ISSN No.2349-4190

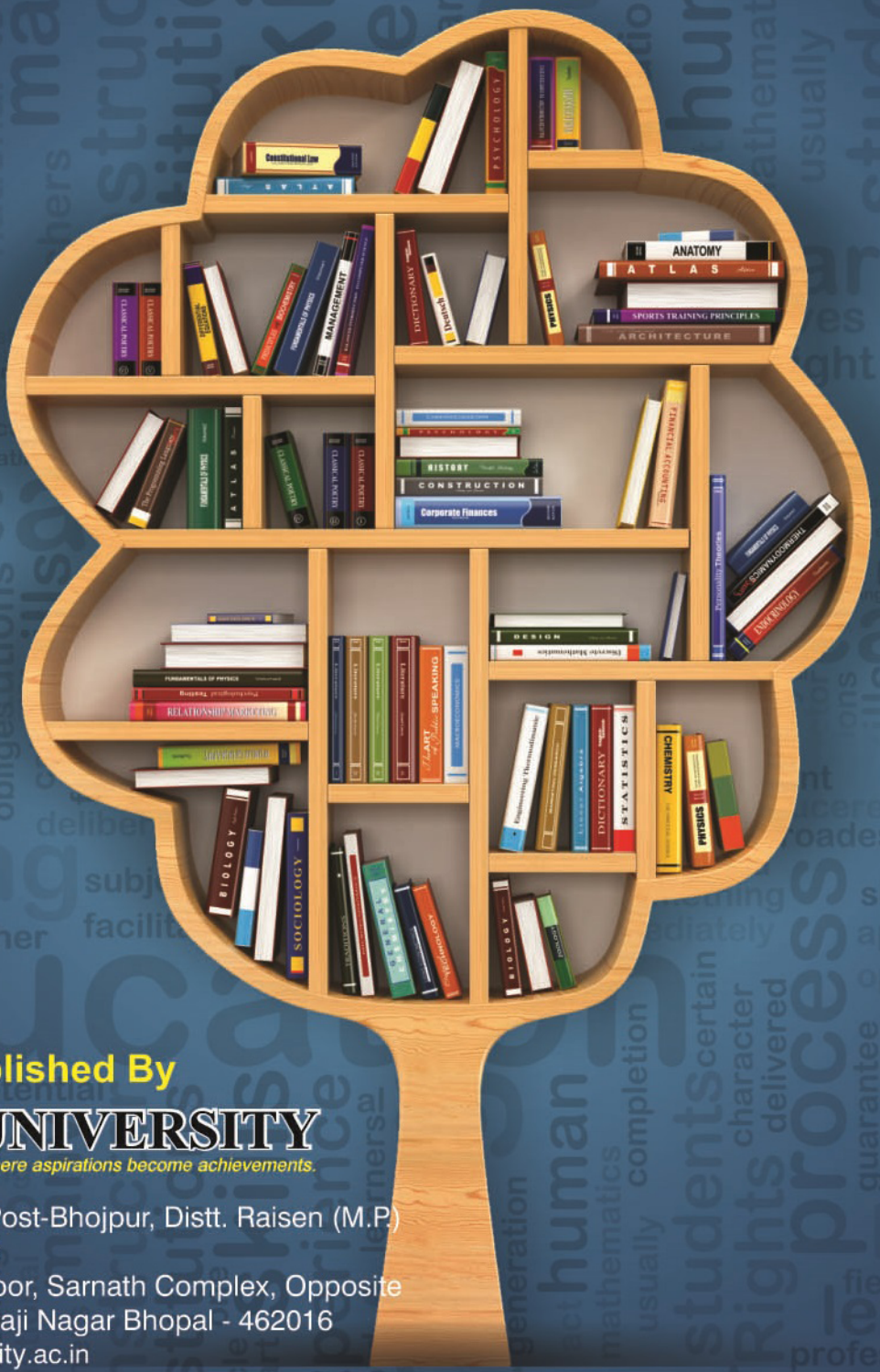
शोधायतन

वाणिज्य, कला, शिक्षा, समाजशास्त्र तथा ह्यूमेनिटीज पर
आईसेक्ट विश्वविद्यालय की शोध पत्रिका

Shodhaytan

AISECT University Journal of Commerce, Arts, Education, Sociology and Humanities

Vol.-I/ Issue.-I June 2014



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UGC Approved Journals

Shodhaytan (AUJ-STN)

- Multidisciplinary Academic Research

Indexing and Impact Factor :

INDEX COPERNICUS : 48609 (2018)

Innovation in Educational Technology

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ABSTRACT
Information and knowledge are stuffed in myriad books in libraries and in other storage places round the globe. But every seeker may not, at the first place, have an access to and then be able to digest the contents when he/she goes through these directly. People concerned have been evolving techniques for the precise reason of sifting, explaining and disseminating the available information and knowledge among the seekers with ease. The extrapolation of the existing techniques may not be effective to do so as newer information and knowledge keep pouring in, in ever increasing volumes and complexity. Ever newer innovations in techniques have therefore to be invented to keep pace. This is what is being done by educationists, pedagogues and information-technologists incessantly at fervent pace. It is however not to say that innovation is the monopoly of these few alone. Every innovation-minded person may contribute their mite as long as the technique proves to be economical, ubiquitously available, simple, efficient and useful---the qualities that make it popular and adoptable.

I INTRODUCTION

With the increase in population and spread of education ever newer information and knowledge are emerging, aptly christened as explosion. Numerous books, journals, magazines etc; containing innovations, explorations, inventions, discoveries, concepts, definitions, clues, keys, formulae, ideas, processes, techniques etc; in different fields of knowledge, nay, ever newer fields of knowledge, are stuffing the global knowledge-bank compelling it to expand its size on a daily basis. In many cases, it is neither easy to access nor to digest the accessed information of one's interest. Hence the necessity is to find out newer techniques to access and explain the emerging interested knowledge. It is a curious case of inventing newer knowledge to easily access and understand the ever-emerging knowledge. Here are two examples of how innovation plays its role:

In the beginning addition of the same number many times took quite a lot of time and labour and was quite boring. To avoid this someone came up with the idea of multiplication. In this the number was multiplied with the number of times it was to be added to itself. Thus the concept of repeated addition was defined as multiplication. Since infinite number of multiplications of any number with any number might be needed to be carried out, someone again came with the idea of multiplication tables, in which cramming a minimum of nine tables (1 to 9) each up to nine steps was felt necessary. Children were made to learn them by heart. When this too was felt time-consuming, multiplication was resorted to using the concept of logarithm, using pre-prepared log-tables. Then this was replaced by some instruments: e.g; slide-rules, calculators, abacus, computers, computers and computers—ever advanced versions. The advancement of computers seems to have no limits as regards memory and speed --two vital parameters.

Another example is that of mushrooming coaching institutes catering to the competitive examinations. Methods to solve problems in as little time and accuracy as possible or memorizing large number of things in a trice using mnemonics are devised by their think-tanks. Every institute comes up with its own novel innovations or keeps improving on others'. Students and teachers sit together and brain-storm to refine or fine-tune the existing ones or invent newer ones altogether. This results in a synergy mutually beneficial.

II INNOVATION FOR EDUCATION SECTOR

They say knowledge is power. But innovation is knowledge. Innovation sprouts from comprehension. Understanding helps memorizing too. If one does not comprehend the subject, he can not explain, reproduce, analyse and synthesis much less innovate. He crams. Spoon-feeding or lack of hands-on practice results in cramming. Understanding needs practice and striving. The best method makes teaching and learning very interesting. The pupils do not look at their watches for the bell to ring but are so absorbed in the subject that they do not remember the bell having had rung. There are teachers who go to the board, write the question number, page number and the problem verbatim, all without looking at the book, work out the solution, without exchanging a word and ask the pupils to copy it. There are others that immediately create a conducive atmosphere, enquire about the difficulties, explain the concepts interacting with each pupil and get the solution from each, without spoon-feeding. One may study at a gurukul (modern residential schools), be an Ekalavya (a private candidate), a day-scholar or studying in any other mode: if the pupil, the teacher, or both are interested, learning even an esoteric subject becomes a child's play.

Innovation as per the working document of third regional UNESCO conference 1971 when paraphrased can be put as the introduction of a new idea, process or technique controlled and regulated by testing and interpretation. The steps involved in innovation therefore are invention, testing, evaluation, development, diffusion and adoption. Innovations at local level may dilute these standards.

Like every other branch of knowledge, today's innovation becomes tomorrow's stereotype or hackneyed. With myriad brains working incessantly all over the globe, it is difficult to distinguish between innovation and stereotype. For the one who comes across it for the first time, it may be innovation though otherwise it is a stereotype. But one thing is certain. Passive teacher-centered lecturing method is today, passé and obsolete. Also it is not advisable to resort to old 'innovations' in the presence of newer more efficient and effective ones. Nor do we have to invent the wheel again.

III RECENT TECHNOLOGY BASED INNOVATIONS

Innovations--old and new can be broadly categorized as: non-computer-based and computer-based. The various methods are: printing matter, charts, books, posters, cassette recorders, radio broadcasts, telephone transmissions, overhead projectors, films, television telecasts, telematics (blending of computers and wireless telecommunications technologies), tele-conferencing, TV, VCR, audio-visual DVDs, pen-drives, multimedia (use of computers and video resulting in synergy), internet, intranet, Extranet (WAN-Wide Area Network), ICT (e-books, digital library, virtual laboratories etc.), podcast (series of digital media files released episodically enabling downloading. It enables sharing of information with anyone anytime), edublog (education website written by or for teachers), M-learning (mobile learning enables portability replacing books with small RAMs), E-book (an electronic version of a book), CD-ROM, laser disk, DVR, ubiquitous learning (learning anywhere anytime and any context), blended learning (combination of face-to-face class room instructions with online learning), Artificial Intelligence (AI), Local Area Network (LAN), ICT (Information and Communication Technology helpful in design, development, implementation, management and evaluation of learning), USB Drive, memory cards, Hard Drives, scanners, PSI (Personalized System of Instruction), CAI (Computer Assisted Instruction in which computer interacts with the learner), LCI (Learner Controlled Instruction), E-learning, Web-based learning, distance-learning, team teaching, simulated teaching, micro-teaching, classroom interaction analysis, Social learning, Virtual learning, methods for slow learners, mentally and physically handicapped, socially disadvantaged, those living in remote areas etc. it is, however true that an android can not replace a human teacher.

Cloud computing is the latest innovation by Apple which will revolutionize the learning process. In this all data processing and storage capacity are transferred to the cloud—the remote servers or data centres. Thus hardware, software and information are situated on a centrally located server on the internet rather than on a client computer. It will make the hardware smaller, simpler and cheaper. Computers and laptops will be done away with while smartphones and tablets would replace them.

There may be a zillion innovations teachers round the globe may be inventing or resorting to. It is not possible to describe all of them. Recently, it was reported that a professor in a foreign country demonstrates complex experiments in physics using unconventional locally available materials. There may be so-many not yet reported. It is the intelligence, zeal and resourcefulness that helps innovations happen.

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Foreign Direct Investments (FDI) in developing nations: a closer look at China and India.

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ABSTRACT
This paper discusses Foreign Direct Investments (FDI) in developing nations, and a closer look at China and India. The paper also looks at how direct relationship investments are established, the effect of globalization and the emergence of new trade relationships to economics. Also discussed are foreign direct investment patterns and major trends and the International Monetary Fund defining foreign direct investment as a category of international investment, reflecting the objective of a resident in one economy obtaining a lasting interest in an enterprise resident in another economy, The paper discloses that a long-term relationship between the parties is desirable and that there will be a significant degree of influence by the investor on the management of the enterprise.

I INTRODUCTION

In recent decades, relations between multinational corporations and host governments in developing countries that are typically recipients of FDI have changed from being predominantly adversarial and confrontational to non-adversarial and cooperative. This may be due in part to the overarching effects of globalization and the emergence of new trade relationships, both of which are understood as important catalysts for economic growth in developing countries. Foreign Direct Investments are an important vehicles of technology transfer from developed to developing countries that stimulates domestic investment and facilitates improvements in human capital and institutions in the host countries. Increased global interdependence is a defining feature of our current geopolitical moment. We are currently witnessing an unprecedented level of capital interdependence and cross-border economic, financial and business integration both within developed and developing nations. The global economy is dramatically transforming, resulting in a hand-off of power to rising economies. China and India are two stars of the global economy's expansion and increased interconnectivity.

