivation and fishing can't be done and they would witness extreme poverty. Kumaran built bridges, vast structures and embankments which became a resistor to the resistance of water. During tides the people of Aathi could hear the "water wailing and howling, knocking its head against the granite bund" (203).

Man has become so selfish and demanding that although they could understand nature's plight in terms of development and progress, he fails to recognize it. Kunjimathu had seen the sight of trapped water and launched a fight against Kumaran and his massive structures: "One by one, all the people of Aathi came to Kunjimathu, drawn by rumour and reportage. Even those who have come to dissuade her ended up staying on in solidarity with her" (203-204). Some individuals understood the condition and could foresee a bleak future of Aathi. Aathi's stinking waters showcased Kumaran's dirty, stinking and selfish ideology. Youngsters of the village – Dinakaran and Ponmani sought the help of the government while women like Kunjimathu and children cleaned the waste and garbage on their own. This however, couldn't prevent the death of the waters of Aathi and as the clear waters vanished from the mangrove, its people too vanished.

Nature's terror was vent upon the people who spoiled it. When the monsoon came, nature's revenge struck with the water flowing endlessly: ""There was water everywhere, nothing but water" (343). The monsoon rain cleared away the filth that had destroyed the waters of Aathi. The clear waters were back and nature showed its importance as a liberator and life sustainer. People understood Kumaran's business and profit motives and came out of the utopian, hypnotic, modern commodified urban culture and understood his evil intentions.

Green bangle, the mangrove forest in Aathi, is shown explicitly exploited by men. Throughout the novel, the presence of total greenery is seen even in connotation with the title which man fails to understand since nature with its greenery is a gift to man in green. The novel starts with the degradation of ecology and ends with the regeneration of Aathi.

The paper focuses on the analyses of how the novel deals with the threats of pollution, displacement of people, disease and the concept of resistance. The natives of Aathi had to recognize the devious means of Kumaran which can be equated with the land pooling taken by government and the land grabbing of business tycoons in modern India in the name of development. The ecological destructions levied by man would lead to a calamity. Aathi, personified as a woman shows her association and affinity to woman-nature connectedness the binary where female role i.e., Prakriti should be recognized and her role respected. Aathi, with its rituals and practices had an eco-friendly culture respecting Mother Earth and revered water as a life source which was for a brief tenure invaded by a catastrophe to understand the role played by development and modernity which throws us into a dystopian future.

Plumwood acknowledges that women have been culturally associated with nature and this has essential provided an 'othering' of both women and nature. Griffin, Morgan and Rich elaborate that "greater humanism, pacifism, nurturance and spiritual development…And all this because women are closer to nature" (Rosi, 68). Eco feminists believe in the connectedness of woman and nature and that the liberation of one means the liberation of the other since both are dominated by patriarchal ideologies. Anita Desai's *Fire on the Mountain* is analyzed with the aspects of both woman issues and nature issues which brings to light a completely patriarchal society which treats women and environment alike where both are used alike to suit the needs of man.

Nanda Kaul, spends most of her life fulfilling her socially given responsibilities of a good wife and a caring mother. Her living alone a Carignano symbolizes that her role of a wife was over with her husband's death and her completed role of a mother with her children well settled and married. Her presence at Kasauli and her apparent satisfaction with the 'barreness' of the place is the effect of how the patriarchal treatment has changed her mind. The desired cultural image as a woman was no longer wanted now as she has none to care for. However, the arrival of Raka, her great grand daughter who needs medication destabilizes her mind to understand herself as Raka seemed to inherit many of her longings as a child. "If Nanda Kaul was a recluse out of vengeance for a long life of duty and obligation, her great grand daughter was a recluse by nature, by instinct. She had not arrived at this condition by a long route of rejection and sacrifice (like Nanda Kaul), she was born to it, simply'' (48).

Raka observes the cruel, developmental and beneficial plans of the government and business tycoons when she watches the Pasteur Institute which was created to produce vaccines for people but that those vaccines were tested on many animals which died. The harmful effects on the non human life and the ecosystem is symbolic of the environmental oppression meted out by the policy makers in the name of development. The stark charred trees and the Pasteur institute symbolize the affinities of the west which are slowly engulfed by the fire of natural energy and nature providing a place for discarded women.

Raka feels liberated in Kasauli. "The safe, cosy, civilized world", of the plains, of the city, is like a prison to her "to which she owed no attachment" (91). Ila's rape and death is symbolized quite early in the novel through images of nature. As Nanda decides to take a walk on the lawn, she spots a lapwing that gets agitated on her unexpected arrival. Nanda thinks "that hunted, fearful bird, distracting and disturbing" (26). When Ila stops to talk to Nanda as she was passing by a group of boys cruelly taunt her. Her umbrella is taken by the boys and it becomes a horrifyingly dehumanized metonymy for IIa: "The umbrella squeaked in protest. Boys fell upon it, brought it down into the dust and it bowled along the gravel, kicked helpfully on by them to the side of the road…Roaring in joyous expectation, the boys tried to help it through the rails but it stuck fast, protesting like a lady in hoop-skirts at their uncouth sport" (108).

Ila represents every woman whose voice disturbs, amuses and sometimes irritates them. Speech of Ila is a representation of how its made fun of and disliked by men. Speech becomes a sign of refusal which men can't accept and it had to replaced by violence and decapitation, rape and bloodshed. The Ecofeministic view upholds the current developmental model as deceptive and violent both on nature and women.

> In the novel *Fire on the Mountain* ecofeminism asserts the woman's association with nature and their denigration related to one another. This novel is a landmark which questions the misuse of natural environment and the exploitation and illtreatment of women existent in the societal inequalities and patriarchal culture. Anita Desai's narratives not only give shape to separateness and connectedness that emerge from a family saga, but dramatize the way in which the self receives wounds, which are either aggravated or healed by the socio-cultural matrix, which is its soil and sustenance (Rajendra Prasad 148).

Raka understands Kasauli's history of deforestation, its strategic location as a military depot and medical research centre and the hill station and all these are illusions of mankind inn the name of development and progress at the cost of deforestation and hampering of forest growth. The forest fires serve the metaphor for the revenge taken by nature on man for his growing selfish wants.

The old lady, Nanda who has cut herself away, is not aware of the hill the way the girl Raka knows. Raka sees the cruelty and scans the mountains which have been subjected to denudation by the vaccine industry and repeated forest fires – man made or otherwise. In this novel, women characters are depicted as members of damaging ecosystems.

Raka sets fire in the end to delete the scars of human behavior such as that of grandmother who avoids giving shelter to Ila, her friend in need; to the brutal behavior of villagers like Preet Singh who couldn't understand the message of Ila when she stopped the marriage of his young daughter. Raka seems to portray the message that nature can become drastic if aroused and left uncared for signifying a binary of woman similarly left uncared for by the commercialized and commodified demands of modern mankind.

Conclusion:

Ecofeministic reading of these novels projects a picture of the incorrigible aftermath that can stem from the oppression of nature and slowly disseminate into human life involving woman and non human forms. The whole concept of development and progress carried on by the use of machines and technology by man would bring in a state of interrogation. The novels compare the use and abuse of nature and woman as Prakriti personified and generate a response towards harmony in culture and nature to promote sustainability and thereby empower the entire ecosystem which promotes life of humans in the long run.

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MODERN METHODS OF TEACHING ENGLISH

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Abstract

Teaching is a complex, Challenging and creative task. Predictable and traditional methods of teaching disengage the students, making them lose interest in learning. Figuratively, most of the younger generation seem to be handcuffed to their mobile phones. They often attend lectures in college without their note books or textbooks, but they never fail to carry their mobile phones with them at all times. Though many colleges in India have laid down a rule that states that students should keep their mobile phones in silent mode or switched off, teachers often notice students stealing a look at their mobile phones under their desks. With permission from the higher management, mobile phones and smart boards are now being used to teach English in our classrooms. When modern tools and mobile phones are used in teaching, they promote peer contact, and improve collaborative and interactive learning among students. This paper tries to explore these issues.

Keywords: Mobile learning, Technology for language learning, interactive learning.

Introduction

An aspiration India wants to learn English primarily for achieving literacy in English for acquiring basic proficiency in English, and for improving the language skills that will help them move up the ladder of social success. English is not the language of transaction in rural areas and teachers labour hard to master the language which they do not use regularly outside their classes. The English language skills of the teachers in rural India are woefully inadequate and when such teachers teach English, the students learning of the language suffers. How can we upgrade the language skills of these teachers so that ultimately the students would be able to gain proficiency in English? Can technology be effectively leveraged to help school teachers attain a reasonable degree of proficiency in English? Can we tap the huge potential of educated Indians who are willing to help in the mission to upgrade the language skills of rural teachers?

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English has come to represent a symbol of people's aspirations across India and proficiency in the language helps them to participate in various spheres of activity. In a country that is rich in diversity like India, English is seen as a binding force. Students from non- English-speaking backgrounds, especially from the rural and semi-urban areas of India, struggle to learn the language due to a variety of reasons. Though they are very good in other subjects academically, their lack of skills in English leaves them behind, especially when they migrate to cities for the purpose of higher education or to seeking employment. Competitive exams call for English as a medium of examination. This is a major area where rural students lag behind and here is where the divide becomes more prominent.

The biggest challenge faced by any teacher of the English language is to find the tools that help engage the students in classrooms. Students seem to display a lack of interest and apathy when learning the language. They are often caught playing on their mobile phones during the class. The phones that distract the students can, however, be used by them as a learning tool.