II A REVIEW

Between 2000 and 2007, China has enjoyed average GDP growth of 10.2% per year and is projected to surpass the United States in GDP terms by 2030. India has enjoyed an average GDP growth of 7.8% over the same period and is expected to continue above 7.7% through 2011. Much of this growth is the result of extraordinary inflows of foreign capital to these nations due to a measured, yet profound, liberalization of foreign investment restrictions. Remarkably, both India and China are among those nations least harmed by the current global economic crisis, maintaining above average economic growth as many nations are experiencing painful economic contraction (2009, Economist).

Foreign Direct Investments flows into developing countries had a discontinuity in the 1990s. From only $20 billion in 1980, and $23.7 billion in 1990, FDI inflows rose to $166 billion in 1998, a 7-fold increase, and $334 billion in 2005. In this same period, the stock of FDI in developing countries rose from 5 percent of gross domestic product (GDP) to 20.5 percent of GDP where as imports and exports rose only slightly from 51.5 percent to 56.6 percent of GDP (Ramamurti, 2001).

Foreign Direct Investments liberalization has been quite broad in the past decade. Despite financial crises impacting upon certain developing countries and even regions, FDI has proven resilient, leading many development countries to regard this type of international capital flow as the private inflow of choice. The primary beneficiaries of FDI tend to be developing countries with relatively open economies. At the same time, the share of FDI in total inflows is higher in riskier countries as measured either by the country's credit ratings for sovereign or government debt or other indicators of country risk. There is also some indication that the FDI share is higher in countries where the credit risk is higher (Razin, 2002).

Governance infrastructure is an important determinant of both FDI inflows and outflows. Investments in governance infrastructure not only attracted capital, they also create the conditions under which domestic multinational corporations emerge and invest abroad. However, investments in governance infrastructure are subject to diminishing returns, so that the benefits in terms of inflows are most pronounced for smaller and developing countries (Razin, 2002).

Foreign direct investments and trade together have a positive impact on economic growth but the size of such impact varies across countries depending on the level of human capital, domestic investment, infrastructure, macroeconomic stability, and trade policies. A combination of FDI, trade, human capital, and domestic investment are important sources of economic growth for developing countries. They identify a strong positive interaction between FDI and trade in advancing growth and that FDI stimulates domestic investment (Ramamurti, 2001).

Foreign direct investments have many artifacts, including the development of labor market regulations that improve workers income and quality of life. FDI benefits developing countries by diversifying the sources of external finance, increasing the risk-bearing by investors, reducing the cost of capital, improving incentives for managing the investment process, assisting in the development of domestic capital markets, and enhancing the mobilization of domestic resources (Neumayer, 2005).

A major trend in FDI is the decision of many investing firms to invest in developing countries with actual or perceived pre-existing relationships to the direct investor and its country. For example, in a sample of 328 Taiwanese firms engaged in FDI, well over 70 percent of these firms tended to seek out investment opportunities in the Peoples Republic of China and other developing countries in the Pacific Rim. Such investment is also facilitated by the responsiveness of host country governments to FDI overtures initiated by multinational corporations (Neumayer, 2005).

Levels of FDI were identified by the International Monetary Fund (IMF) for the period from 1990 through 2005. As of 1990, an average of $59.9 billion in FDI inflows to developing countries was recorded. By 2000, this amount had increased to $248.3 billion and as of 2001, had declined slightly to $215.4 billion only to rebound to $334 billion by 2005.

Regionally, there were significant differences in FDI flows during this time period. An educated work force is the main cause of these differences. The IMF reported that overall, Africa averaged $2.7 billion in FDI from 1990 through 1994 and as of 2001, received $17.7 billion in FDI. Asia, in contrast, received an average of $33.5 billion in FDI between 1990 and 1994 and $91.4 billion in 2001 (down from $128.2 billion in 2000). The developing countries of Europe experienced an increase in FDI from $4.4 billion in 1990 to $31.2 billion in 2001. The IMF also noted that Western hemispheric developing countries increased their share of FDI from $15.7 billion in 1990 to $69.5 billion in 2001 (down from the 1999 peak of $88.0 billion).

A cross nation analysis was undertaken by the IMF in a study which revealed that host-economy characteristics and industry characteristics such as technology intensity, factor requirements, linkages to local and foreign markets, and the degree of vertical integration of foreign affiliates are likely to shape the growth impact of FDI. Openness to trade, an established government regulatory and oversight system, and adequate human capital were also identified as variables likely to facilitate larger inflows of FDI.

According to the IMF another determinant of FDI inflows is the relationship between foreign economic capital and the level of government respect for two types of human rights in developing countries. These rights were physical integrity rights and political rights/civil liberties. Analysis on a cross national sample of 43 developing countries from 1981 to 2005 discovered systematic evidence of an association between foreign economic penetration and government respect for these two types of human rights. Of particular interest was the finding that both FDI and portfolio investment are reliably associated with increased government respect for human rights, with such respect further associated with democratization.

Despite the dramatic increase in total FDI flows to developing countries in the last few years, the bulk of FDI has been directed to only a limited number of countries. Human capital is a statistically significant determinant of FDI inflows and may be an increasingly important determinant over time. While many investors seek FDI investment climates that maximize profitability and return on investment, there is a growing sense that a developing country with limited human capital does not have the capacity to generate the level of profitability that multinational corporations seek (Noorbakhsh, 2007).

Investing In India

According to the Government of India's Ministry of Finance website, in recognition of the importance of Foreign Direct Investment (FDI) in stimulating economic growth, the government of India has been reforming laws to make India a less restrictive and more attractive place for FDI. The economic reforms that started in 1991 have brought dramatic changes in international investment in India. The rupee is completely convertible and customs duties have been reduced. These reforms are intended to foster rapid and sustainable economic growth in India. Policy reforms have reduced the complexity of licensing requirement and removed certain restrictions on FDI. The government of India is making an effort to attract and retain foreign investment from non residents including overseas corporate bodies.

The drawbacks include political instability and uncertainty, a large and complex government bureaucracy, occasional power outages and certain infrastructure deficiencies. Nevertheless, many investors believe that India represents a virtually untapped market with significant potential for foreign investors. India is also starting to develop a reputation for encouraging foreign investors (Mehta, 2007). It is important to note, President Obama left on November 5th, 2010 on a trip intended to increase trade negotiations between the U.S. and India. Many analysts believe the Obama administration wants to balance China's growing power by expediting India's trade development (CNN News).

On a broader scale, India is one of the most heavily populated countries in the world. As a result, there is significant domestic demand for products. Globally, India is considered to be one of the emerging economies.

While India falls far behind China in terms of its appeal to foreign investors, it remains attractive to some investors willing to do careful research and make an informed decision about investing in India today based on the potential for long term growth rather than on expectations of short term profits and rapid sales revenue growth (Mehta, 2007).

India is a common law country with a written constitution which guarantees individual and property rights. There is a single hierarchy of courts, with the Supreme Court of India at the top. Indian courts provide adequate safeguards for the enforcement of property and contractual rights.

There are advantages and disadvantages from the legal side relating to exporting manufactured goods into India. For example, investments and returns on investment are freely returnable except where approval to do so is subject to specific government regulations. These government regulations include lock in periods on the original investment, and caps on dividend payments. On the other hand, procedures have been simplified to permit automatic approval for foreign direct investment. An Indian company can accept FDI automatically without obtaining prior approval from the Indian government. Nevertheless, the economy remains fairly heavily regulated. For example, investors are required to notify the Indian government within 30 days of making a foreign investment. Another example of the complexity of FDI in India involves the fact that all proposals relating to the acquisition of shares of an existing Indian company by a foreign investor must first have government approval.

Another example involves the fact that a foreign company or a foreign national that wants to become a partner in an existing partnership in India is deemed to be an acquisition of the business under the laws of India which requires prior written approval of the proposed transaction by the Reserve Bank of India (Mehta, 2007).

The liberalization of the India economy continues meaning that the Indian market is being opened up to foreign investors but not necessarily to foreign exporters such as an American company that might be interested in exporting scooters and motorcycles to India. Importing scooters and motorcycles into India would probably be organized through a Branch Office.

Branch Offices can engage in the following activities: (a) Represent the parent company/other foreign companies in India (b) conduct research in the area in which the parent company is engaged if the results of the research are also made available to Indian companies (c) for the purpose of export and import trading activities, and (d) To promote collaborations between the Indian companies and foreign companies. A branch office is not allowed to carry out manufacturing activities, but may subcontract them to an Indian manufacturer. It should be noted that permission for setting up branch offices is granted by the Reserve Bank of India (RBI) on a case to case basis. RBI carefully considers the operating history of the applicant company and the impact of the proposed activity on local markets and local manufacturers before granting approval for a Branch Office (Mehta, 2007).

The goal of an American company or any foreign company considering building scooters in India would be to find a way to avoid Indian government regulations and protectionist policies (Harley-Davidson on Nov. 4, 2010 announced opening a new plant in India). There are laws that would discourage a company from building a plant to produce scooters in India. The Indian government's liberalization has still not fully accepted the idea that eliminating restrictions on imports will create a net benefit to the economy of India as predicted under the economic theory of Comparative Advantage. The alternative is to be subject to constant scrutiny and restrictive rules intended to discourage certain forms of foreign involvement in the economy of India (Mehta, 2007).

Joint ventures are the preferred business form for foreign companies interested in investing in India. There are no separate laws for joint ventures in India. Joint venture companies incorporated in India are treated in much the same way as domestic companies in India. Foreign investors are allowed to hold no more than up to 76 percent equity ownership in most of the sectors, and 100 percent equity ownership in some sectors. Tax holidays are available for a period of five continuous years in the first eight years of establishing exports. Tax concessions are available for foreign investors in certain high-tech areas, but producing scooters and motorcycles would almost certainly not qualify for this form of tax break (Mehta, 2007).

Investing In China

China still maintains a complex investment strategy combining complicated securities law and takeover law restrictions with contradictory regulatory approval

requirements often overseen by a number of Chinese agencies. For authorized investments, China's investment organizations facilitate a relatively straightforward investment process through the use of standardized legal entities tailored for FDI, a centralized regulatory approval system, and clear guidance on which sectors of the economy are open for foreign investment (Nunnenkamp, 2010). To achieve sustainable growth, China may require increased openness and continued decomposition of investment restrictions. Increased openness and liberalization are not without costs. Directly, liberalization means forgoing certain political objectives such as fostering infant industries, maintaining domestic control of assets, and stabilizing domestic labor markets. Indirectly, and perhaps more importantly, liberalization makes a nation's economy increasingly vulnerable to the negative forces of the global economy, ranging from capital flight and financial crises to stunted economic growth and a reduction in the standard of living for the poor (Nunnenkamp, 2010).

In the past decade or so, China began a process of legal reform apparently motivated by the desire to open its markets in anticipation of, and in accordance with, its requirements for joining the WTO. One of China's policies is that of reducing control over state-owned enterprises (SOEs) or businesses whose ownership is government dominated. In some sectors, the government is encouraging the consolidation of SOEs into large integrated conglomerates that are intended to be global leaders in their field; in other sectors, the state is reducing the level of its equity ownership, making a large number of SOEs available for private capital (Nunnenkamp, 2010).

Of nearly 135,000 SOEs, four to five thousand are privatized annually. Nonetheless, observers disagree over the degree to which reforms represent liberalization and whether they actually result in an opening of their markets to foreign investors, or simply provide additional mechanisms by which the government may frustrate foreign entrance. Recent empirical data suggest that preliminary fears that new regulations would stifle foreign investments are premature, as the data indicate strong investment inflows. Yet even these data are not fully conclusive due to the lack of transparency in reporting (Nunnenkamp, 2010).

China's authorities have provided for a relatively centralized governmental approval process that vertically integrates local, regional, and national authorities. Chinese law distinguishes between two categories of companies based on their source of capital: (1) domestic companies, defined as having typically less than 20% foreign capital or shareholders, and (2) Foreign Investment Enterprises (FlEs), of which there are three distinct legal types, Joint-Venture, Wholly Foreign-Owned Enterprises (WFOEs), and Foreign Invested Companies Limited by Shares (FICLS). The choice of specific legal entity will be determined largely by the type of investment being made, such as whether it is a joint venture with a Chinese company or a direct acquisition of Chinese assets (Nunnenkamp, 2010).

Though Chinese law allows foreign investors to choose a variety of investment entities, the destination of the investment may be severely limited or altogether closed. Chinese regulatory agencies have divided business activities and sectors into three types: (1) prohibited, (2) restricted, and (3) encouraged. Chinese law specifically sets out which industries or sectors fall into the prohibited, restricted, and encouraged sectors. The impact of each designation is extremely important, not only in determining whether foreign investment is allowed, but also how much and through what legal entity the investment can take place. Restricted activities may require extensive regulatory authorization, and investment may be limited to a joint-venture entity (Nunnenkamp, 2010).

Acquisitions are subject to extensive regulatory review that can involve a number of distinct agencies. In August 2008, China's new antitrust laws took effect, fourteen years after drafting began. Pre-closing antitrust approval must now be sought if at least two parties have turnover in China of at least USD $52.5 million and either: (a) all parties have combined global turnover of at least USD $1.3 billion, or (b) the combined turnover in China of all parties exceeds USD $260 million. The new antitrust regulations are especially important for foreign investment in China. It already appears that China may use the new regulations as a tool for economic nationalism, blocking deals on antitrust grounds to protect certain economic sectors and prevent excess foreign investment (Nunnenkamp, 2010).

Recently, granted approval for InBev's bid to buy American beer maker Anheuser Bush, approval which was necessary as both parties have significant stakes in various Chinese breweries. However, the InBev approval was conditioned on a freeze on either party from increasing their respective stakes in Chinese breweries, despite the fact that neither party controls more than 30% of a domestic brewery (Nunnenkamp, 2010).

More importantly, however, was the recent decision to block Coca-Cola's attempted friendly takeover of Chinese juice maker Huiyuan. The decision was anxiously awaited, as it was the first case involving a friendly foreign takeover of a domestic company under China's new antitrust regulations. The deal itself was extremely favorable to Huiyuan shareholders as Coca-Cola was offering three times the current market valuation of the company. The deal was expected to pass approval, and the failure to obtain antitrust

approval was both a major surprise and step backward from market liberalization (Nunnenkamp, 2010).

China's securities laws make hostile takeovers especially difficult, if not impossible. Two formal obstacles make hostile tenders offers, especially by foreigners, nearly impossible: The first is the structure of Chinese stock securities. Generally, shares of Chinese companies are divided into A and B shares. For the most part, foreign investors are limited to purchasing B shares, which account for a very small percentage of corporate shares outstanding. Additionally, A shares have subclasses which may further limit ownership rights. The result is that a large number of a company's shares may not be tradable on open markets and may only be transferred by private takeover agreement. The second obstacle is the widespread ownership of stocks by the state, which may simply refuse to sell. This situation is changing; however, as the state sells a larger number of shares, privatizes SOEs, and changes non-tradable shares into tradable ones. The result should be a significant increase in the number of hostile takeovers. Nonetheless, because of the need for regulatory approval, including antitrust approval, it is yet to be seen whether foreign investors such as private equity firms will be able to partake in this restructuring (Nunnenkamp, 2010).

III DISCUSSION

Recent research does not necessarily suggest that countries should retreat from globalization; countries differ dramatically in how they are affected by globalization. Instead the research suggests a responsible reaction to globalization: countries that take certain steps reduce the negative impact of financial globalization and position themselves to better realize positive gains. Such measures include the strengthening of financial institutions, increasing transparency especially with regard to financial regulation, use of a flexible exchange rate, and avoidance of external debt. Additionally, emerging economies have experienced greater growth when they have used domestic savings rather than foreign capital to finance investments, suggesting that a reliance on foreign capital may also limit growth potential.

IV INTERPRETATION/ANALYSIS OF FINDINGS

Increased growth from financial integration is not always correlated with broader social positives. For example, volatility in growth rates can have the effect of reducing the well being of most households in an economy, especially that of the poor.

Review of Findings-
The global economic slowdown from 2008 into 2010 is exposing some of the dangers of aggressive market liberalization and is testing the resilience of foreign investment. Indeed, the downturn has most affected some of the very countries that have opened themselves up the most.

All capital inflows are not equal: speculative "hot money" may provide temporary fuel to a nation's economy but is the most vulnerable to quick outflows. In contrast, FDI provides a stronger buffer against global economic swings, especially for developing economies. It is not just a matter of the number of dollars that flow in but also where they go.

V CONCLUSION

The global economic slowdown from 2008 into 2010 has led many to rethink about their approach to words liberalization of markets and the courting of FDI. Some even see the crisis as caused, or at least magnified by, financial globalization. Yu Yongding, a prominent Chinese economist, recently remarked: "The United States has been a model for China. Now that it has created such a big mess, of course we have to think twice". In India, concerns over the credit crisis led the Reserve Bank of India to reverse course on liberalizing some financial regulations: it will not permit issuance of credit-default swaps, a major contributor to the crisis.

As the West increasingly talks about the need for their own re-regulation and increased market intervention, some have suggested that the West is now beginning to emulate the economic model of emerging economies like China. The Chinese government has called on the West to avoid protectionism and maintain liberalized global markets, a dramatic and telling reversal of roles that underscores the shifts in global power that are taking place.

India and China are examples of the changes brought on by globalization.
They are two of the fastest growing economies in the world and possess two of the largest domestic markets by number of consumers. FDI's have been a major contributor to both nations growth, bringing in more than just investment capital. FDI's have fostered the introduction of technology, human know how, and helped to link nations internationally. India and China both have complex FDI regulations that, while allowing for large nominal volumes of FDI inflows, still have major flaws. Both nations still protect large economic sectors from investment, are slow to approve foreign acquisitions of domestic firms (if at all), and are characterized by excessive bureaucracy. India and China's FDI regulations do not need to be fully liberalized. It is not necessarily prudent to open one's

economy up to the full forces of the global market, especially in the case of those nations still developing stable financial institutions and developing local human capital.

However, continued liberalization, when done strategically and carefully, may be an important source for maintaining prolonged economic growth. Substantive, yet politically minor changes to India and China's investment regulations may yield substantial positive benefits. Now more than ever, nations must reevaluate their relationship in the global economy. This involves not only looking outward, but also inward. Positive reform from within may be the most effective and efficient way to maximize the benefits from the global economy. If corporations are going to be a part of this global market they had better be able to defend themselves from this market. One of the lessons this current economic crisis has taught us is that many of our structures and institutions were not ready for this new era. Now we have to adapt ourselves to meet international standards. The whole of society expects it. They are looking for better government and transparent government. The implications of recent economic research is somewhat self evident, yet deserves being explicitly stated: countries have a significant interest in regulating how much investment enters their borders, where it comes from, what kind of investment it is, and where it is being put to use.

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Video Films On Educational Psychology for B Ed. Students as Part of New Teaching – Learning Pedagogy – A Critical Study

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ABSTRACT

The video lecture films were developed on specific criteria, on the basis of scripts which were examined by subject experts as well as technical experts. In Video films concepts were made more comprehensive with the help of daily life examples and pictures. Inconsistency in findings of different researches on Video lecture films and due to very few numbers of researches conducted on Video lecture films present study need to be undertaken Majority of students expressed strongly favorable reactions towards different aspects of Video films on Educational Psychology.

Keywords- Video film, Education Psychology

I INTRODUCTION

Number of students are increasing in higher education and it causes shortage of teachers and facilities. It is difficult to meet these needs by conventional means hence it is necessity of time to use media in field of education. Motion pictures, color, sound adjustment, facility of forward, rewind and zooming make video a powerful tool of communication between teacher and student. Video lecture films can be uploaded on website and n numbers of students may be benefited by it without any constraints of Distance, Time, Money and Energy. There is scarcity of quality teachers & quality books in field of Educational Psychology. Education Psychology is a compulsory subject at B.Ed as well as M.Ed level. There is a wide gap between demand and supply. Even those B.Ed. colleges which have sufficient teaching staff sometimes find that many of teachers lack conceptual clarity in Educational Psychology. Keeping these problems in mind the present study will examine effectiveness of e-material as a remedy. The use of Video films as instructional material is one of the innovations in field of teaching and learning. Jeyachandran (1980), Andrews (1985), Barve (1986), Clarke (1986), Yadav (1988), James (1988), NCERT and DAVV Project (1989), Narayanasamy (1991), Idayavani (1991), Kalimuthu (1991), Sinnathambi (1991), Napapong (1993), Pandya (1994), Joshi (1995), Lal (1996), Joshi (1997), Tiwari (1997), Shukla (2003), Shinde (2007) and Gupta (2011) studied the effectiveness of Video Lecture Films and brought out varying views on effectiveness. However it has been felt that scarcity of quality teachers in Educational Psychology, may be overcome by e-lecture and hence there is need to find out its effectiveness with reference to a developing state like M.P.

II OBJECTIVE & LIMITATIONS

(a) Objective of this study is to study reactions of B.Ed. Students towards Developed Video Lecture Films on Educational Psychology and examine its effectiveness.

(b) Limitations

(i) The content of Video films on Educational Psychology was prepared by taking common B.Ed. syllabus of all universities of Madhya Pradesh.

(ii) Video films cover only five units of common syllabus of M.P.

(iii) The Treatment is applicable for one academic year that is 2011-12 only.

III SAMPLE DETAILS & METHODOLOGY

(a) **Sample Details -** The two cities, namely, Indore and Dewas were selected purposively for taking sample. From two cities of Madhya Pradesh Three B,Ed colleges and three sections of School of Education, DAVV Indore were selected randomly as Sample of study from forty six B.Ed colleges of Indore and Dewas. Sample comprised of 74 B.Ed students out of which 22 were Males and 52 were females of session 2011-12 (Table1(a)

TABLE 1(A)

Group	Males	Female	Total
Video Group	22	52	74

(b) **Tool- Reaction Scale -** Reactions of Students towards Video Lecture Films were assessed by reaction scale developed by the investigator. Reaction Scale used for assessing the Reactions towards Video Lecture Films of experimental group only. The scale comprised 20 statements. There are 10 positive and 10 negative statements. The various aspects reflect in statements were Language used, clarity of voice, speed of presentation, proper pause, consistency of delivering the lecture, Duration of lecture, level of understanding, organization and administration of program, content quality, quality of graphics and animation, picture etc. Against each

statement five point rating scale has been given. The five points were strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and strongly Disagree (SDA). The students were asked to read each statement carefully. Out of the given five alternatives, tick mark (√) was to be put only one on alternative for each statement. In case of positive statement strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and strongly Disagree (SDA) were given weight age of 5,4,3,2 and 1 respectively while for negative statements it was 1,2,3,4 and 5 respectively. Thus total score ranges from 20 to 100. The score between 20 and 60 reflects unfavorable reactions while between 61 to 100 shows favorable reactions. Some items of reaction scale are given below:

IV DATA COLLECTION & ANALYSIS

(a) Data Collection - On the basis of approved scripts the video films were produced. Prepared film was edited and was converted into digital mode with the help of non linear editing system. Permission was taken from Head of the Department/Principal/Director After establishing rapport with students Investigator gave all necessary instructions then students of experimental group were taught by Video Instructional Material.

(b) Data Analysis - The reaction towards Video Lecture Films was assessed at the end of Treatment of VIM Group. The data related to this were analyzed with the help of Frequency Percentage, Mean, Standard Deviation and Coefficient of Variation. The results are given in Table 1

GroupWise Mean, Standard Deviation and Coefficient of Variation values of students Reactions towards Video Instructional Material

TABLE 1(B)

Group	Mean	Standard Deviation	Coefficient of Variation
VIM	80.53	17.62	21.88%

From table 1 it can be seen that the Mean Score of Reactions towards Video Lecture Films Group was found to be 80.53. The Reactions towards Video Lecture Films Scale contained 20 statements related to different aspects of Video Instructional Material. Against each statement a five point scale was given on which students were to give their responses. Thus, the score of the students could range between 20 and 100. The Mean score of reactions towards Video Lecture Films was towards 100 signifying strong favorable Reactions towards Video Instructional Material. The Coefficient of Variation for Video Lecture Film Group was found to be 21.88% which was quit low. It indicates that, as a group, the Reactions towards Video Lecture Film were almost invariant and strongly favorable. It may, therefore be concluded that the students of Video Lecture Film Group expressed favorable reactions towards different aspects of Video Lecture Films and on the whole. In order to probe into Reactions towards Video Instructional Material, the data were further analyzed by computing statement wise favorable mean and favorable Percentage and frequency falling under the five given choices in Table 2 The percentage of favorable reactions was calculated by multiplying frequency of different choice by 5,4,3,2,1 to positive statements and 1,2,3,4,5 to negative statements then total score of each statement was divided by 5 to get Favorable Mean. The favorable mean more than 3 showing favorable reactions towards different aspects. The favorable mean percentage was calculated by dividing Favorable Mean by 77 (VIM Group Sample Size) and multiplying it by 100, the favorable percentage was computed. The favorable percentage is showing percentage of favorable reaction out of 100 towards a particular aspect.