Students Activities

Students were asked to watch YouTube videos of an interview with any renowned singer and youth icon. They were asked to observe the way how they spoke with a strong American accent, but when he/she sang, pronounced any regional language words correctly.Students were shown international advertisements for shampoos and detergents, and in small groups they were asked to customize the advertisements to appeal to an Indian audience.

Students were asked to use their mobile phones to record a situational dialogue set in a formal context. For example, the openings of a bank account, a mock interview, and so on. They were encouraged to play it back to help them identify and correct any errors. Students were asked to write in Instagram and Blogger. They were given the opportunity to voice their views on a medium that is highly interactive. They received instant feedback from their friends. Students were shown short movies and video clippings, and were asked to discuss and write reviews based on group activities. Students were asked to have a Skype conversation with their friends or relatives living in abroad.

Problems Faced

Watching the video clipping and movies seemed to interest the students. The response was tremendous when they were asked to discuss what they had seen. However, the students were reluctant to take up written activities, such as writing a review or a blog. Very few students were participated in this.

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Live streaming was interrupted during the Skype sessions because of technical problems. These activities seemed to work well and produce the expected results when the strength of the class was smaller, around 15 to 20 students.

Conclusion

The Mobile English Classroom is a bold and innovative experiment which can fulfils the need of empowering rural teachers by developing their English language skills. It is effective for adult learners who have neither the means nor the avenues for attending regular English courses. The mobile revolution has come as a great boon in this country and this is effectively leveraged to provide large scale training to these disadvantaged sections of the society. Smart boards, computers, and mobile phones are effective learning tools if the teacher is imaginative and creative. English teachers have to keep updating their knowledge base constantly in order to be relevant and useful in the present-day classrooms. Teaching materials and methods have to progress and change to match the changing world.

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"WHEN MR PIRZADA CAME TO DINE"

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ABSTRACT

Diasporic writing in its theory and practice is the work of the expatriate who has experienced unsettlement at an existential and metaphysical level. Significantly in the past two decades, Indian English writing has been at the forefront with regard to multitude forms of depictions and expressions, in respect to value and volume. Diasporic literature earned eminence in world literature in a backdrop of post-colonial milieu, thanks to the rise of migration, immigration or emigration. The present paper examines the diasporic insights in JhumpaLahiri's'When Mr. Pirzada Came to Dine' which is one of the stories of her short-story collection Interpreter of Maladies. As a diaspora writer, Lahiri deals with issues of diaspora and its effects on identity and character. The diasporic insight of a Bangladeshi scholar Pirzada is presented in the story When Mr. Pirzada Came to Dine. As a native of Bangladesh, for Pirzada there is a deep sadness attached as he misses a place he calls home. This nostalgia brings anxiety and longing for his home and family. On the other hand, Lilia is a second generation immigrant caught up in two cultures between the traditions of her parents and the American society. Like many in the growing segment of the population, Lilia is seen struggling to reconcile her family's culture with life in America. Many children of immigrants "feel torn" about their identity. The young people are having difficulty living in two worlds, that of their parents and the new American way. For them however this courage to be authentic in the face of expectations, in order to conform to a culture of origin, while also being successful in mainstream society is remarkable.

Keywords: culture, dine, immigrants, origin etc

Jhumpa Lahiri is one of the resourcefully talented writers of the Indian diaspora, who made significant contribution towards reflection of Indian Writing in English as a fully developed and established branch of writing. Her writings focus not only on portraying the immigrant's crisis of identity, racial and cultural divergence and alienation of the mind and the loss of the sense of belongingness, but also narrate the stories of old and new generation, their struggles and dilemmas. Diaspora writing helps us understand the multicultural picture and evokes breaking the barriers of countries.

The story*'When Mr. Pirzada Came to Dine'*is one of the stories of her short-story collection *Interpreter of Maladies* which presents the diasporic sensibility of a Bangladeshi scholar who had left his war-ridden family in Bangladesh, and comes to America to study the foliage of New England after getting a research grant from Government of Pakistan. It offers the cultural harmony between an Indian family and Pakistani young man in a foreign country and Lahiri's expression of the sense of alienation continues in the story. Lilia, a young second generation immigrant Indian American girl is the narrator of Mr. Pirzada's life's story. "His name was Mr. Pirzada, and he came from Dacca, now Dhaka, the capital of Bangladesh, but then a part of Pakistan." (IOM 23). Pirzada experiences the pain of separation from his family, wife and seven daughters who are in his homeland Dacca.She also makes clear that he has, "a three-story home, a lectureship in Botany at the university, a wife of twenty years, and seven daughters between the ages of six and sixteen" (IOM 23) in Dacca. In the year 1971, Mr. Pirzada arrived America for his project when a historical civil war of Pakistan occured to transform East Pakistan into an independent country known as Bangladesh.

Even though, Mr. Pirzada received the funding from his government, it did not enable him to get independent residence for living, stove for cooking foods, television for news or entertainment and other sundry items for living a comfortable life in the alien land, and for this reason he had to live in a graduate dormitory:

> The grant was a great honor, but when converted into dollars it was not generous. As a result, Mr. Pirzada lived in a room in a graduate dormitory, and did not own a proper stove or a television set of his own. And so he came to our house to eat dinner and watch the evening news. (IOM 24)

These crises in the foreign land give rise to nostalgia, and he, as a result, longs for the comfort of the native soil. Lilia's immigrated Indian parents always invited a new mate from their native land for sharing meals and took pleasure in the reminiscences of their native place:

> In search of compatriots, they used to trail their fingers, at the start of each new semester, through the columns of the university directory, circling surnames familiar to their part of the world. It was in this manner that they discovered Mr. Pirzada, and phoned him, and invited him to our home. (IOM 24)

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Lilia, a second generation immigrant is amazed by the strong attachment that connects Mr. Pirzada with her family but she is unable to understand the concern of people as to why they believed that two religions in a country were committing any breach for living together in a humanistic existence. She expresses her confused frame of mind over this mystifying religious inconsistency:

> It made no sense to me. Mr. Pirzada and my parents spoke the same language, laughed at the same jokes, looked more or less the same. They ate pickled mangoes with their meals, ate rice every night for supper with their hands. Like my parents, Mr. Pirzada took off his shoes before entering a room, chewed fennel seeds after meals as a digestive, drank no alcohol, for dessert dipped austere biscuits into successive cups of tea. (IOM 25)

This diasporic existence creates an honest tenderness between Mr. Pirzada and Lilia's family. Mr. Pirzada always visits the home after finishing his professional work at six o' clock. The main objective of his visit is to pay attention to the news bulletin of Bangladesh which is struggling for independence from Pakistan. Watching the news is the only means for him to get acquainted with the state of affairs of his country, and, through this, he can know the safety of his family because "the postal system, along with most everything else in Dacca, had collapsed, and he had not heard word of them in over six months" (IOM 24) due to the civil war.

On the other hand, Lahiri exhibits the diasporic sensibility of an immigrated father through the national news event where Lilia's father tells her to concentrate on the news of their native continent which is in the misery of war. The anxiety of an immigrated Indian father for his home land is understood when he appeals to his child to be aware of the current affairs of their native continent, though she is not old enough to understand why he wanted her to. Lilia confesses about her inability to comprehend the politics behind the war, "my father and Mr. Pirzada deplored the policies of a general named Yahyah Khan. They discussed intrigues I did not know, a catastrophe I could not comprehend." (IOM 31) But she understands the pain and suffering of Mr. Pirzada for his family and these things make her empathetic towards Mr. Pirzada.

Throughout the story, Lilia matures as a person learning the real sense of missing someone who loves and yearning to be with them. She also sees the reason for Mr.Pirzada's frequent visits and why he is not considered Indian. Her father becomes angry that Lilia does not know her own her heritage, but he realizes that American education system focuses solely on American history. Later on, she tries and makes an attempt to study her ethnicity, but her teacher Mrs. Kenyon stops her and Lilia is not able to see the point. As the story goes on, Mr. Pirzada spends more and more nights at their house. Whenthe situation in Dacca becomes terrible, he goes back to what is left of his home in Dacca. He sends a letter to Lilia and her family and explains that he found his family. But Lilia misses him and "didn't feel like celebrating" and she finally understands the meaning of missing someone who one loves.

The story closes with the departure of Mr. Pirzada to Bangladesh in the month of January after completing his research and the documentation of its findings. Though, Lilia and her parents wish for his company, it is the matter of great delight for them that he got united with his family in the independent Bangladesh. His immigration in America was temporary, and he was never desperate to settle there but he has left behind a passionate, warm-hearted and selfless bond with an immigrated Indian family which could be possible only in the course of Diasporic existence. Lahiri with diasporic sensibility offers a seamless merge of multicultural identities, alienated affinities, cultural contact, blend of local and global, new identity and new destiny to this story, and these sensibilities make the story distinctive throughout the world.

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THEMATIC ANALYSIS OF SATISH CHENDER'S TELUGU STORY "IT IS WRONG." IN ENGLISH

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Abstract:

The short story "*Thappu*" in Telugu language by Satish Chender is translated as "IT IS WRONG." by KumbhaV Koteswara Rao. It talks about a thought provoking contemporary social issue. The issue of an inter caste marriage between a high caste differently able woman and a perfectly able man of low caste (outcaste), which is eventually supported by her mother but not by her community people in the village. It is a theme of true love and sacrifice being portrayed sensibly by the writer. The story answers to the questions such as who did wrong. Why did s/he do it? What is important for the people of her community? Is it life or pride? What did Veeralaksmi do for her daughter Malliswari who cannot walk on her own without any aid? Though we live in the 21th century where most of the people are able to transact globally without inhibitions some Indians are not able to understand the very purpose of life in the name of caste, religion, class and region. In this paper cause and effect of caste consciousness is argued.