Table 2

Statement Wise Frequency of Reactions, Mean of Favorable Reactions and Percentage of Favorable Reactions of B.Ed. Students towards Video Instructional Material in Educational Psychology

S. No.	Statement	(Strongly Agree)	(Agree)	(Undecided)	(Disagree)	(Strongly Disagree)	Mean of Favourable Reactions	Percentage of Favourable Reactions
01	Visuals are clear	18	51	-	7	1	4.01	80.25
02	Voice is clear	26	30	2	17	2	3.79	75.84
03	Content in Video Film is not presented systematically	6	9	2	24	36	3.97	79.48
04	All points which are given in starting are not explained in Video Film	4	14	4	23	32	3.84	76.88
05	Pace/ speed of content presentation is proper	7	38	21	96	100	3.40	68.05
06	This Video Instructional Material is not useful in learning of educational psychology	3	8	4	17	45	4.21	84.15
07	Pronunciation of presenter is correct	37	35	00	3	2	4.32	86.49
08	Duration of film is suitable	25	40	3	6	3	4.01	80.25
09	Complex/ difficult content is not made simple in the film	7	10	3	29	29	3.86	77.14
10	Presenter used proper stimulus variation during his presentation	27	38	5	4	3	4.06	81.29
11	Video Instruction Material is helpful in self learning	25	33	4	9	6	3.81	76.10
12	Language of teacher is proper in Video Instructional Material	36	144	00	3	2	4.31	86.23
13	Concepts are explained properly in Video Instructional Material	30	38	2	4	3	4.14	82.85

S. No.	Statement	(Strongly Agree)	(Agree)	Undecided	(Disagree)	(Strongly Disagree)	Mean of Favourable Reaction	Percentage of Favourable Reaction
14	Video Instructional Material is not useful	5	6	2	25	39	4.13	82.59
15	In Video Instructional Material concepts are explained with proper illustrations	47	20	2	4	4	4.32	86.49
16	In Video Instructional Material definitions and main points are not shown	6	8	1	20	42	4.09	81.81
17	Video Instructional Material is not helpful in teaching Educational Psychology	5	3	1	34	34	4.27	85.45
18	Video Instructional Material is not helpful in understanding and learning of Educational Psychology	5	7	00	31	34	4.06	81.29
19	In Video Instructional Material Teacher is not teaching properly	5	8	2	22	40	4.09	81.81
20	With the help of Video Instructional Material teaching is possible even in absence of teacher	27	31	3	9	7	3.81	76.10
Overall Mean of Favorable Reactions and Percentage of Favorable Reactions							4.02	80.53

It is evident from above Table that 80.25% were of the opinion that Video Lecture Films was having clear Pictures. 75.84% were of the opinion that Video Lecture Films was having clear sound. 79.48% were of the opinion that in Video Lecture Films the content was presented sequentially. 76.88% were of the opinion that all the topics given in Video Lecture Film in starting were clearly explained. 68.05% were of the opinion that in Video Lecture Film presentation of content is with proper pace. 84.15% were of the opinion that Video Lecture Film is helpful in teaching Educational Psychology. 86.49% were of the opinion that Pronunciation of Presenter in Video Lecture Film is proper. 80.25% were of the opinion that duration of Video film is proper. 77.14% were of the opinion that in Video Lecture Film efforts were done to make easy to difficult content. 81.29% were of the opinion that in Video Lecture Film presenter was used proper stimulus variation in speech and with proper sign of hands. 76.10% were of the opinion that Video Lecture Film could be used as self learning material. 86.23% were of the opinion that in Video Lecture Film the language of Teacher is good. 82.85% were of the opinion that in Video Lecture Film concepts are clearly explained. 82.59% were of the opinion that Video Lecture Film is useful. 86.49% were of the opinion that in Video Lecture Film concepts of Educational Psychology was illustrated properly. 81.81% were of the opinion that in Video Lecture Film definitions and important points are clearly shown. 85.45% were of the opinion that Video Lecture Film is helpful in teaching of Educational Psychology. 81.29% were of the opinion that Video Lecture Film is helpful in learning Educational Psychology. 81.81% were of the opinion that in Video Lecture Film teaching of teacher is proper. 76.10% were of the opinion that teaching is possible even in absence of teacher with the help of Video Instructional Material.

V CONCLUSION

From table 2 it can be seen that Percentage of favorable Reactions was 80.53 out of 100. It is also clear from the above table that all the statements which are related to different aspects of Video Lecture Film have mean 4.02. The Mean score of the students on each statement could range between 1 and 5. The Mean score of reactions towards Video Lecture Film was about 4.02 signifying strong favorable Reactions towards Video Lecture Film son each aspect. It indicates that majority of students expressed strongly favorable reactions towards different aspects of Video Lecture Film and Video Lecture Film as whole.

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Inflation: The Worrying Trend

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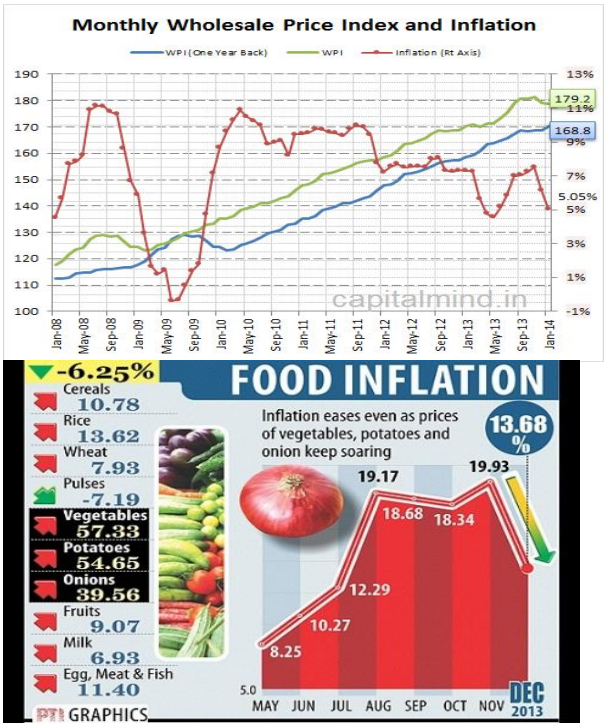
I INTRODUCTION

Persistently high inflation in past few years coupled with economic slow-down has been one of the key challenges for India. And the most dangerous aspect is that the major element in this rise in inflation is food inflation. The trend of rise in food prices is not only witnessed in India but is all across the Indian peninsula including Bangladesh, Nepal, Pakistan etc. This has dampened the regions' efforts to eradicate abject poverty and deal with hunger. As per a report India is among the most affected countries that suffers rising food inflation.



The food inflation has shown further decline in January 2014 and has stood at about 8.8 % as against 13.68% in the preceding month. In a country like India where about 65% of the people are considered to be poor, as per the Government figures, it is very callous to say that because people in India have started to demand more food items and due to growth in prosperity there has been a shift in their dietary habits, the food prices have increased. Rather, the administration needs to accept that there has been a serious policy setback in supply side of the agricultural products. Had the agricultural sector improved its productivity with more timely technological diffusion the scenario would not have been this murky. For example for last many years the decisions on raising Minimum Support Prices (MSPs) were been inspired politically and economically correct decisions have become the talks of the times of yore.

It is no rocket science to know or understand that food prices should be determined by the market and minimum support prices should be used only to provide a lower level support to the producers so that production decisions do not get distorted. But in last ten years the MSPs of wheat and rice have been increased by more than 100%!

It is further dreadful to find that consumer price inflation is rising at a faster rate in rural India as compared to urban India. In November and December 2013 inflation measured by the consumer price index in rural India was 11.66% and 10.49% respectively where as in urban India over the same period consumer price inflation accelerated 10.53% and 9.11% respectively. Theoretically, this means that the money supply in rural areas in the form of wages (in NREGA schemes) or public spending on health, education etc. should be reduced to control inflation! Looking at the present human index in rural India this seems to be quite ridiculous.

Clearly, supply side policies would be critical in managing food inflation. However, finding immediate answers is difficult as this situation has been a result of flawed policies and a long-lasting solution would lie in increasing yields and domestic output for oilseeds, pulses, rice or wheat on one hand and improving agro-based production of sugar, edible oils etc. on the other. There is immense scope for increasing yield through technology diffusion. Further there is an urgent need to understand the potential contradiction between a "remunerative" price for the farmer and a "fair" price for the consumer in the short run. A similar disagreement arises in pricing the petroleum products. The reconciliation of these contradictions and disagreements ought not to be in terms of an expensive compromise of fiscal correctness.

II THE POOR ARE HURT DISPROPORTIONATELY

Persistent rise in food inflation for more than a year and a half is hurting the producers and the consumers alike and is pulling down the economic growth as well. It is not surprising that these trends have hit the poor the most as the basket of lower income family's consumption is full of food articles. Therefore with rise in food inflation the poorer families' living standards

are depressed without affecting the higher income groups much.

The policy responses to counter the rising food prices should include only mild monetary tightening by the Central bank along with lowering tax and tariff rates, freeing imports and maintaining larger food stocks to absorb the adverse impact of temporary supply shocks.

Other critical measures include better implementation of the food safety nets and food vouchers with real vigor to protect the poor and vulnerable and developing regional pooling of the buffer stocks of food.

There is no long-term trade-off between inflation and growth. In our view, low and steady inflation is the best way for monetary policy to support robust and inclusive growth in the medium-term. In line with a RBI study, our analysis also suggests that inflation above 5–6% hurts economic growth and the very objective of welfare state.

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Linkages of climatic change with Human Health: Exploring the Effects

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ABSTRACT
Climate change endangers human health, affecting all sectors of society, both domestically and globally. The environmental consequences of climate change, both those already observed and those that are anticipated, such as sea-level rise, changes in precipitation resulting in flooding and drought, heat waves, more intense hurricanes and storms, and degraded air quality, will affect human health both directly and indirectly. Addressing the effects of climate change on human health is especially challenging because both the surrounding environment and the decisions that people make influence health. For example, increases in the frequency and severity of regional heat waves—likely outcomes of climate change—have the potential to harm a lot of people. Certain adverse health effects can probably be avoided if decisions made prior to the heat waves result in such things as identification of vulnerable populations such as children and the elderly and ensured access to preventive measures such as air conditioning. This is a simplified illustration; in real-life situations a host of other factors also come into play in determining vulnerability including biological susceptibility, socioeconomic status, cultural competence, and the built environment. In a world of myriad "what if" scenarios surrounding climate change, it becomes very complicated to create wise health policies for the future because of the uncertainty of predicting environmental change and human decisions. The need for sound science on which to base such policies becomes more critical than ever. This paper highlights the effects of climatic change in humans.
Keywords: Climate change, environmental consequences, precipitation

I DISEASES AND CLIMATE CHANGES

(a) Asthma, Respiratory Allergies, and Airway Diseases

Respiratory allergies and diseases may become more prevalent because of increased human exposure to pollen (due to altered growing seasons), molds (from extreme or more frequent precipitation), air pollution and aerosolized marine toxins (due to increased temperature, coastal runoff, and humidity) and dust (from droughts). Mitigation and adaptation may significantly reduce these risks. Research should address the relationship between climate change and the composition of air pollutant mixtures (e.g., how altered pollen counts and other effects of climate change affect the severity of asthma) to produce models to identify populations at risk. Such tools support the use of science in understanding disease risks and as such, are an integral component of developing effective risk communication and targeting the messages to vulnerable populations.

(b) Cancer

Many potential direct effects of climate change on cancer risk, such as increased duration and intensity of ultraviolet (UV) radiation, are well understood; however the potential impact of changes in climate on exposure pathways for chemicals and toxins requires further study. Science should investigate the effects of mitigation and adaptation measures on cancer incidence so that the best strategies can be developed and implemented; for example, research to inform understanding of the benefits of alternative fuels, new battery and voltaic cells, and other technologies, as well as any potential adverse risks from exposure to their components and wastes. Better understanding of climate change impacts on the capacity of ocean and coastal systems to provide cancer curative agents and other health-enhancing products is also needed.

(c) Cardiovascular Disease and Stroke

Climate change may exacerbate existing cardiovascular disease by increasing heat stress, increasing the body burden of airborne particulates, and changing the distribution of zoonotic vectors that cause infectious diseases linked with cardiovascular disease. Science that addresses the cardiovascular effects of higher temperatures, heat waves, extreme weather, and changes in air quality on health is needed, and this new information should be applied to development of health risk assessment models, early warning systems, health communication strategies targeting vulnerable populations, land use decisions, and strategies to meet air quality goals related to climate change. In some areas, cardiovascular and stroke risks resulting from climate change could be offset by reductions in air pollution due to climate change mitigation.