Key words: Love, discrimination, community counsel, sacrifice.

In this story, Satish Chender focuses on discrimination, alienation, communal pride and unity to break the relationship between Malliswari a Kshathriya woman and Solomonraju an untouchable man(outcaste) lives in Peta (locality where untouchables live) in the name of caste. Malliswari is a differently abled woman, whereas Solomanraju a perfectly able man. Malliswari's father abandons Malliswari and her mother Veeralakshmi to keep up his Kshathriya pride. Veeralakshmi a single parent faces lot of troubles in bringing up of the disabled Malliswari. Malliswari and Solomonraju are schoolmates. As Malliswari could not en move for her personal needs without any aid, she takes help from her mother at home and a female friend who can carry her to the washroom and bring back to the class or the place wherever she is, but as a matter of fact, nobody is ready to help her except Solomonraju who is just three or four years old to her at the school.

This routine has gone until Malliswari becomes is years. After that she used to manage taking help from her female classmates who could help her involuntarily. But the students, teachers and people of her community hate the relationship between Malliswari and Solomonraju because Solomonraju is an outcaste and who lives in "Peta" (a place where the out castes live). They murmur among themselves, "How dare he is to touch a Kshathriya woman, being a person from Peta?"(Satish Chender 844) Malliswari loves only two people in her life, they are her mother Veeralakshmi and Solomonraju, both serve her without any expectations. The relationship between Malliswari and Solomonraju is also approved by Veeralakshmi as she knows the difficulty and patience that her daughter requires to attend to her daily needs.

Malliswari, Solomonraju though become young, they have not lost their love and affection upon them. This bond of souls is misunderstood by Malliswari's father and the people of her community. Her father hated Malleswari and her mother because are on intimate terms with a low caste boy, as if it is an insult and damage to the pride of their clan "the Kshathriyas". Therefore, he deserts his wife and daughter and has gone off.

Malleswari one morning observing that her mother was reading the Bible, says, "Mother! Shall I tell you a secret? I've met Jesus in my dream." (843) Veeralakshmi curiously asked, "Jesus! Have you spoken to Him properly?" (843) In the course of their conversation about Jesus, Malleswari told her mother that she had taken for granted Jesus, and asked Him why didn't He give her the feet whereas, He has given eyes to the eyeless. She told her mother that Jesus replied, "You silly woman, I have given you the lap of a mother permanently. The mother's of others' carry them only for two or three years, whereas in your case you will ever be carried by your mother" (844). The words of Malleswari at that moment made Veeralakshmi understand the pain of disability being experienced by her daughter. Veeralakshmi thinks about the life of Malleswari after her death.

The very thought made her to take a fatal decision which will open the doors for her daughter's harmonious life with Solomonraju because the people of her clan will never allow her to marry Solomonraju. It shows Veeralakshmi's belief that Malliswari will be accepted by all the people in Peta unconditionally. The people of her caste called on a community counsel to address the issue and to separate them under the headship of a gentleman by name Venkatapathiraju. In the community counselling, she confronts many people there and she even dares to ask her community people that she will marry anyone, if any one comes forward to take her as a maid for the son of any man. One person with great feeling of caste by name Kodipandhelaraju, who often spends most of his time in gambling and cock-fights insults her mother, "Veeralakshmi, why don't you also select a Johnraju for you like your daughter because your husband has already abandoned you both? Hasn't he?" (842).

This insult affected both Malliswari and Veeralakshmi to a great extent consequently made them to rethink whether to continue the relationship with Solomonraju or not. Malliswari thinks,"Of course, it's wrong! Wrong to ask a thing that cannot be asked! It is wrong to ask, taking for granted that it is my mother, whom I have asked! Asking mother to take me to my lover wherever, he asked me to come is wrong" (841). She then tries to discontinue her relationship with Solomanraju, who is the only source of relief whenever she gets upset in her life other than her mother at home. She thinks it is a wrong act which made her mother to face such a disgusting remark by the nincompoop of the community. Malliswari's mother Veeralakshmi on the other hand thinks for her daughter's new life after her death. The narrator here says, "Veeralakshmi felt that the words like a knife was directly pierced her heart like that of a cock that hits the opposite cock with its sharp knife tied to its leg in the fight." (842) Veeralakshmi having got all these ideas as possible outcomes of her daughter's life, ends her life leaving a letter for her daughter in the Bible, which is kept under the pillow in which she writes her that Solomonraju can only be the person who can carry her for the rest of her life.

Venkatapathiraju is a prominent person, a gentleman among their community; no one dares to question him or contradict him in his presence. Venkatapathiraju promises Veeralakshmi that his two acres out of four acres of fertile land shall also be given for her, if Malliswari keeps their pride in being away from Solomonraju and marry a man from their own community. A brief silence prevails there, and then Malleswari replies to Venkatapathiraju,"Uncle! I will marry a person from our own community", (843) not only that but also she says, "I will marry in this community only, and also in this village itself, as these people of our community have gathered to address the issue. I will marry the son of any of these persons, if comes forward. However, the person may be, may be a drunkard, an illiterate, a philanderer, anyone! Even if the groom comes not for me but for the land you have promised to gift us! I am ready to marry the person". (843)

Listening to her words, all the Kshatrya persons over there have left the place silently one after the other. She even dares to ask that she is ready to marry Vikramavarma the son of Venkatapathiraju. Venkatapathiraju abashed at her remark. Veeralakshmi immediately slaps Malleswari and says,"How dare you to expect his life, don't you have control on your expectations! Uncle Venkatapathi is like God for us!"(843) the narrator remarks soon after the words spoken by Veeralakshmi against her daughter's choice of marrying the son of Venkatapathiraju as "It is nothing but sheer violence, the violence that hurts even the people of great violence like the violence that takes place at giving birth to a child by a woman". (843)

The Paster opens the Bible kept under the pillow, finds to his surprise a letter addressed to Malleswari. In the letter Veeralakshmi writes, "You are gold. You will be carried for the rest of your life by Solomonraju only. I will not send you with Solomonraju to his home as long as I am alive. I am therefore, going to live with Jesus, with lots of kisses....your mother." (846) With that letter mother goes to cemetery and daughter goes to Peta.

Satish chender concludes the story with the remark, talks about the need for unconditional love, affection and compassion towards fellow beings, as they are the real sources' of life not meanness and hatred toward people without reason but just for pride. All these qualities of life have been successfully addressed by him through the characters: Solomonraju and Veeralakshmi who show unconditional love and affection towards Malliswari. Venkatapathiraju though shows concern and humanity conducts the communal counsel for the issue. Kodipandhalaraju's disgusting remarks of Veeralakshmi shows how mean he is and also has full of community pride. Satish Chender advocates the contemporary social issue invoking the social responsibility of communal harmony and integrity, ended the story saying "the wrong of ethics has become the right of eternity" (846), reminding the axiom justice delayed but not denied.

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L-fuzzy ideals of Semilattices

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Abstract

In this paper the notion of an L-fuzzy ideal of a semilattice is introduced and proved certain important structural properties of these. 0-distributive semilattices are characterized in terms of L-fuzzy ideals and prime L-fuzzy filters. The Stones's version separation theorem on prime filters of distributive semilattices is extended to prime L-fuzzy filters. Furthermore, the notions of prime(maximal) L-fuzzy ideals of bounded semilattices are introduced and characterized.

Keywords: 0-distributive semilattice; L-fuzzy ideal; L-fuzzy filter; prime L-fuzzy filter; prime L-fuzzy ideal; frame; meet-prime element.

AMS Mathematics Subject Classification 06D72, 06F15, 08A72.

1 Introduction

Ever since Zadeh [10] introduced fuzzy set theory, several researchers fuzzified various notions/results of abstract algebra with membership function assuming truth values in the unit interval $[0, 1]$ of real numbers. Rosenfield [1] formulated the concept of a fuzzy subgroup of a group. Kuroki [11] investigated the properities of fuzzy ideals of a semigroup. Malik and Moderson [5] worked on fuzzy subrings and ideals of rings. Liu [17] introduced fuzzy invarient subgroups and fuzzy ideals, and so on.

In [2, 3], Sundar Raj, Subrahmanyam and Swamy have introduced and studied the notions of fuzzy filters and prime(maximal) L-fuzzy filters of meet-semilattices having truth values in a complete lattice L satisfying the infinite meet distributive law. This type of lattice is called a frame. In this paper we introduce the concept of an L-fuzzy ideal of a semilattice S having truth values in a frame L and prove certain important structural properties of these. The class of distributive semilattices is an important subclass of semilattices; for details we refere to [7, 8, 9, 18]. In particular, the class of 0-distributive semilattices is a natural generalzation of the class of psedo-complemented semilattices. Here, mainly we characterize 0-distributive semilattices in terms of L-fuzzy ideals and prime L-fuzzy filters. Also, a general theory of prime L-fuzzy filters of bounded semilattices [2, 3] is applied to extend the Stone's version separation theorem on prime filters of distributive semilattices to prime L-fuzzy filters. Finally, prime(maximal) L-fuzzy ideals of a bounded semilattice S are determined by obtaining a one-to-one correspondence between prime(maximal) L-fuzzy ideals of S and the pairs (P, α), where P is a prime ideal of S and α a meet-prime(dual atom) of L.

Throughout this paper, L stands for a non-trivial frame $(L, \wedge, \vee, 0, 1)$; i.e., a complete lattice satisfying the infinite meet distributive law:

$$\alpha \wedge \Big(\bigvee_{\beta \in M} \beta \Big) = \bigvee_{\beta \in M} (\alpha \wedge \beta)$$

for all $\alpha \in L$ and $M \subseteq L$. Here the operations $\vee$ and $\wedge$ are, respectively, $l.u.b$ and $g.l.b$ in the lattice L. Also S stands for a semilattice $(S, \wedge)$ unless otherwise stated. As usual, by an L-fuzzy subset of S, we mean a mapping of S into L. If $L = [0, 1]$, the unit intervel of real numbers, these are the usual fuzzy subsets of S originally introduced by L. A. Zadah [10]. An element $\alpha(\neq 1)$ of L is said to be meet-prime if, for any $a, b \in L$, $a \wedge b \leq \alpha$ implies $a \leq \alpha$ or $b \leq \alpha$. An element $\alpha(\neq 1)$ in L is said to be a dual atom of L if there is no $\beta \in L$ such that $\alpha < \beta < 1$. Note that, α is dual atom if and only if α is maximal in $L - \{1\}$. It is known that any dual atom in a bounded distributive lattice is meet-prime.

2 Preliminaries

Throughout this article the word semilattice will mean meet-semilattice i.e., a non-empty set S together with an idempotent, commutative and associative binary operation $\wedge$ on S. If we define $x \leq y$ if and only if $x \wedge y = x$ for all $x, y \in S$, then $(S, \leq)$ becomes a partial ordered set in which for any $x, y \in S$, $x \wedge y$ is the $g.l.b$ of $\{x, y\}$ in S. This is said to be the partial order induced by $\wedge$ on S. If the $l.u.b$ of any $x, y \in S$ exsits, then we say that $x \vee y$ exists in S. If $x \vee y$ exists in S for all $x, y \in S$, then S is said to be a lattice.

A subset X of S is said to be directed above if for any $x, y \in X$, there exists $z \in X$ such that $z \geq x, y$. A non-empty subset I of S is said to be an initial(final) segment of S, if for any $x \in I$, $y \in S$, $y \leq x$ ($x \leq y$ respectively) implies $y \in I$. An inital segment I of S is said to be an ideal of S, if I is directed above. A final segment F of S is said to be a filter of S, if $x \in F$, $y \in F$ implies $x \wedge y \in F$. An ideal(filter) I of S is said to be proper if $I \neq S$.

For any $X \subseteq S$, the filter generated by X of S is given by $[X) = \{y \in S : \bigwedge_{i=1}^{n} x_i \leq y$ for some $x_i \in X\}$. Inparticular, for any $x \in S$, $[x) = \{y \in S : y \geq x\}$ called the principal filter generated by x. A proper filter F of S is said to be prime if, whenever two filters F_1 and F_2 are such that $\phi \neq F_1 \cap F_2 \subseteq F$ then $F_1 \subseteq F$ or $F_2 \subseteq F$ (or, equivalently, if, for any $x, y \in S$, $x \notin F$ and $y \notin F$ imply the existence of $z \in S$ such that $x \leq z$, $y \leq z$ and $z \notin F$).

A proper ideal(filter) I of S is said to be maximal if the only ideal(filter) strictly containing I is S. For any non-empty subset X of a semilattice S with smallest element 0, the set $X^* = \{y \in S : x \wedge y = 0 \text{ for all } x \in X\}$ is called the annihilator of X. For any $x \in S$ we write $(x]$ for the principal ideal generated by x. Note that $(x] = \{y \in S : y \leq x\}$ and $(x]^* = \{x\}^* = \{y \in S : x \wedge y = 0\}$. A semilattice S with 0 is called pseudo-complemented if, for each $x \in S$, there exists $x^* \in S$ such that $x \wedge x^* = 0$ and $x \wedge y = 0 \Rightarrow y \leq x^*$, for all $y \in S$; this element x^* is called the pseudo-complement of x. A semilattice S is said to be distributive if for any $a, b, c \in S$, $a \wedge b \leq c$ implies the existence of $x, y \in S$ such that $x \geq a$, $y \geq b$ and $x \wedge y = c$.

On the other hand, we present some necessary definitions and results concerning the notions of L-fuzzy filters and prime L-fuzzy filters of bounded semilattices and L-fuzzy ideals of lattices mostly taken from [2, 3, 14] which will be used later on.

Definition 2.1. An L-fuzzy subset A of a semilattice $(S, \wedge)$ is said to be an L-fuzzy filter(simply, fuzzy filter) of S if

$$A(x_0) = 1 \text{ for some } x_0 \in S \text{ and } A(x \wedge y) = A(x) \wedge A(y) \text{ for all } x, y \in S.$$

Theorem 2.2. *The following are equivalent to each other for any L-fuzzy subset A of S*

(1) *A is an L-fuzzy filter of S*

(2) $A(x_0) = 1$ *for some* $x_0 \in S$,
$A(x \wedge y) \geq A(x) \wedge A(y)$ *and* $x \leq y \Rightarrow A(y) \geq A(x)$

(3) *A_α is a filter of S for all $\alpha \in L$*

Lemma 2.3. Let A be a fuzzy filter of S and X a non-empty subset of S, and $x, y \in S$. We have

(1) $x \in [X) \Rightarrow A(x) \geq \bigwedge_{i=1}^{m} A(a_i)$ for some $a_1, a_2, \ldots a_m \in X$

(2) $x \in [y) \Rightarrow A(x) \geq A(y)$

(3) If S is bounded then $A(0) < 1$ and $A(1) = 1$

Theorem 2.4. *Let $\mathcal{F}F(S)$ denote the set of all fuzzy filters of a meet-semilattice $(S, \wedge)$ with greatest element 1. Then $(\mathcal{F}F(S), \leq)$ is a complete lattice in which, for any family $\{A_i : i \in \Delta\}$ of fuzzy filters of S, the g.l.b and l.u.b are given by*

$$\bigwedge_{i \in \Delta} A_i = \text{The point-wise infimum of } A_i' s,$$
$$\bigvee_{i \in \Delta} A_i = \text{The point- wise infimum of } \{A \in \mathcal{F}F(S) : A_i \leq A \text{ for all } i \in \Delta\}.$$

Theorem 2.5. *Let A be an L-fuzzy subset of S. Then the fuzzy filter $\bar{A}$ generated by A is given by*

$$\begin{aligned}&\bar{A}(x_0) = 1 \text{ for some } x_0 \in S,\\ &\bar{A}(x) = \bigvee\Big\{\bigwedge_{i=1}^{n} A(a_i) : a_1, a_2, \dots a_n \in S,\ \ \bigwedge_{i=1}^{n} a_i \leq x\Big\} \quad \text{for any } x_0 \neq x \in S.\end{aligned}$$

Corollary 2.6. Let $\{A_i\}_{i\in\Delta}$ be a class of fuzzy filters of S. Then the supremum $\bigvee\limits_{i\in\Delta} A_i$ of $\{A_i\}_{i\in\Delta}$ in $\mathcal{F}\big(F(S)\big)$ is given by

$$\Big(\bigvee_{i\in\Delta} A_i\Big)(x) = \bigvee\Big\{\bigwedge_{a\in X} B(a) : x \in [X),\ X \text{ is a non-empty finite subset of } S\Big\},$$

$$\text{where} \quad B(x) = \bigvee\Big\{A_i(x) : i \in \Delta\Big\} \quad \text{(i.e., the point-wise supremum of } A_i's)$$

Corollary 2.7. For any fuzzy filters A and B of S, the supremum $A \vee B$ is given by

$$(A \vee B)(x) = \bigvee\Big\{\bigwedge_{a\in X}\big(A(a) \vee B(a)\big) : x \in [X),\ X \text{ is a non-empty finite subset of } S\Big\}$$

Theorem 2.8. *Let $(S, \wedge)$ be a semilattice with greatest element 1. Then the following are equivalent to each other:*

(1) $\mathcal{F}\big(F(S)\big)$ is a distributive lattice

(2) $F(S)$ is a distributive lattice

(3) S is distributive.

Definition 2.9. Let I be a non-empty subset of S and for any $\alpha \in L$, define $A_\alpha^I : S \to L$ by

$$A_\alpha^I(x) = \begin{cases} 1 & \text{if } x \in I \\ \alpha & \text{otherwise.} \end{cases}$$

It can be easily seen that for any $\beta \in L$, the β-cut of A_α^I is given by

$$\left(A_\alpha^I\right)_\beta = \begin{cases} S & \text{if } \beta \leq \alpha \\ I & \text{if } \beta \nleq \alpha. \end{cases}$$

In particular, when $\alpha = 0$, $A_\alpha^I = \chi_{_I}$, the characteristic map which is defined by

$$\chi_{_I}(x) = \begin{cases} 1 & \text{if } x \in I \\ 0 & \text{otherwise} \end{cases}$$

$$\text{Also,} \ \ A_\alpha^I \leq A_\beta^J \iff I \subseteq J \text{ and } \alpha \leq \beta,\ \ A_\alpha^{I\cap J} = A_\alpha^I \wedge A_\alpha^J$$

for any non-empty subsets I and J of S and $\alpha, \beta \in L$.