(d) Food borne Diseases and Nutrition

Climate change may be associated with staple food shortages, malnutrition, and food contamina-tion (of seafood from chemical contaminants, biotoxins, and pathogenic microbes, and of crops by pesticides). Science research needs in this area include better understanding of how changes in agriculture and fisheries. may affect food availability and nutrition, better monitoring for disease-causing agents, and identification and mapping of complex food webs and sentinel species that may be vulnerable to climate change. This research could be used to prepare the public health and health care sectors for new illnesses, changing surveillance needs, and increased incidence of disease, as well as development of more effective outreach to affected communities.

(e) Heat-Related Morbidity and Mortality
Heat-related illness and deaths are likely to increase in response to climate change but aggressive public health interventions such as heat wave response plans and health alert warning systems can minimize morbidity and mortality. Additional science should be focused on developing and expanding these tools in different geographic regions, specifically by defining environmental risk factors, identifying vulnerable populations, and developing effective risk communication and prevention strategies.

(f) Vector borne and Zoonotic Diseases
Disease risk may increase as a result of climate change due to related expansions in vector ranges, shortening of pathogen incubation periods, and disruption and relocation of large human populations. Research should enhance the existing pathogen/vector control infrastructure including vector
and host identification; integrate human with terrestrial and aquatic
animal health surveillance systems; incorporate ecological studies to
provide better predictive models; and improve risk communication
and prevention strategies.

(g) Waterborne Diseases
Increases in water temperature, precipitation frequency and severity, evaporation-transpiration rates, and changes in coastal ecosystem health could increase the incidence of water contamination with harmful pathogens and chemicals, resulting in increased human exposure. Research should focus on understanding where changes in water flow will occur, how water will interact with sewage in surface and underground water supplies as well as drinking water distribution systems, what food sources may become
contaminated, and how to better predict and prevent human exposure
to waterborne and ocean-related pathogens and biotoxins.

II OTHER HEALTH DISORDERS & CLIMATE CHANGES

(a) Mental Health and Stress-Related Disorders
By causing or contributing to extreme weather events, climate change may result in geographic displacement of populations, damage to property, loss of loved ones, and chronic stress, all of which can negatively affect mental health. Research needs include identifying key mental health effects and vulnerable populations, and developing migration monitoring networks to help ensure the availability of appropriate health care support.

(b) Human Developmental Effects Two potential consequences of climate change would affect normal human development:

(i) **malnutrition—**particularly during the prenatal period and early childhood as a result of decreased food supplies, and exposure to toxic contaminants

(ii) **biotoxins—**resulting from extreme weather events, increased pesticide use for food production, and increases in harmful algal blooms in recreational areas. Research should examine the relationship between human development and adaptations to climate change, such as agriculture and fisheries changes that may affect food availability, increased pesticide use to control for expanding disease vector ranges, and prevention of leaching from
toxic waste sites into floodwaters during extreme weather events, so that developmental consequences can be prevented.

(c) Neurological Disorders Climate change, as well as attempts to mitigate and adapt to it, may increase the number of neurological disorders in humans. Research in this area should focus on identifying vulnerable populations and understanding the mechanisms and effects of human exposure to neurological hazards such as biotoxins (from harmful algal blooms), metals (found in new battery technologies and compact fluorescent lights), and pesticides (used in response to changes in agriculture), as well as the potentially exacerbating effects of malnutrition and stress.

(d) Weather-Related Morbidity and Mortality
Increases in the incidence and intensity of extreme weather events such as hurricanes, floods, droughts, and wildfires may adversely affect people's health immediately during the event or later following the event. Research aimed at improving the capabilities of healthcare and emergency services to address disaster planning and management is needed to ensure that risks are understood and that optimal strategies are identified, communicated, and implemented.

III CONCLUSION

Humans have successfully adapted to environmental change over the time, from evolving natural physiological responses to the use of science, technology, and knowledge to improve their lives and advance their health. From the dawn of the industrial age, people have made great strides in improving health, and enjoy a markedly improved quality of life. However, these improvements have come at a cost that must now be understood and addressed. Climatic change will force humans to negotiate with their changing environment as never before to find ways to reshape it both for short-term protection and long-term alleviation of health consequences. There is no doubt that we have the capacity to find ways to avoid many of the worst health effects of climatic change, and indeed, given the universality and potential magnitude of such effects, we have an ethical imperative to do so.

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A Study of Environmental Awareness And Teaching Competency among Secondary School Teachers

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ABSTRACT
Environmental Awareness seeks to develop the ability to assess environmental situations and the causal chains of relationships leading to environmental damage; the interaction among social, economical, physical and educational factors: mutually related and overlapping developments, networks and feedback responsibility for future generation' economy and care in the use of all recourses; respect to revolution, nature and life; recognition of the limits of nature, human action and self restriction; and re-acquiring the ability to perceive nature. Teaching competency of secondary school teachers can be a true weapon to bring environmental awareness to the students. Objectives are to find out the level of environmental awareness among male and female secondary school teachers, to find out the level of environmental awareness in secondary teachers of arts and science branch, to find out the level of teaching competency of male and female secondary teachers, to find out the level of teaching competency of arts and science secondary school teachers, to find out the relationship between environmental awareness and teaching competency of secondary school teachers. Sample for the present study consists of 300 secondary school teachers from different schools of Lohardaga and Gumla Dist. State, Jharkhand. Environmental Awareness Scale, by Parveen Kumar Jha, and Teaching Competency Scale, by Thomas Vargese. Mean, SD, t-test and Pearson Product moment correlation was used to analyze the data. Findings of the study revealed that there is no significant difference in the level of Environmental Awareness of male and female secondary school teachers, there is no significant difference in the level of environmental awareness of arts and science secondary school teachers, there is no significant difference in the level of teaching competency of male and female secondary school teachers, there is no significant difference in the level of teaching competency of arts and science secondary school teachers, there is no significant relationship between environmental awareness and teaching competency of secondary school teachers.
Keywords- Environmental-Awareness, Teaching, Competency.

I INTRODUCTION

Environment etymologically means surroundings. It is the natural world of land, sea, air, plants, and animals that exist around us. According to Douglas and Holland "The term Environment is used to describe, in the aggregate, all the external forces, influences and conditions, which affect the life, nature, behavior and the growth, development and maturity of living organism". Environmental Awareness is that which provides power and understanding to take decisions individually and collectively and initiate action for social, cultural, and economic survival, growth and development and for conservation of nature and natural resources", Belgrade International Workshop (1975).

The awareness towards environment should be aroused from childhood, as the children are the future decision makers. They should be aware of their responsibilities and duties towards the social and ecological environment. Since teachers play a vital role in education of the children it is their responsibility to acquaint themselves with environmental awareness education.

The importance of environmental awareness cannot be over emphasized. We must understand that, to improve the environment is to improve the quality of life. It is not the question of air and water pollution. It includes elimination of diseases, hunger, malnutrition and poverty, destruction of forest and wild life, erosion of soil and accumulation of waste. Hence there is an urgent need for proper management of environment. People must be educated about the different aspect of ecology and how to apply it in the daily life. Our whole attitude towards the mother earth and the natural resources will have to be change drastically. The need to take care for our plant is very real. Every form of life depends upon every other form. We must stop destroying the earth's soil, plants, animal, water, air. Natural cycles must be adhered to if all of us work together, we can preserve our habituate for all life and future generation. If we ignore the warming of nature, then future is doomed. There is only one earth-one future.

(a) Environmental awareness through environmental education in the schools: -

Environmental education is a comparatively new area of the discipline of the education. It is a new source of concern for education, teacher and students. As education is the process of development, environment is the aggregate of all the external condition and influences affecting the life and development of man, and the living organism, Education deals with the various problems and principles governing the relationship between students and their environment.

(b) Three important approaches are included in environmental awareness of the teachers:-

(i) **Surroundings**- Understanding of the teachers about the environmental awareness begins close at home, so that he/she may encourage and explore their immediate surroundings. Such knowledge help in understanding the larger system, broader issues and a life time of learning about causes, connections and consequences.

(ii) System- The idea of systems makes sense of a large and complex world. A system has parts that can be understood separately, but the whole cannot be understood completely without recognizing the relationships and its parts. The human body can be seen as a system, so can galaxies. Organizations, individual cells, communities of animals, plants and their families, can be understood as systems and are nested within other systems.

(iii) Interdependence-The teacher of a responsible attitude can enlighten the students about the interdependence of every part/species in given system especially, human beings should recognize that they are only a part of the system. Human societies, Education, Politics, Economics, Cultural activities and Technologies affect the systems and the cycle of the rest of nature. Since we are "in" the system part of nature rather than outside it, we are challenged to recognize ramification of our independence. (Reddy K.P., Environmental education, 2002)

(c) Principles of environmental awareness

(i) **Simple to complex:** - Environmental awareness helps in programming learning experiences from simple to complex. The principle of simple to complex does not embrace only one but the entire gamut of inter-related facts from all subjects or an ensemble of knowledge. It is this principle that makes environmental awareness of secondary teachers a medium for learning different subjects.

(ii) **Infinite to definite ones**:-Environmental awareness helps the children to proceed from infinite ideas to definite (ideas) ones. Environmental Awareness helps in sharpening the development of these observational skills and hastens the transition of definiteness. Thus environmental awareness helps teachers to correct the perceptions of the children and to proceed them from indefiniteness to definiteness.

(iii) **Concrete to abstract:** - Environmental Awareness helps children to proceed from concrete to abstract. Environmental Awareness helps teacher to clarify difference in teaching learning process and clear the confusion of the differences and classification of the plants, animal etc.

(iv) **Empirical to rational:** -- Environmental Awareness helps teachers to direct children the ordering of learning experiences from empirical to the rational, Fundamentals of Environmental education, Singh S.K., 2010).

(v) **Environmental Awareness and teaching** competency of secondary teachers:-

The investigator likes to draw attention of the secondary school teachers to these given competencies-

Swami Vivekananda says- the competent teacher is he who can immediately come down to the level of the students and transfer his soul to the students and see through and understand his mind. Such a teacher and none else can really teach.

Teachers need to develop a high level of professional knowledge as teaching competency to impart information regarding new facts, relationships, threats and conflicts in the environment. Teachers need to nurture critical intellectual, ethical and emotional capacities that are likely to help and create a meaningful response.

The most important part of any education is the teacher standing in front of the students. It is time to take teaching interesting. Interest in profession by creating a excitement in the pupils through different environmental programs like –Street skits, dance drama, puppet show, workshops, seminars etc. to put the strong impact on the message "one people one environment."

Teacher's third competency is attitude towards children is important for making children interested in saving mother earth from destruction in any way. Teacher needs change her attitude from narrow thinking to broad vision and help the children understand the meaning of 'there is only one earth-one future'.

It is always good to inculcate the sense of adaptability in different situations of life. The secondary teachers have a significant role to play. Teachers do not go into education to make money. They want that their children to succeed in life. It is their duty to give the tools to become environmental awareness communicators through activity oriented approach in teaching –learning process.

II NEED & OBJECTIVE OF THE STUDY

(a) Need of the study

Environmental awareness and teaching competency among secondary school teachers is the need of the day. Students lack positive attitude towards environmental awareness. It is a challenge for the teachers to innovate new ways of orienting students towards the limits of nature, human action and self restriction; and re-acquiring the ability to preserve nature.

(b) Objectives of the study

The main objectives of the study were-

(i) To find out the level of environmental awareness among male and female secondary school teachers.

(ii) To find out the level of environmental awareness of arts and science secondary teachers.

(iii) To find out the Level of teaching competency of male and female secondary teachers.

(iv) To find out the level of teaching competency of arts and science secondary school teachers.

(v) To find out the relationship between environmental awareness and teaching competency of secondary school teachers.

III METHODOLOGY

In this study, the Investigator used survey method.

(a) **Sample Techniques** -Sample for the present study consist of 300 secondary school teachers from different schools of Lohardaga and Gumla Dist. State, Jharkhand.

(b) **Tool used-** Environmental Awareness Scale, by Parveen Kumar Jha, and Teaching competency scale, by Thomas Vargese.

(c) **Data Analysis**- Mean, SD, t-test and Pearson Product moment correlation were used to analyses the data. Findings of the study revealed that-

(d) **Testing of Null Hypotheses**

(i) Null Hypotheses – 1

There is no significant difference in the level of Environmental Awareness of male and female secondary school teachers.

TABLE-1
DIFFERENCE IN THE LEVEL OF ENVIRONMENTAL AWARENESS OF SECONDARY SCHOOL TEACHERS WITH RESPECT TO GENDER

Sex	N	Mean	SD	df	t-ratio	Level of Significance
Male	111	29.99	9.48	298	3.20	S
Female	189	33.64	9.60			

For df 298, at 5% Level of significance the table value = 1.97

From table- 1, it is concluded that there is significant difference in the level of Environmental Awareness of male and female secondary school teachers.