Theorem 2.10. *Let P be a filter of S and $\alpha \in L$. Then A_{α}^{P} is a prime L-fuzzy filter of S iff P is a prime filter of S and α is a meet-prime element in L.*

Theorem 2.11. *Let A be an L-fuzzy fileter of S. Then A is prime iff the following are satisfied.*

(1) $\mid Im(A) \mid = 2$; that is A is two-valued

(2) For any $x \in S$, either $A(x) = 1$ or $A(x)$ is meet-prime element in L.

(3) A_1; the 1-cut of A is prime filter of S.

Theorem 2.12. *Let A be an L-fuzzy filter of S. Then A is a prime L-fuzzy filter of S iff there exists a prime filter P of S and a meet-prime element α in L such that $A = A_{\alpha}^{P}$.*

Theorem 2.13. *Let A be an L-fuzzy filter of S. Then A is maximal iff $A = A_{\alpha}^{M}$ for some maximal filter M of S and a dual atom α in L.*

Definition 2.14. Let $\mathcal{C}$ be a class of fuzzy subsets of a set X. A subclass $\{A_i\}_{i \in \Delta}$ of $\mathcal{C}$ is called directed above if, for any $i, j \in \Delta$ there is $k \in \Delta$ such that $A_i \leq A_k$ and $A_j \leq A_k$. $\mathcal{C}$ is said to be an algebric fuzzy system if, $\mathcal{C}$ is closed under point-wise infimums and point-wise supremums of directed above subclasses.

Theorem 2.15. *Let $(S, \wedge)$ be a semilattice with greatest element 1. Then the class $\mathcal{F}\big(F(S)\big)$ of all fuzzy filters of S is an algebraic.*

Definition 2.16. An L-fuzzy subset A of a bounded lattice D is said to be an L-fuzzy ideal of D if A_{α} is an ideal of D for all $\alpha \in L$, where $A_{\alpha} = \{x \in D : \ \alpha \leq A(x)\}$; the α-cut of A.

Theorem 2.17. *Let A be an L-fuzzy subset of a bounded lattice D. Then A is an L-fuzzy ideal of D if and only if any one of the following sets of conditions is satisfied:*

(1) $A(0) = 1$ and $A(x \vee y) = A(x) \wedge A(y)$ for all $x, y \in D$,

*(2) $A(0) = 1$ and $A(x \vee y) \geq A(x) \wedge A(y)$ and
$A(x \wedge y) \geq A(x) \vee A(y)$ for all $x, y \in D$.*

3 L-fuzzy ideals.

An ideal I of a semilattice S is a non-empty subset of S such that I is an initial segment and directed above. Let $\mathcal{I}(S)$ denote the set of all ideals of S. Then it can be easily proved that $\mathcal{I}(S)$ is a meet-semilattice under the usual set inclusion ordering. Let us recall that for any $\alpha \in L$, the α-cut of an L-fuzzy subset A of S is denoted by simply A_{α}, i.e., $A_{\alpha} = \{x \in S : \ \alpha \leq A(x)\}$. Now we introduce L-fuzzy ideals.

Definition 3.1. An L-fuzzy subset A of S is said to be an L-fuzzy ideal of S if A_α is an ideal of S for all $\alpha \in L$.

The following results facilitates to identify any (crisp) ideal of S with an L-fuzzy ideal of S.

Theorem 3.2. *Let S be a semilattice directed above and L a frame. Then A^I_α is an L-fuzzy ideal of S iff I is an ideal of S. In particular, χ_I is an L-fuzzy ideal of S iff I is an ideal of S.*

Before characterize L-fuzzy ideals, we introduce the following.

Definition 3.3. An L-fuzzy subset A of S is said to be

(i) an antitone if for any $x, y \in S$, $x \leq y$ implies $A(y) \leq A(x)$

(ii) directed above if for any $x, y \in S$ there exists $z \in S$ such that $z \geq x, y$ and $A(x) \wedge A(y) \leq A(z)$.

Theorem 3.4. *Let A be an L-fuzzy subset of S. Then A is an L-fuzzy ideal of S iff the following conditions are satisfied:*

(1) $A(x_0) = 1$ *for some* $x_0 \in S$

(2) A *is an antitone*

(3) A *is directed above.*

Proof. Suppose A is an L-fuzzy ideal of S. Then A_α is an ideal of S for all $\alpha \in L$.
(1). Since A_1 is non-empty, there exists $x_0 \in A_1$ so that $A(x_0) = 1$.
(2). Let $x, y \in S$ with $x \leq y$. Put $\alpha = A(y)$. Then $y \in A_\alpha$ and hence $x \in A_\alpha$ since A_α is an initial segment . So that $\alpha \leq A(x)$ and hence $A(y) \leq A(x)$. Therefore A is an antitone.
(3). Let $x, y \in S$. Put $\alpha = A(x) \wedge A(y)$. Then $\alpha \leq A(x)$ and $A(y)$ so that $x, y \in A_\alpha$. As A_α is an ideal of S, there exists $z \in A_\alpha$ such that $z \geq x, y$. So $\alpha \leq A(z)$ and hence $A(x) \wedge A(y) \leq A(z)$. Thus A is directed above.

Conversely suppose the given conditions are satisfied. Let $\alpha \in L$. By (1), $A(x_0) = 1 \geq \alpha$ for some $x_0 \in S$. Hence $x_0 \in A_\alpha$ so that A_α is a non-empty subset of S. By (2),

$$\begin{aligned} y \leq x \text{ and } x \in A_\alpha &\Rightarrow A(x) \leq A(y) \text{ and } \alpha \leq A(x) \\ &\Rightarrow \alpha \leq A(y) \Rightarrow y \in A_\alpha. \end{aligned}$$

Further, let $x, y \in A_\alpha$. Then $\alpha \leq A(x)$ and $A(y)$ so that $\alpha \leq A(x) \wedge A(y)$. By (3), there exists $z \in S$ such that $z \geq x, y$ and $A(x) \wedge A(y) \leq A(z)$ which implies $\alpha \leq A(z)$ so $z \in A_\alpha$. Therefore A_α is an ideal of S for all $\alpha \in L$. Thus A is an L-fuzzy ideal of S. $\square$

By Theorem 3.2(1), it can be observed that if S is bounded below by 0 and A is an L-fuzzy ideal of S then $A(0) = 1$. For any L-fuzzy subsets A and B of S, define an L-fuzzy subset $A \wedge B$ of S by

$$(A \wedge B)(x) = A(x) \wedge B(x)$$

$$\text{and define} \quad A \leq B \text{ if and only if } A(x) \leq B(x) \text{ for all } x \in S.$$

It can be easily verified that $\leq$ is a partial order on the set of all L-fuzzy subsets of S and is called the point-wise ordering. In the following we discuss certain properities of L-fuzzy ideals. Let us denote the set of all L-fuzzy ideals of S by $\mathcal{F}_L(\mathcal{I}(S))$.

Theorem 3.5. *$\mathcal{F}_L(\mathcal{I}(S))$ is a meet-semilattice.*

Proof. Let $A, B \in \mathcal{F}_L(\mathcal{I}(S))$. Then $A(x_0) = 1 = B(y_0)$ for some $x_0,\ y_0 \in S$. As A and B are antitones, it follows that $A(x_0 \wedge y_0) = 1 = B(x_0 \wedge y_0)$ so that $(A \wedge B)(x_0 \wedge y_0) = 1$. For any $x, y \in S$,

$$\begin{aligned} x \leq y &\Rightarrow A(y) \leq A(x) \text{ and } B(y) \leq B(x) \\ &\Rightarrow A(y) \wedge B(y) \leq A(x) \wedge B(x) \\ &\Rightarrow (A \wedge B)(y) \leq (A \wedge B)(x). \end{aligned}$$

Therefore $A \wedge B$ is an antitone. Further, as A and B are directed above, there exist z_1 and $z_2 \in S$ such that

$$\begin{aligned} z_1 &\geq x, y \text{ and } A(x) \wedge A(y) \leq A(z_1) \\ \text{and} \quad z_2 &\geq x, y \text{ and } B(x) \wedge B(y) \leq B(z_2). \end{aligned}$$

Now $z_1 \wedge z_2$ is an $u.b$ of $\{x, y\}$. As A and B are antitones, $A(z_1) \leq A(z_1 \wedge z_2)$ and $B(z_2) \leq B(z_1 \wedge z_2)$. Now,

$$\Big(A(x) \wedge B(x)\Big) \wedge \Big(A(y) \wedge B(y)\Big) \leq A(z_1) \wedge B(z_2) \leq A(z_1 \wedge z_2) \wedge B(z_1 \wedge z_2)$$

which implies $(A \wedge B)(x) \wedge (A \wedge B)(y) \leq (A \wedge B)(z_1 \wedge z_2)$. Therefore $A \wedge B$ is directed above. Hence $A \wedge B$ is an L-fuzzy ideal of S. Further, it can be easily seen that $A \wedge B$ is the $g.l.b$ of $\{A, B\}$ with respect to the point-wise ordering. Thus $\mathcal{F}_L\big(\mathcal{I}(S)\big)$ is a meet-semilattice. $\square$

Theorem 3.6. *Let S be a semilattice directed above and L a frame. Then the following statements are equivalent:*

(1) S is a lattice bounded below

(2) $\mathcal{I}(S)$ is a complete lattice

(3) $\mathcal{F}_L(\mathcal{I}(S))$ is a complete lattice.

Proof. (1) $\Rightarrow$ (2). It is well-known result.