(ii) Null Hypotheses – 2

There is no significant difference in the level of environmental awareness of arts and science secondary school teachers.

TABLE -2
DIFFERENCE IN THE LEVEL OF ENVIRONMENTAL AWARENESS OF ARTS AND SCIENCE SECONDARY SCHOOL TEACHERS WITH RESPECT TO SUBJECT

Subject	N	Mean	SD	Df	t-ratio	Level of Significance
Not Science	160	32.46	8.99	298	0.31	NS
Science	140	30.1	10.47			

For df 298, at 5% Level of significance the table value = 1.97

From table- 2, it is concluded that there is no significant difference in the level of environmental awareness of arts and science secondary school teachers.

(iii) Null Hypotheses – 3

There is no significant difference in the level of teaching competency of male and female secondary school teachers.

TABLE -3
DIFFERENCES IN TEACHING COMPETENCY OF SECONDARY SCHOOL TEACHERS WITH RESPECT TO GENDER

Gender	N	Mean	SD	df	t-value	Level of Significance
Male	144	270.40	29.04	298	1.50	Not Significant (At 5% Ls)
Female	156	265.36	28.80			

For df 298, at 5% Level of significance the table value = 1.97

From table-3, it is concluded that there is no significant difference in the level the level of Teaching Competency of male and female secondary teachers.

(iv) Null Hypotheses – 4

There is no significant difference in the level of teaching competency of arts and science secondary school teachers.

TABLE-4
DIFFERENCE IN TEACHING COMPETENCY OF SECONDARY SCHOOL TEACHERS WITH RESPECT TO SUBJECT

Subject	N	Mean	SD	df	t-value	Level of Significance
Arts	160	264..25	28.81	298	2.43	Significant (At 5% Ls)
Science	140	272.28	28.27			

For df 298, at 5% Level of Significance table value = 1.97

From table-4, it is concluded that there is significant difference in the level the level of Teaching Competency of arts and science secondary school teachers.

(v) Null Hypotheses – 5

There is no significant relationship between Environmental awareness and teaching competency of secondary school teachers

TABLE -5
RELATIONSHIP BETWEEN ENVIRONMENTAL AWARENESS AND TEACHING COMPETENCY OF SECONDARY SCHOOL TEACHERS

Environmental Awareness		Teaching Competency			N	Correlation Value (r)	Level of significance
∑X	∑X2	∑Y	∑Y2	∑XY	300	0.998	Significant (At 1% Ls)
120576	49020216	221545	165519673	90074522			

For 300 sample, at 1% Level of significance, Table value of correlation = 0.148

From table: 5, it is concluded that there is significant relationship between environmental awareness and teaching competency of secondary school teachers.

IV CONCLUSIONS

On the basis of data analysis of data significant different was found. It can be said that the female teachers have higher environmental awareness than male teachers. Female folk is more sensitive towards environmental awareness because they are more close to practical living.

The environmental awareness of arts and science secondary school teachers is positive direction. This is healthy sign. The 21st Century is the age of computer, internet, and new technologies; today men and women both have the equal right to be educated; in the progressive era, everybody-he/she has right to get educated. Hence there is no effect on the level of environmental awareness of arts and science secondary school teachers.

The similarity in teaching competency shows that male and female both are acquainted with the skills. Skilled teachers reflect the best teaching competency in his/her profession but through life.

The significant difference in subject shows that science teachers have better hold on the subject than the arts teachers. Practical and project work help the teacher and the student in understanding, widening and strengthening the knowledge. in science subject makes learning easier.

In spite of differences in few areas there is significant relationship between environmental awareness and teaching Competency of secondary school teachers because teachers are well equipped with current environmental problems and the need to solved which can only be help through education and the serious effort of secondary school teachers.

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A Study - Skill of Teachers under Sarva Shiksha Abhiyan (SSA) on the Operations of the Components of Hearing Aids used for the Children with Hearing Impairment.

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ABSTRACT
Teacher is an important factor of the habilitation and rehabilitation programme, but most of the teachers do not know about the basic concepts of disabilities even in education, although they are working in the field of special education. In the changing scenario, education is changing rapidly. It is not a need today, it becomes a responsibility. More and more students with disabilities are being taught and held accountable for the same content in the same classes as their neighbors and peers. It belief that it cannot and will not happen without providing support for general and special education teacher ho will be expected to make them happen. In inclusive classrooms, most of the students are being benefited with the SSA program.

I INTRODUCTION

Hearing is one of the traditional five senses . It is the ability to perceive sound by detecting vibration via an organ such as the ear. In humans, hearing is performed primarily by the auditory system : When interacting , people often are not listening attentively to one another. They may be distracted, thinking about other things, or thinking about what they are going to say next. Hearing impairment is a full or partial decrease in the ability to detect or understand sounds. Caused by a wide range of biological and environmental factors, loss of hearing can happen to any organism that receives sound.

For the management of hearing impairment, different types of assistive listening devices can be used. Assistive Listening Device (ALD) is a device that can help in functioning better in day-to-day communication situations.

The Government of India has launched Sarva Shiksha Abhiyan (SSA) for Universalization of Elementary Education (UEE). The program aims at providing useful and relevant elementary education in the group of 6-14. After the 86th Constitutional Amendment Act, the Education of CWSN became an important component of SSA.

Zink (1972) in his study “hearing aids children wear : A longitudinal study of performance” commented, that the “teachers were found to have limited background information regarding care and operation of hearing aids”. Jones (1982) found that many teachers of the deaf did not know how to troubleshoot the hearing aids (Frederick-1986). Fairbank, et. Al. (1986) conducted a study “Stimulus over selectivity in hearing impaired children” to determine the electro acoustic malfunctions in hearing aids. The intent of this was to determine if school personnel could accurately identify malfunctions in hearing aids by performing listening checks. Results of this study indicated that some teachers were unable to assess hearing aid function by listening checks.

Busenbark and Jenson (1986) in their study “Assessing hearing aid functioning by Listening check” found that when more subtle problems such as distortion and insufficient gain and output were evaluated through a listening check, the teacher had difficulty identifying the malfunctions.

Norman and Lass et al (1087)conducted a survey to determine the knowledge of exposure to and attitudes towards hearing aids and hearing aid wearers by teachers employed in country school system in West Virginia. The result of this survey indicated a need for more knowledge on and exposure to hearing programmes as well as in continuing education programmes for teachers. Ross (1991) in his study “ A future challenge : Educating the educators and public about hearing loss” indicated that many teachers of children with hearing impairment knew little about amplification. Regardless of how wisely the equipment is evaluated and purchased a vital link with the hearing impaired child is classroom use and maintenance of the system. In order to achieve maximum efficiency with classroom units, it is essential that the classroom teachers have a working knowledge of the operation of the system. Most(2002) conducted a study of the “The effectiveness of an intervention programme on hearing aid maintenance for teenagers and their teachers” to evaluate the contribution of an intervention programme to hearing aid use. Most students reported satisfaction with the functioning of their hearing aid after the programme .

II OBJECTIVE & HYDOTHESES

(a) **Objective** - To study the Skill of Teachers' under Sarva Shiksha Abhiyan (SSA) on the Operations of the Components of Hearing Aids used for the Children with Hearing Impairment.
(b) **Hypothesis**-There is no significant difference on the skills of operation of different components of Individual hearing aids between the teachers working under SSA.

III METHODOLOGY

The selected study is primarily a survey type of evaluative research .For the study the teachers working under SSA till the session 2009-10, play a role as the population , where the samples, selected by random sampling technique, are the teachers of SSA working in Distt .Betul . It was planned to select 50 samples from the population.

To solve the purpose of the study the appropriate tool developed by Kushelndra Kumar (2006) was taken. And mainly reaction scale technique was used to gather the required information for various sources as mentioned earlier. The weight age of the various items of the scale has been assigned according to the relative importance of the factors considered in the scale and only those items were selected in the scale which was found empirically suitable for the purpose of the study.

IV ANALYSIS

The scale to be responding in 5 point rating 5, 4, 3, 2, and 1, after getting the responses of the subjects the responses are scored in the manner of :- 5 (Excellent and prompt, without any error), 4 (Good, with 1-2 errors), 3 (Average, with 3-5 errors), 2 (Poor, with a range of errors and taking time more than 3 minutes), and 1 (Not performed at all). Each skill area was scored on the basis of tick mark on each of the grade. In a particular skill area and the statement in the questionnaire, the total scores were count as a number . Number of frequencies established against the cell of the scale according to the responses of the respondent.

Data were analysed by using both parametric and non-parametric statistical techniques. Percentage and Chi-square techniques were applied on the questionnaires to analyze the data.

Analysis of the Teachers Responses towards Operational Skills of Individual Hearing Aids

Statement	Type of Hearing Aid	Responses of the Samples					Chi-Square
		Excellent	Good	Average	Poor	Not performed at all	
Place the hearing aid in correct position on the body of the child	Pocket	22 (44%)	12 (24%)	6 (12%)	8 (16%)	2 (4%)	23.200*
	BTE	13 (26%)	18 (36%)	5 (10%)	5 (10%)	9 (18%)	12.400
On/Off the hearing aid	Pocket	27 (54%)	12 (24%)	8 (16%)	2 (4%)	1 (2%)	44.200*
	BTE	15 (30%)	13 (26%)	9 (18%)	10 (20%)	3 (6%)	8.400
Increase/decrease the volume of hearing aid	Pocket	28 (56%)	13 (26%)	3 (6%)	5 (10%)	1 (2%)	48.800*
	BTE	19 (38%)	10 (20%)	11 (22%)	5 (10%)	5 (10%)	13.200*
Reduce squealing from the hearing aid	Pocket	9 (18%)	6 (12%)	19 (38%)	10 (20%)	6 (12%)	11.400*
	BTE	4 (8%)	7 (14%)	14 (28%)	10 (20%)	15 (30%)	8.600*
Open the battery compartment	Pocket	15 (30%)	20 (40%)	10 (20%)	4 (8%)	1 (2%)	24.200*
	BTE	6 (12%)	11 (22%)	18 (36%)	10 (20%)	5 (10%)	10.600*
Place the battery with correct polarity in the battery compartment	Pocket	11 (22%)	15 (30%)	21 (42%)	1 (2%)	2 (4%)	29.200*
	BTE	3 (6%)	3 (6%)	9 (18%)	27 (54%)	8 (16%)	39.200*
Fix the mould with the receiver in the ear	Pocket	12 (24%)	19	9 (18%)	6 (12%)	4 (8%)	13.800*
	BTE	4 (8%)	8 (16%)	8 (16%)	21 (42%)	9 (18%)	16.600*
Fix the cover on the hearing aid	Pocket	25	10	6 (12%)	5 (10%)	4 (8%)	30.200*
	BTE	4 (8%)	9 (18%)	10 (20%)	12	15	6.600*
Fix the mould in the receiver.	Pocket	22 (44%)	12 (24%)	10 (20%)	2 (4%)	4 (8%)	24.800*
	BTE	12 (24%)	8 (16%)	6 (12%)	8 (16%)	16 (32%)	6.400*

V FINDINGS

On the issues of the operating different components of the individual hearing aids, the data was anal used and the findings are as under:-

(a) There is a significant difference between the SSA teachers to operate the different components of the individual hearing aids on the basis of the types of the aids, i.e.. Pocket type and BTE hearing aids.
(b) On the issue of placing the hearing aids on the body of the child, there was a significant difference found on the basis of the types of hearing aids. Teachers respond excellent in the pocket type hearing aid and good level of skills of operations in BTE types . It was found that the pocket type hearing aids were mostly used in the school that's why the teachers perform well in operating. They have a clear concept of the place of wearing hearing aid properly.
(c) On the task given to the teachers to on/off the aid , there was a significant difference found between them on the basis of type of hearing aid. Most of the teachers under SSA program were found able to operate pocket type hearing aid successfully but while operating BTE, they were little bit lacking. But overall they were found skilled to operate on/off the machine.
(d) While comparing the task of increase/decrease the volume of the aid, a significant difference was found amount the teachers working in SSA programme on the basis of types of individual hearing aids. Teachers operate pocket type hearing aids very effectively as compare to the BTE. Teacher shows excellent and good performance while operating pocket type aid with minimum errors as compare to the BTE. They exhibits repeatedly tasks when operate BTE.
(e) While comparing the task of Reduce squealing sound from the hearing aids, teachers performed well with the pocket type hearing aid but averagely. The same performance was exhibit with the BTE type of aids. Most of the teachers show some problem when operating this task. It proves that the teachers having not much experience with reducing squealing sound of the aid. Actually most of the hearing impaired children are using the aids with minimum level of sound output.
(f) Opening of the battery compartment is another task on which most of the teachers performed well on good level in pocket type hearing aids and show average skills in the case of BTE. Most of the teachers don't know where the battery compartment in BTE is. They were tried more than 5 times to locate.
(g) Polarity of the battery is another issue in which teachers responds poorly in BTE than the pocket type aids. When the task was given to the teachers for placing the battery in the battery compartment of the aid with correct polarity, teachers performed as average in pocket type aids but poorly in the case of BTE. Most of the teachers ask to the researcher how they identify the polarity. It shown, they were not given such training input towards the polarity of the battery.
(h) In fixing of the mould with receiver in the ear , teacher exhibited their performance as good in the case of Pocket type hearing aid but again in the case of BTE, they performed as poor. Teachers were tried more than 3-5 times to perform the job . This shows they are having difficulty to fit the receiver correctly when the mould is in the ear.
(i) On fixing of the cover on the aid, most of the teacher performed well. And the overall performance of the teachers in pocket type was shown as Excellent . But in the case of BTE, teacher failed to fir cover on the aid . Most of the teachers were found unaware of the cover of the hearing aid and their use. Many teachers reported that they are exposing to the covers first time.