(2) $\Rightarrow$ (3). Let $\{A_i : i \in \Delta\}$ be a class of L-fuzzy ideals of S. Define $A : S \to L$ by

$$A(x) = \bigwedge_{i\in\Delta} A_i(x) = \text{The point-wise infimum of } A_i's \text{ in } L$$

Let I be the smallest ideal of S then there exists $x_0 \in S$ such that $I = (x_0]$ and x_0 is the smallest element in S. Then $A(x_0) = 1$ since each $A_i(x_0) = 1$. Also, for any $x, y \in S$,

$$\begin{aligned} x \le y &\Rightarrow A_i(y) \le A_i(x) \qquad \text{(since each } A_i \text{ is an antitone)} \\ &\Rightarrow \bigwedge_{i\in\Delta} A_i(y) \le \bigwedge_{i\in\Delta} A_i(x) \\ &\Rightarrow A(y) \le A(x). \end{aligned}$$

Terefore A is an antitone. Again, let $x, y \in S$. Then, since each A_i is an L-fuzzy ideals of S, there exists $z_i \in S$ such that $z_i \ge x, y$ and $A_i(x) \wedge A_i(y) \le A_i(z_i)$. By (2), we have $\bigcap_{i\in\Delta}(z_i]$ is an ideal of S belonging x, y. Hence there exists $z \in S$ such that $x \le z,\ y \le z$ and $z \in \bigcap_{i\in\Delta}(z_i]$. Now

$$\begin{aligned} A(x) \wedge A(y) &= \Big(\bigwedge_{i\in\Delta} A_i(x)\Big) \wedge \Big(\bigwedge_{i\in\Delta} A_i(y)\Big) \\ &= \bigwedge_{i\in\Delta} \Big(A_i(x) \wedge A_i(y)\Big) \\ &\le \bigwedge_{i\in\Delta} A_i(z_i) \\ &\le \bigwedge_{i\in\Delta} A_i(z) = A(z) \end{aligned}$$

Therefore A is directed above and hence A is an L-fuzzy ideal of S. Also, A is the $g.l.b$ of $\{A_i : i \in \Delta\}$ under the point-wise ordering. Therefore every subset of $\mathcal{F}_L(\mathcal{I}(S))$ has $g.l.b$. Thus $\mathcal{F}_L(\mathcal{I}(S))$ is a complete lattice under the point-wise ordering, in which χ_I and χ_J are respectively, the smallest and greatest element in the lattice $\mathcal{F}_L(\mathcal{I}(S))$ corresponding to the smallest element I and greatest element $J(= S)$ in the lattice $\mathcal{I}(S)$.

(3) $\Rightarrow$ (1). Suppose $\mathcal{F}_L(\mathcal{I}(S))$ is a complete lattice under point-wise ordering. Let $a, b \in S$. Then the characteristic functions $\chi_{(a]}$ and $\chi_{(b]}$ are L-fuzzy ideals of S and hence by(3), their $l.u.b$ $\chi_{(a]} \vee \chi_{(b]}$ is an L-fuzzy ideal of S, say A. As A is directed above, there exists $x \in S$ such that $x \ge a, b$ and $A(a) \wedge A(b) \le A(x)$. Let $y \in S$ with $y \ge a, b$. Then $(a] \subseteq (y]$ and $(b] \subseteq (y]$ so that $\chi_{(a]} \le \chi_{(y]}$ and $\chi_{(b]} \le \chi_{(y]}$. Therefore $A = \chi_{(a]} \vee \chi_{(b]} \le \chi_{(y]}$. In particular, $A(x) \le \chi_{(y]}(x)$. Since $\chi_{(a]} \le A$ and $\chi_{(b]} \le A$, it follows that $A(a) = 1 = A(b)$ which implies $1 = A(a) \wedge A(b) \le \chi_{(y]}(x)$ and hence $\chi_{(y]}(x) = 1$ so that $x \le y$. Therefore x is the $l.u.b$ of {a, b}. Hence S is a lattice. Further, let B be the smallest L-fuzzy ideal of S. Then $B_1 = \{x \in S : B(x) = 1\}$ is the smallest ideal of S; for let I be an ideal of S. Then χ_I is an L-fuzzy ideal of S and hence $B \le \chi_I$. For any $x \in B_1$, $B(x) = 1 = \chi_I(x)$ so that $x \in I$.

Therefore $B_1 \subseteq I$. Hence there exists an element x_0 in S such that $B_1 = (x_0]$ and x_0 is the smallest element in S. Hence S is bounded below. $\square$

The following is an application of Zorn's lemma which allow us to denote the existence of maximal L-fuzzy filters. This can be proved easily by Theorem (2.9).

Lemma 3.7. Let S be a semilattice with greatest element 1 and B a non-constant L-fuzzy filter of S. Then there exists a maximal L-fuzzy filter A of S such that $B \leq A$.

Let us furnish a characterization of 0-distributive semilattices interms of both crisp and fuzzy maximal filters. According to Verlet [9], a semilattice with smallest element 0 is called 0-distributive, if for any $a, b, c \in S$ such that $a \wedge b = 0 = a \wedge c$ implies $a \wedge d = 0$ for some $d \geq b, c$ (or, equivalently, for any $x \in S$, the annihilator $\{x\}^*$ is an ideal of S). A proper filter F is maximal if and only if, for any $x \in S - F$, $\{x\}^* \cap F \neq \phi$.

Theorem 3.8. *Let S be a bounded semilattice and L a frame. Then the following statements are equivalent :*

(1) S is 0-distributive

(2) Every maximal filter of S is prime

(3) Every maximal L-fuzzy filter of S is prime.

Proof. (1) $\Rightarrow$ (2). Let M be a maximal filter of S which is not prime. Then, there exist two filters F and G of S such that $F \cap G \subseteq M$, but $F \nsubseteq M$ and $G \nsubseteq M$. So there exist $x \in F - M$ and $y \in G - M$. As M is maximal, there exist f and g in M such that $x \wedge f = 0 = y \wedge g$. Now $x \wedge f \wedge g = 0 = y \wedge f \wedge g$. By hypothesis, we can find z in S such that $z \geq x, y$ and $z \wedge (f \wedge g) = 0$. Since z, f, g all belong to M it implies $0 \in M$, a contradiction. Hence M is prime.

(2) $\Rightarrow$ (3). Let A be a maximal L-fuzzy filter of S. Then $A = A_\alpha^M$ for some maximal filter M of S and α a dual atom in L (by Theorem 2.8). By hypothesis, M is a prime filter of S. Since L is a distributive lattice, α is meet-prime. So A_α^M is a prime L-fuzzy filter of S (by Theorem 2.7). Thus A is prime.

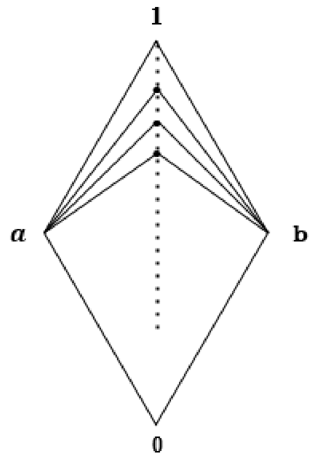
(3) $\Rightarrow$ (1). Let $a \wedge b = 0 = a \wedge c$ for any $a, b, c \in S$. Then it can be easily seen that the set $F = \{x \in S : x \geq b, c\}$ is a filter of S. Also, the set $G = \{x \in S : x \geq a \wedge f, f \in F\}$ is a filter of S containg F. Suppose G is proper filter of S. Then the characteristic function χ_G is a non-constant L-fuzzy filter of S. By above lemma, there exists a maximal L-fuzzy filter say A of S such that $\chi_G \leq A$. By hypothesis A is prime so that $A = A_\alpha^P$ for some prime filter P of S and a meet-prime $\alpha \in L$ (by Theorem 2.7). Therefore $\chi_G \leq A_\alpha^P$ which implies $G \subseteq P$. Since $[b) \cap [c) \subseteq G \subseteq P$ and P is prime, $[b) \subseteq P$ or $[c) \subseteq P$ which implies $0 \in P$, a contradiction. Hence $G = S$, in particular $0 \in G$, there exists $f \in F$ such that $a \wedge f = o$. Hence b and c have an upper bound f such that $a \wedge f = 0$. Thus S is 0-distributive. $\square$

Pawar and Thakare [18] have characterized 0-distributive semilattices by assuming that the set of all ideals of a semilattice form a lattice, but it is not true. In general, in a semilattice S the set $\mathcal{I}(S)$ of all ideals of S may not form a lattice; for consider the following example.

Example 3.9. Let $S = \{a, b, 0\} \cup C$, where $C = (0, 1]$ the interval of real numbers x such that $0 < x \leq 1$. On S, we define the partial ordering as follows:

$$0 < a < x, \ 0 < b < x \text{ for all } x \in C$$

and together with usual ordering of real numbers on C.



Then S is a bounded distributive semilattice which is not a lattice. Let $I = \{0, a\}$ and $J = \{0, b\}$. Then I and J are ideals of S. For any $x \in C$, let $K = \{0, a, b\} \cup (0, x]$. Then K is an ideal of S and also an upperbound of I and J. Since the chain C has no smallest element, it follows that $I \vee J$ does not exist in $\mathcal{I}(S)$ so that $\mathcal{I}(S)$ is not a lattice.

Infact, we have that for any semilattice S, $\mathcal{I}(S)$ is a lattice if and only if S is a lattice itself. Now we obtain a set of equivalent conditions for a semilattice S with 0 to be 0-distributive.

Theorem 3.10. *Let L be a frame and S be a bounded semilattice such that $\mathcal{I}(S)$ is a lattice. Then the following statements are equivalent:*

(1) S is 0-distributive

(2) $\{x\}^*$ is an ideal for all $x \in S$

(3) X^* is an ideal for all $X \subseteq S$

(4) $\mathcal{I}(S)$ is pseudo-complemented

(5) $\mathcal{I}(S)$ is 0-distributive

(6) Every maximal filter of S is prime

(7) Every maximal L-fuzzy filter of S is prime.

(8) $\mathcal{F}_L(\mathcal{I}(S))$ is 0-distributive.

Proof. (1) ⇒ (2). It is clear obviously.

(2) ⇒ (3). It follows from the facts that $X^* = \bigcap_{x \in X} \{x\}^*$, for all $X \subseteq S$, and $\mathcal{I}(S)$ is a complete lattice.

(3) ⇒ (4). Let I be an ideal of S. Then I^* is an ideal of S (by(3)). By the definition, I^* will be the pseudo-complement of I in the lattice $\mathcal{I}(S)$. Hence $\mathcal{I}(S)$ is pseudo-complemented.

(4) ⇒ (5). As every pseudo-complemented lattice is 0-distributive, we get $\mathcal{I}(S)$ is 0-distributive.

(5) ⇒ (6). Let M be a maximal filter of S and $x \notin M$, $y \notin M$. As M is maximal, we get $x \wedge f = 0 = y \wedge g$ for some $f, g \in M$. Now $x \wedge (f \wedge g) = 0 = y \wedge (f \wedge g)$ and hence $(f \wedge g] \cap (x] = (0] = (f \wedge g] \cap (y]$. By 0-distributivity of $\mathcal{I}(S)$, there exists an ideal I containing both $(x]$ and $(y]$ such that $(f \wedge g] \cap I = (0]$. As I is directed above and $x, y \in I$, there exists $z \in I$ such that $z \geq x, y$. Now $(f \wedge g] \cap (z] = (0]$ so that $(f \wedge g) \wedge z = 0$. As $(f \wedge g) \wedge z \notin M$ and $f \wedge g \in M$ we have $z \notin M$. Hence M is prime.

(6) ⇒ (7). It is already proved in Theorem 3.5.

(7) ⇒ (8). Let $A, B, C \in \mathcal{F}_L\big(\mathcal{I}(S)\big)$ such that $A \wedge B = \chi_{(0]} = A \wedge C$. As $\mathcal{F}_L\big(\mathcal{I}(S)\big)$ is a lattice, $B \vee C$ exists in $\mathcal{F}_L\big(\mathcal{I}(S)\big)$. Now we shall prove that $A \wedge (B \vee C) = \chi_{(0]}$. If $A \wedge (B \vee C) \neq \chi_{(0]}$ then $\chi_{(0]} < A \wedge (B \vee C)$. Let F denote the L-fuzzy filter generated by $A \wedge (B \vee C)$. Then F is non-constant; for, if $F(x) = 1$ for all $x \in S$, then $\chi_{(0]}(0) < \big(A \wedge (B \vee C)\big)(0) \leq F(0) < 1$ which implies $1 < 1$, a contradiction. Hence by Lemma (3.1), there exists a maximal L-fuzzy filter, say M of S such that $F \leq M$. By hypothesis, M is prime and hence $M = A^P_\alpha$ for some prime filter P of S and meet-prime element α of L (by Theorem 2.7). So that $A \wedge (B \vee C) \leq F \leq A^P_\alpha$. If $A \wedge B$ and $A \wedge C \nleq A^P_\alpha$ then we can find $x, y \in S$ such that $(A \wedge B)(x) \nleq A^P_\alpha(x)$ and $(A \wedge C)(y) \nleq A^P_\alpha(y)$ which implies $(A \wedge B)(x) \nleq \alpha$ and $(A \wedge C)(y) \nleq \alpha$ and both $x, y \notin P$. Hence $x \vee y \notin P$ since P is prime. As α is meet-prime, we get $A \wedge B)(x) \wedge (A \wedge C)(y) \nleq \alpha$. Now,

$$\begin{aligned}
\big(A \wedge (B \vee C)\big)(x \vee y) &= A(x \vee y) \wedge (B \vee C)(x \vee y) \\
&= A(x) \wedge A(y) \wedge (B \vee C)(x) \wedge (B \vee C)(y) \\
&\geq A(x) \wedge A(y) \wedge B(x) \wedge C(y) \\
&= \big(A(x) \wedge B(x)\big) \wedge \big(A(y) \wedge C(y)\big) \\
&= (A \wedge B)(x) \wedge (A \wedge C)(y).
\end{aligned}$$

Therefore $\big(A \wedge (B \vee C)(x \vee y) \nleq \alpha = A^P_\alpha(x \vee y)$. So that $A \wedge (B \vee C) \nleq A^P_\alpha$ which is a contradiction. Therefore $A \wedge B$ or $A \wedge C \leq A^P_\alpha$ and hence $\chi_{(0]} \leq A^P_\alpha$ so that $0 \in P$ which leeds to contradiction and hence $A \wedge (B \vee C) = \chi_{(0]}$. Thus $\mathcal{F}_L(\mathcal{I}(S))$ is 0-distributive.

(8) ⇒ (1). Let $a \wedge b = 0 = a \wedge c$. Then $\chi_{(a \wedge b]} = \chi_{(0]} = \chi_{(a \wedge c]}$ which implies $\chi_{(a]} \wedge \chi_{(b]} = \chi_{(0]} = \chi_{(a]} \wedge \chi_{(c]}$. By hypothesis, there exsits an L-fuzzy ideal say A of S such that $\chi_{(b]} \leq A$, $\chi_{(c]} \leq A$ and $\chi_{(a]} \wedge A = \chi_{(0]}$. Now $A(b) = 1 = A(c)$. Therefore $b, c \in A_1$; the 1-cut of A. Since A_1 is an

ideal of S, there exists $d \in A_1$ such that $d \geq b, c$. As A is an antitone, $A(d) = 1$ and it follows that $A(a \wedge d) = 1$. Now

$$\chi_{(0]}(a \wedge d) = \chi_{(a]}(a \wedge d) \wedge A(a \wedge d) = 1 \wedge 1 = 1.$$

Then $a \wedge d = 0$. Thus S is 0-distributive. □

Finally in this section, we extend an important M. H. Stone's version separation therom on prime filters of distributive semilattice to prime L-fuzzy filters. First let us recall the Stone's version separation theorem [9]: For any filter F and any ideal I of a distribution semilattice S such that $F \cap I = \phi$, there exist a prime filter P of S such that $F \subseteq P$ and $P \cap I = \phi$.

In the following, S is assumed to be a bounded distributive semilattice and $\bar{\alpha}$ denote the constant L-fuzzy subset attaining the value α in L.

Theorem 3.11. *Let α be a meet-prime element in L, A be an L-fuzzy filter of S and B be an L-fuzzy ideal of S such that $A \wedge B \leq \bar{\alpha}$. Then, there exists a prime L-fuzzy filter A^P_α such that*

$$A \leq A^P_\alpha \quad \textit{and} \quad A^P_\alpha \wedge B \leq \bar{\alpha}.$$

Proof. We are given that $A(x) \wedge B(x) \leq \alpha$ for all $x \in S$. Put $F = \{x \in S : A(x) \nleq \alpha\}$ and $I = \{x \in S : B(x) \nleq \alpha\}$, since $A(1) = B(0) = 1 \nleq \alpha$, $1 \in F$ and $0 \in I$ and hence F, I are non-empty. For any $x, y \in S$.

$$\begin{aligned}
x, y \in F &\Rightarrow A(x) \nleq \alpha \text{ and } A(y) \nleq \alpha \\
&\Rightarrow A(x \wedge y) = A(x) \wedge A(y) \nleq \alpha \\
&\Rightarrow x \wedge y \in F \\
\text{Also,} \quad y \geq x \in F &\Rightarrow A(y) \geq A(x) \text{and } A(x) \nleq \alpha \\
&\Rightarrow A(y) \nleq \alpha \\
&\Rightarrow y \in F. \text{ Therefore F is a filter of S. Further} \\
\text{Again,} \quad y \leq x \in I &\Rightarrow B(x) \leq B(y) \text{ and } B(x) \nleq \alpha \\
&\Rightarrow B(y) \nleq \alpha \\
&\Rightarrow y \in I. \\
\text{Also,} \qquad x, y \in I &\Rightarrow B(x) \nleq \text{ and } B(y) \nleq \alpha \\
&\Rightarrow B(x) \wedge B(y) \nleq \alpha.
\end{aligned}$$

Since B is directed above, there exists $z \in S$ such that

$$z \geq x, y \quad \text{and} \quad B(x) \wedge B(y) \leq B(z).$$

If $B(z) \leq \alpha$ then $B(x) \wedge B(y) \leq \alpha$, a contradiction. Therefore $B(z) \nleq \alpha$ and hence $z \in I$. So I is an ideal of S. Since α is meet-prime and $A(x) \wedge B(x) \leq \alpha$, it follows that $A(x) \leq \alpha$ or $B(x) \leq \alpha$ so that $x \notin F$ or $x \notin I$. Therefore $F \cap I = \phi$. Hence, there exists a prime filter P of S such that $F \subseteq P$ and $P \cap I = \phi$. Now A_α^P is a prime L-fuzzy filter of S and $A \leq A_\alpha^P$ (since, $x \notin P \Rightarrow x \notin F \Rightarrow A(x) \leq \alpha = A_\alpha^P(x)$) and $A_\alpha^P \wedge B \leq \bar{\alpha}$ (since, $x \in P \Rightarrow x \notin I$ and hence $B(x) \leq \alpha$). $\square$

4 Prime and Maximal L-fuzzy ideals

Swamy and Raju [13, 15] have generalised the notions of fuzzy prime(maximal) ideals of a ring [12, 16] by introducing the notions of prime(maximal) fuzzy $\mathcal{S}$-subsets of a non-empty set X corresponding to an algebraic closure set system $\mathcal{S}$ on X. Here we extend these notions to L-fuzzy ideals of a bounded semilattice S, even though $\mathcal{I}(S)$ is not a closure set system on S. Let us recall that a proper ideal P of a semilattice S is said to be prime if for any ideals I and J of S, $\phi \neq I \cap J \subseteq P$ implise $I \subseteq P$ or $J \subseteq P$ (or, equivalently, if for any $x, y \in S$, $x \wedge y \in P$ implise $x \in P$ or $y \in P$).
Analogously, a non-constant L-fuzzy ideal A of S is said to be prime if, for any L-fuzzy ideals B and C of S,

$$B \wedge C \leq A \text{ implise } B \leq A \text{ or } C \leq A.$$

The following is a characterization of prime L-fuzzy ideals.