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Recent Trends in Mathematics and Potential Contribution to other Disciplines

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ABSTRACT
The intention of this paper is to study the recent trends in present-day mathematics and role of mathematics in other disciplines. The paper is in five parts. Section one is Introduction. Section two is dealing with trends of application areas of mathematics at the wake of the twentieth century, Section three looks at the changes in mathematics application as a result of the modern approach to mathematics and discoveries in other fields, section four addresses the current thinking of collaborative and inter discipline mathematics and the section five gives some examples of application areas where mathematics is emerging as a vital component with great opportunities for inter discipline research.

Keywords- Trend in Mathematics, Mathematical research activity, Inter-discipline mathematics, new areas of application.

I INTRODUCTION

Math is present in day to day life and is being used even when people don't realize they are using mathematical reasoning. Everyone calculates time schedules, budgets, discounts and even gratuities. Understanding the basics of math helps people operate in a work setting too. This is true whether you are an hourly laborer or have a career in the medical field. Math is part of your daily routine. Almost all areas of human activity make more and more use of mathematics. They use all branches of mathematics, not just traditional applied mathematics. Mathematical activity like research, applications, education, exposition, has changed a lot in the last some years. Some of these changes, like the use of computers, are very perceptible and they are being applied in mathematical education fairly broadly. Many new forms of mathematical activity like algorithms and programming, modelling, conjecturing, expository writing and lecturing, are acquisition significance. I will say some more about the new trends in mathematics, and discuss the question of their influence on mathematical education.

(a) Trends of 20th century-The 20th century made a rethink on the foundations of mathematics, it was marked out by a new approach to mathematics. In International Congress of Mathematicians, David Hilbert's (1862-1943) vision was to analyses axioms of each subject and state results in their full generality. This vision became concrete in the 1930's through the development of the axiomatic approach to algebra. Parallel trends took place in functional analysis with Banach Spaces. This extent to other subfields of mathematics like partial differential equations, harmonic analysis and algebraic topology.

The 20th Century continued the trend for increasing generalization and abstraction in mathematics, in which the notion of axioms as “self-evident truths” was largely discarded in favour of an emphasis on such logical concepts as consistency and completeness. This century approach to mathematics resulted in a more developed mathematical language, new powerful mathematical tools, and inspired new application areas that have resulted in remarkable discoveries in other applied sciences. Towards the end of the 20th Century, mathematicians were making a re-think on the need to bridge the division lines within mathematics, to open up more for other disciplines and to support the line of inter-discipline research. The current cry is that this interaction will be further stabilized in the 21st Century. In the drive to seek generality, 20th century mathematics became more diverse, more structured and more complex.

(b) Trends in mathematics today-In this section, I will discuss broad trends in mathematics today. These are as follows:

(i) Variety of applications- The increased variety of application shows itself in two ways. On the one hand, areas of science have become "infected". This is clearly true of the social sciences, but is also a feature of present-day theoretical biology. Another contributing factor to the increased variety of applications is that areas of mathematics, so far regarded as impregnable pure, are now being applied. Algebraic geometry is being applied to control theory and the study of large-scale systems; combinatory and graph theory are applied to economics; the theory of fibber bundles is applied to physics; algebraic invariant theory is applied to the study of error-correcting codes. Thus the distinction between pure and applied mathematics is seen now not to be based on content but on the attitude and motivation of the mathematician. I would go further and argue that there should not be a sharp distinction between the methods of pure and applied mathematics. Certainly such a distinction should not consist of a greater attention to rigidity in the pure community, for the applied mathematician needs to understand very well the domain of validity of the methods being employed, and to be able to analyses how stable the results are and the extent to which the methods may be modified to suit new situations. An impartial distinction between "pure" and "applied" mathematics, would seem to be one between "inapplicable" and "applicable" mathematics. We wish to study a "real world" problem; we form a scientific model of the problem and then construct a

mathematical model to reason about the scientific or conceptual model. First, the concept of applicable mathematics needs to be broad enough to include parts of mathematics applicable to some area of mathematics which has already been applied; and, second, that the methods of pure and applied mathematics have much more in common than would be supposed by anyone listening to some of their more vociferous advocates. For our purposes now, the modules for mathematics education to be drawn from looking at this trend in mathematics are twofold; first, the distinction between pure and applied mathematics should not be emphasized in the teaching of mathematics, and, second, opportunities to present applications should be taken wherever appropriate within the mathematics curriculum.

(ii) New unification of Mathematics-Before a decade, the most characteristic feature was the vertical development of autonomous disciplines, some of which were of very recent origin. Thus the community of mathematicians was partitioned into sub communities united by a common and rather exclusive interest in a fairly narrow area of mathematics (algebraic geometry, algebraic topology, homological algebra, commutative ring theory, real analysis, complex analysis, set theory, etc.). Indeed, some would argue that no real community of mathematicians existed, since specialists in distinct fields were hardly able to communicate with each other. I do not impose any blame to the system which prevailed in this period. Indeed, it was historically inevitable but it does appear that these autonomous disciplines are now being linked together in such a way that mathematics is being reunified. I believe that the appropriate education of a contemporary mathematician must be broad. The lesson to be drawn from the trend toward a new unification of mathematics must involve a similar principle. We must break down artificial barriers between mathematical topics throughout the student's mathematical education.

(iii) The universal presence of the computer-The third trend to which I have drawn attention is that of the general availability of the computer and its role in actually changing the face of mathematics. The computer plays an entirely constructive role in our lives and in the evolution of our mathematics. The computer is changing mathematics by bringing certain topics into greater prominence - it is even causing mathematicians to create new areas of mathematics, for examples, theory of computational complexity, the theory of automata, mathematical cryptology etc. At the same time it is relieving us of certain tedious aspects of traditional mathematical activity which it executes faster and more accurately than we can. It makes it possible rapidly and painlessly to carry out numerical work, so that we may accompany our analysis of a given problem with the actual calculation of numerical examples. On the other hand, the computer renders obsolete certain mathematical techniques which have been prominent in the curriculum still now.

II INTER-DISCIPLINE MATHEMATICS AND POTENTIAL CONTRIBUTION TO OTHER FIELDS

Currently, efforts are being undertaken to facilitate collaborative research across traditional academic fields and to help train a new generation of interdisciplinary mathematicians and scientists. Disciplines that hardly used mathematics in their curricula are now demanding substantial doses of knowledge and skills in mathematics. For example, Curricula for the social sciences programmers now include sophisticated mathematics over and above the traditional descriptive statistics. Curricula of some

(a) Teaching Strategies*:* An integrated approach to the curriculum., stressing the Interdependence of the various parts of mathematics.

(i) Simple application.
(ii) Historical references.
(iii) Flexibility.
(iv) Exploitation of computing availability.

(b) Topics*:* Geometry and algebra Probability and statistics.

- Approximation and estimation, scientific notation.
- Iterative procedures, successive approximation.
- Rational numbers, ratios and rates. Elementary number theory.

(c) Paradoxes.

(i) Teaching Strategies

- Authoritarianism.
- Orthodoxy.
- Pointlessness.
- Pie-in-the-sky motivation.

(ii) Topics

- Tedious hand calculations.
- Complicated trigonometry.
- Learning geometrical proofs.
- Artificial "simplifications".
- Logarithms as calculating devices.

universities in the developed countries have inter disciplinary programmers where mathematics students and students from other sciences work jointly on projects. The aim is to prepare graduates for the new approaches and practices in their fields and careers.

As evidenced by the discoveries of the last half of the 20th century, mathematics can enrich not only physics and the other discipline of sciences, but also medicine and the biomedical sciences and engineering. It can also play a role in such practical matters as how to speed the flow of traffic on the Internet or sharpen the transmission of digitised images, how to better understand and possibly predict patterns in the stock market and even how to enrich the entertainment world through contributions to digital technology. Through

mathematical modelling, numerical experiments, analytical studies and other mathematical techniques, mathematics can make huge contributions to many fields. Mathematics has to do with human genes, the world of finance and geometric motions. For example, science now has a huge body of genetic information, and researchers need mathematical methods and algorithms to search the data as well as clustering methods and computer models to interpret the data. Finance is very mathematical; it has to do with derivatives, risk management, portfolio management and stock options. All these are modeled mathematically, and consequently mathematicians are having a real impact on how those businesses are evolving. Motion driven by the geometry of interfaces is omnipresent in many areas of science from growing crystals for manufacturing semiconductors to tracking tumors in biomedical images. The convergence of mathematics and the life sciences, which was not foreseen a generation ago, is a remarkable opportunity for application.

(d) Interdisciplinary Areas

Research areas are many and exciting. They include:

(i) Mathematics for materials
(ii) Security issues (mathematics for Information and Communication, Mathematics for sensors, mobile communication as well as network security and protection)
(iii) Demands in software reliability where mathematics is needed for computer language, architecture, etc.
(iv) Requirements for automated decision making (probability, stochastic analysis, mathematics of sensing, pattern analysis, and spectral analysis) and
(v) Future systems (lighter vehicles, smaller satellites, ICBM Interceptors, Hit before being Hit, secured wireless communication systems, super-efficient energy/ power sources, modeling and simulations, robotics and automation.

III FIELDS WHERE MATHEMATICS IS EMERGING VITAL

During the last 50 years, developments in mathematics, in computing and communication technologies have made it possible for most of the breath taking discoveries in basic sciences, for the remarkable innovations and inventions in engineering sciences and technology and for the great achievements and breakthroughs in economics and life sciences. These have led to the emergency of many new areas of mathematics and enabled areas that were inactive to explode.

The examples are from the disciplines of materials sciences, study of composites, digital technology and health care field. Below are summaries of the examples:

(a) Mathematics in Materials Sciences-

Materials sciences is concerned with the synthesis and manufacture of new materials, the modification of materials, the understanding and prediction of material properties, and the evolution and control of these properties over a time period. Until recently, materials science was primarily an empirical study in metallurgy, ceramics, and plastics. Today it is a vast growing body of knowledge based on physical sciences, engineering, and mathematics. For example, mathematical models are emerging quite reliable in the synthesis and manufacture of polymers. Some of these models are based on statistics or statistical mechanics and others are based on a diffusion equation in finite or infinite dimensional spaces. Simpler but more phenomenological models of polymers are based on Continuum Mechanics with added terms to account for 'memory.' Stability and singularity of solutions are important issues for materials scientists.

(b) Study of composites-Motor companies are working with composites of aluminum and silicon-carbon grains, which provide lightweight alternative to steel. Fluid with magnetic particles or electrically charged particles will enhance the effects of brake fluid and shock absorbers in the car. Over the last decade, mathematicians have developed new tools in functional analysis, PDE, and numerical analysis, by which they have been able to estimate or compute the effective properties of composites. But the list of new composites is ever increasing and new materials are constantly being developed. These will continue to need mathematical input

(c) Mathematics in Digital Technology- The mathematics of multimedia encompasses a wide range of research areas, which include computer vision, image processing, speech recognition and language understanding, computer aided design, and new modes of networking. The mathematical tools in multimedia may include stochastic processes, Markov fields, statistical patterns, decision theory, PDE, numerical analysis, graph theory, graphic algorithms, image analysis and wavelets, and many others. Computer aided design is becoming a powerful tool in many industries. This technology is a potential area for research mathematicians. The future of the World Wide Web will depend on the development of many new mathematical ideas and algorithms, and mathematicians will have to develop ever more secure cryptographic schemes and thus new developments from number theory, discrete mathematics, algebraic geometry, and dynamical systems, as well as other fields.