Theorem 4.1. *Let P be a prime ideal of a bounded semilattices S and α a meet-prime element in L. Then, A_α^P is a prime L-fuzzy ideal of S. Conversely any prime L-fuzzy ideal of S is of the form A_α^P for some prime ideal P of S and a meet-prime element α of L.*

Proof. Since P is prime, we have A_α^P is non-constant L-fuzzy ideal of S. Let A and B be any L-fuzzy ideals of S such that $A \nleq A_\alpha^P$ and $B \nleq A_\alpha^P$. Then, there exist $x, y \in S$ such that $A(x) \nleq A_\alpha^P(x)$ and $B(y) \nleq A_\alpha^P(y)$ which implies that $A_\alpha^P(x) = \alpha = A_\alpha^P(y)$ so that $x \notin P$ and $y \notin P$. Hence $x \wedge y \notin P$ as P is prime. Also, since α is meet-prime and $A(x) \nleq \alpha$ and $B(y) \nleq \alpha$, it follows that $A(x) \wedge B(y) \nleq \alpha$. As A and B are isotones, we get

$$(A \wedge B)(x \wedge y) = A(x \wedge y) \wedge B(x \wedge y) \geq A(x) \wedge B(y)$$

Therefore $\alpha \ngeq (A \wedge B)(x \wedge y)$. Hence $(A \wedge B)(x \wedge y) \nleq A_\alpha^P(x \wedge y)$ so that $A \wedge B \nleq A_\alpha^P$. Thus A_α^P is prime.

Conversely, let A be a prime L-fuzzy ideal of S. First we prove that A is two-valued. Now A assumes at least two values; for otherwise A is constant. As $A(0) = 1$, 1 is necessarily a value of A. Let $y, z \in S$ such that $A(y) = \alpha < 1$ and $A(z) = \beta < 1$. Now, define L-fuzzy subsets B and C of S by

$$B(x) = \begin{cases} 1 & \text{if } x \leq y \\ 0 & \text{if } x \nleq y \end{cases} \quad \text{and} \quad C(x) = \begin{cases} 1 & \text{if } x = 0 \\ \alpha & \text{if } x \neq 0 \end{cases}$$

Then $B = \chi_{(y]}$ and $C = A_\alpha^{[0]}$ and hence B, C are L-fuzzy ideal of S. Now $(B \wedge C)(x) \leq A(x)$ for all $x \in S$; for

$$\begin{aligned} & x = 0 \Rightarrow B(x) \wedge C(x) = 1 = A(x) \\ & 0 \neq x \leq y \Rightarrow B(x) \wedge C(x) = 1 \wedge \alpha = \alpha = A(y) \leq A(x) \\ \text{and} \quad & x \nleq y \Rightarrow B(x) \wedge C(x) = 0 \wedge \alpha = 0 \leq A(x). \end{aligned}$$

Therefore $B \wedge C \leq A$. As A is prime, $B \leq A$ or $C \leq A$. Since $B(y) = 1$ and $A(y) = \alpha$, we get $B(y) \nleq A(y)$ so that $B \nleq A$ and hence $C \leq A$; in particular, $C(z) \leq A(z) = \beta$. Since $A(z) \neq A(0), z \neq 0$ and hence $C(z) = \alpha$. Therefore $\alpha \leq \beta$. By symmetry $\beta \leq \alpha$. Hence $\alpha = \beta$. Thus A assumes exactly one value, say α other than 1. Let $P = \{x \in S : A(x) = 1\}$. As A is two-valued and $P = A_1$; the 1-cut of A, it follows that P is a proper ideal of S. Hence for any $x \in S$,

$$A(x) = \begin{cases} 1 & \text{if } x \in P \\ \alpha & \text{otherwise.} \end{cases}$$

So that $A = A_\alpha^P$. Finally, we prove that α is meet-prime and P is prime. Let $a, b \in L$ such that $a \wedge b \leq \alpha$. Then A_a^P and A_b^P are L-fuzzy ideals of S and $A_a^P \wedge A_b^P \leq A$. As A is prime, $A_a^P \leq A$ or $A_b^P \leq A$. Therefore, for any $x \notin P$, either $A_a^P(x) \leq A(x)$ or $A_b^P(x) \leq A(x)$ so that $a \leq \alpha$ or $b \leq \alpha$ and hence α is a meet-prime element in L. Let I and J be two ideals of S such that $I \cap J \subseteq P$. Then $\chi_I \wedge \chi_J = \chi_{I \cap J} \leq \chi_P \leq A$. As A is prime, $\chi_I \leq A$ or $\chi_J \leq A$ which implies $I \subseteq P$ or $J \subseteq P$. Thus P is a prime ideal of S. Hence the theorem. □

A non-constant L-fuzzy ideal A of S is said to be maximal L-fuzzy ideal of S if A is a maximal element in the set of all non-constant L-fuzzy ideals of S under the point-wise ordering. Before characterize maximal L-fuzzy ideals, we need the following which can be proved easily.

Lemma 4.2. Let A be an L-fuzzy subset of a bounded semilattice S and $\alpha \in L$. Let $A \vee \alpha$ denote an L-fuzzy subset of S defined by

$$(A \vee \alpha)(x) = A(x) \vee \alpha \text{ for all } x \in S.$$

Then $A \vee \alpha$ is an L-fuzzy ideal of S iff A is an L-fuzzy ideal of S, for all $\alpha \in L$.

Theorem 4.3. *Let A be an L-fuzzy subset of a bounded semilattice S. Then A is a maximal L-fuzzy ideal of S iff $A = A_\alpha^M$ for some maximal ideal M of S and a dual atom α of L.*

Proof. Let M be a maximal ideal of S and α a dual atom in L such that $A = A_\alpha^M$. Then A is non-constant L-fuzzy ideal of S. Let B be a non-constant L-fuzzy ideal of S such that $A \leq B$. Then $M \subseteq \{x \in S : B(x) = 1\} \subsetneqq S$. By the maximality of M, we get $M = \{x \in S : B(x) = 1\}$ and for any $x \notin M$, $\alpha = A(x) \leq B(x) \neq 1$. As α is a dual atom in L, $A(x) = B(x)$ so that $A = B$. Thus A is a maximal L-fuzzy ideal of S.

Conversely suppose A is a maximal L-fuzzy ideal of S. Then $M = \{x \in S : A(x) = 1\}$ is a proper ideal of S. Now $A(0) = 1$, we shall prove that A is two-valued. Let $x, y \in S$ such that $A(x) < 1$ and $A(y) < 1$. Put $A(x) = \alpha$ and $A(y) = \beta$. Now $A \vee \alpha$ and $A \vee \beta$ are L-fuzzy ideals of S and also, $(A \vee \alpha)(x) = A(x) \vee \alpha = \alpha \vee \alpha = \alpha < 1$ as well as $(A \vee \beta)(y) = \beta < 1$. Hence $A \leq A \vee \alpha < 1$ and $A \leq A \vee \beta < 1$. By the maximality of A, $A = A \vee \alpha = A \vee \beta$. In particular, $A(y) = A(y) \vee \alpha$ and $A(x) = A(x) \vee \beta$ which implies $\beta \geq \alpha$ and $\alpha \geq \beta$ so that $\alpha = \beta$. Therefore A assumes exactly one value, say $\alpha \neq 1$. Now α is a dual atom; for, suppose $\alpha < \beta \in L$ then an L-fuzzy subset B of S defined by

$$B(x) = \begin{cases} 1 & \text{if } x \in M \\ \beta & \text{otherwise} \end{cases}$$

Then $B = A_P^M$, so that B is an L-fuzzy ideal of S. Clearly $A < B$. As A is maximal, B is constant which implies $\beta = 1$. Finally, let N be a proper ideal of S suchthat $M \subseteq N$. Then $A = A_\alpha^M \leq A_\alpha^N \neq 1$. Hence $A_\alpha^M = A_\alpha^N$ by the maximality of A. So that $M = N$ and hence M is a maximal ideal of S. Thus $A = A_\alpha^M$, where M is a maximal ideal of S and α is a dual atom of L. Hence the theorem. □

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