(d) Mathematics in Health Care Field-A doctor, nurse, X-ray technician, pharmacist and all others in the health care field must have the knowledge of mathematics. A physician must understand the dynamics of the human body to diagnose illness and administer medication. Many prescriptions require the use of a formula based on the weight of a patient to determine the proper dosage. When a doctor writes a prescription out to the pharmacist, he must be able to calculate the amount of medication received with each treatment.

There are other uses of math in the life of a doctor. For example, various lab tests report results in a numerical format. A CBC is a standard test preformed to measure levels of blood cells. The technician draws blood, the lab performs the analysis and reports that information to the doctor. The physician must understand percentages and ratios of different cells for his patient. He must know the normal parameters in order to establish an abnormal test result. Based on his ability to make a precise determination, he may know how to treat the patient.

Nurses not only care for a patient, they must also take readings and perform calculations. The old-school method of reading a pulse requires touching the radial pulse and counting the number of beats for a few seconds. A nurse must then calculate the heart beat per minute based on that number. Determining appropriate IV drip requires a calculation to dispense intravenous fluid for an accurate rate flow, such as 10drops/ml. A patient's chart records many factors in a numerical state. The amount of urine out is a measurement; the oxygen level in the blood stream is a ratio or percentage. Understanding basic math and algebra is a vital tool for nurses. Whether the nurse is charting notes or administering treatment, math is a crucial component.

A pharmacist does much more than dispense medication. In many ways, the pharmacist is a checkpoint for the math of a prescribing agent, such as a doctor or physician's assistant. Since so many dosages are mathematical formulas, a pharmacist must double-check the assessment made to determine the dosage. The American Pharmacists Association reports one essential prerequisite for a career in pharmacology is a strong education in math and science. A pharmacist will sometimes mix IV medications in a hospital setting. This requires the ability to understand how much saline is required to be unit of medicine. Math is certainly a large part of a pharmacy. Pills must be counted, formulas must be calculated, all math functions that require proper administration by a pharmacist.

Now every branch of mathematics has a potential for applicability in other fields of mathematics and other disciplines. All these, have posed a big challenge on the mathematics curricula at all levels of the education systems, teacher preparation and pedagogy. The 21st Century mathematics thinking is to further strengthen efforts to bridge the division lines within mathematics, to open up more for other disciplines and to foster the line of inter-discipline research.

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Study of Impact of Teachers Teaching in Primary Classes on the Basis of Age, Marital Status and Gender

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ABSTRACT
The sample consist of 126 teachers selected out of this 18 were males and the rest are females by stratified sampling method from one school of Chhindwara (IDEAL PUBLIC SCHOOL,CHHINDWARA) and two schools of Sarni (LITTLE FLOWER HIGH SCHOOL AND PANDIT NEHRU HIGH SCHOOL)
This paper consist impact of various teachers teaching in primary classes according to their: - Age, Marital status & Gender

I INTRODUCTION

The teachers occupy a unique place in the educational system. He/she is the pivot of the entire education process. So if teachers are to be efficient in their work they should have adequate professional information, sound philosophy of work and positive attitude towards teaching as well as a favorable attitude towards the profession. But environmental, social, economical, gender, age, martial and experienced conditions effects on teaching specially on primary classes.

II NEED FOR THE STUDY

The teacher by virtue of his/her position and role is one of the most important agent of the transmission and enrichment of culture in today's society having to deal with human material during the most impressionable periods of life. The teacher is bound to make massive impact on the personality character intellectual growth, attitudes and values of the future citizens. Now in modern world schooling start from the age of 3.5 years (primary school)or even from the age of 2.5 years (play school) After the birth of child this is the first time when a child faces the outside world. When a child starts schooling he/she is in physically, mentally and emotionally developing stage. After his/her parent's teacher is the first person who comes in contact. So teachers have great importance in all respects. Child is like a plain paper and a good teacher by imparting good knowledge he/she can write good things on that paper. If a child gets good knowledge and a proper care in a primary classes then he/she gets foundation and better performance in higher classes. Also various research prove that in primary classes imparting knowledge is a secondary matter but the child care, child understanding, emotional treatment and giving correct direction is o greater value.

A very common sound comes out from every pre-primary or some time primary classes is a sound of crying students and to handle those students is not possible for every teachers specially for male teachers

and young female teachers. Every parent wants proper care of their child. Parents are very much dependent on teachers. Every parent wants two things from the school (teacher), good education and proper care

During the study it is observed that percentage of female teachers in primary classes is very high or in some school only female teachers were teaching in primary classes. It also observe that very matured female teachers were greater in number.

III OBJECTIVES

(a) To study why the percentage of female teachers are higher than the male teachers
(b) To study why some school management recruit female teachers for teaching in primary classes.
(c) To study the effect of gender on teaching in primary classes.
(d) To study the effect of marital status on teaching in primary classes.
(e) To study the effect of age (maturity) on teaching in primary classes.
(f) To study the basic requirements of the students of primary classes.
(g) To study the behaviors of the teachers of primary classes.
(h) To study need and requirement of parents from primary classes teachers.

IV RESULTS AND DISCUSSION

The study was conducted on 126 primary teachers out of which only 18 were males yes the number of male teachers was very less so the first question arises in mind why it is so? Some schools (IDEAL PUBLIC SCHOOL, CHHINDWARA) have more faith in female teachers. During study and long discussion with the school management, principal, teachers and with

some parents it is clear that female teachers can control and handle the students very carefully and students also like to be with female teachers. It is because the female are emotionally stronger than male teachers. Every child is closely attached with his/her mother rather than father due to which student better connect with female teachers. Study also shows that male teachers become angry quickly and they face problem in understanding the language of children and also in explanation.

During the study out of 18 only 2 male teachers performed averagely well in their profession on the other hand out of 108 only 11 female teachers were not good in their performance.

III CONCLUSION

For teaching in primary classes female teachers are better than male teachers.

(a) Discussion of teaching performance of females on the basis of their age

As it is cleared from study and previous study that female teachers are good for primary classes than the male teachers but all the female teachers are not equally performers. Also all are not good in their performance. In this study the age of female teachers varied from 23 to 55 years. It is observed that the female teachers in age between 35 to 50 are good teachers and perform very well than the rest of female teachers. the teachers having age less than 30 years are below average, they are not very sincere, not good communicator and very poor in taking care of children. All though teaching of some teachers was very good, young teachers have lack of knowledge and experience of handling of children. They want students to learn and understand rapidly and when the students do not respond according to them they get angry. Teaching of young teachers is very fast. According to students it is so because they start teaching just after graduation so they have lack of experience and poor in performing in practical world. On the other hand matured teachers have already faced every aspects of life so they know how to behave and manage different conditions. The body languages of matured teachers are very good in comparison to young female teachers.

Teachers in the age range of 35 to 50 years were found very well in their performance in primary classes.

(b) Discussion on marital status of female teachers

In this sample out of 108 female teachers 86 were married and the rest (22) were unmarried. The percentage and performance of married female teachers is better than the unmarried teacher. During the study it is observed that married teachers are very good, comfortable and friendly with their students. They not only teach their students also act as mother of children. Married female teachers understand very well the language of children because they have their own child and having their own experience. So their personal experience show up and works in their teaching. It is observed that when any student poses any kind of problem or suffering from any general diseases the married teachers take cares of children (students) very well on the other hand unmarried teachers fail or poorly handle the children because they don't have any experience of taking care of children. But it is also observed that some unmarried teachers are very good in their profession. In the study it is clear that these teachers come from joint family so they have better experience of general behaviors, have the feeling of adjustment and having good communication.

During the study one incident happened in LITTLE FLOWER HIGH SCHOOL, SARNI A L.K.G. Student Niharika suddenly got EPLEPSY attaché. All the teachers got shock for a moment but 40 years old married female teacher came quickly and handled the situation very smoothly and took care of the child in a very experienced manner. She acted like a mother of that child. On the other hand unmarried teachers wanted to help the child but they didn't know how to manage the situation also some of them don't have the feeling to help the child. The teacher who helped the child had the female emotions. We all know that after marriage females have to leave their parents and entered in a new world where they have to create new relations and manage with so many other people. Due to this reason married female teachers have a better knowledge of how to manage the situation, feeling of adjustment and how to act in critical situations.

Married female teachers were founded to be better than the unmarried female teachers.

IV RESULTS

(a) There is significant difference between teaching of male and female teachers in primary classes. Female's teachers scored better over male teachers.
(b) There is significant difference between young and matured female teachers. Matured female teachers performed better over the young female teachers in primary classes.
(c) There is significant difference between married and unmarried female teachers. Married female teachers performed better over unmarried female teachers in primary classes.

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Expected Changes in Education
A Comparison on Education in the Industrial Society to Education in the Information Society

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ABSTRACT
The processes by which meanings are created and shared with through ICT are the new literary practice in the present digital world. There are many terms used in the information society to describe the aspects of literacy like multimedia, interactive, ICT or digital literacy, etc. Each of them focuses on the operational aspects of using ICT. The recent shift of emphasis on expansion of the term IT to ICT indicates that the communication is now seen as a central component of the ICT capability and clearly depends on both "traditional" and "new" literacy. Through this paper, the researcher has tried to focus on the impact of emerging technology on teaching and learning. More focus has been given on existing digital technologies which have made the classroom teachings more effective. There has been a huge change in the attitudes among the students of the then industrial society to the now so called information society. This has raised eyebrows to realize the need of the present student community to adapt the fast growing digital scenario. Education being the utmost important field in a student's life, the institutional heads has all the more focused on adoption of digital classrooms. The emerging trends with the advancement in technologies since the 1980's to the present millennium have witnessed a great milestone. Though the then industrial society produced intellectuals with traditional methods of teaching–learning process, the present information society demands an in-depth learning of concepts in STEM [Science, Technology, Engineering and Mathematics]. The study reveals the need of the present digital classroom learning with the increase in student's levels of motivation, sense of self confidence, self sufficiency and greater aspirations and expectations. With the implementation of ICT tools, the academic standards have raised and the classes have now become more attentative, interactive and informative. With this upbringing, the educational institutions witnessed a vast change in the students just not in their studies but also in their overall personality as a lot has been inculcated into the student's life with the change in technology.

Keywords - Digital literacy, Digital classrooms, Emerging technology, Industrial society, Information society

I INTRODUCTION

Information and communication technologies (particularly computers and the Internet) are widely acknowledged as important resources for socio-economic advancement in both developed and developing countries. This is doubly so against the backdrop of the global economy which is driven by the "information age". Way back, the Gurukul system of education was known for dedication, knowledgeable teachers, individualized and learners centered teachings and self motivated students eager to learn. This system changed over last few decades due to increase in number of students and to some extent number of teachers who required competency in teaching. The use of audiovisual aids gets further restricted due to some unmotivated people becoming teachers. The central government realized the need of improving quality of education through the use of television wherein most competent teacher teaches the topic with the help of most appropriate teaching aides. Developing countries, however, face enormous challenges in their ability to utilize these resources for their growth and development agenda. Limitations range from infrastructural constraints to an individual's ability to convert access to information and communication technologies (ICTs) into tangible benefits in light of other environmental constraints. In this context, shared use models of access such as tele – centers, libraries and internet cafés, etc., are important means of making ICTs available.

II BACKGROUND

I happened to come across an issue of digital LEARNING which focused on the adoption of digital classrooms by the Indian institutions which highlighted with a range of stakeholders who discovered how the digital classrooms are reorienting the educational structure. This motivated me to compare the existing digital scenario with the earlier time classroom teaching, using chalk and black board.

III REVIEW OF LITERATURE

Many governments in the late 1990's, developed plans to intensify their investments regarding ICT in education. The quick rise of internet and www has led to a great adoption by the students to enhance quick learning. ICT in education which is in turmoil at times due to its various challenges needs to be addressed. Therefore, it has become important for the education decision making authority to periodically assess the actual situational uses of ICT in educational practice.

Many countries have been regularly monitoring the status of ICT in the field of education only to be accountable for the huge financial investments which are mainly from public sources but also to inform decisions about the content and directions of future policies. Though in addition to various national assessments taken up as a part of government's eagerness to find out the implementation and effective use of ICT related efforts are progressing in comparison to the past.

Programmed learning material along with combination of other methods for teaching different subjects was found to be effected in terms of achievement of students [Bhushan, 1973; Dewal, 1974; Pandya, 1974; Shitole, 1976; Kuruvilla, 1977; Patel, 1977; Sodhi, 1977; Verma, 1977, Sansanwal, 1978; Mullick, 1979; Parlikar, 1979; Sha, 1979; ZPandey, 1980; Seshadri, 1980; Sha, 1980; Trivd\edi, 1980; Inamder, 1981; Man, 1981; Mavi, 1981; Suthar, 1981; Davies, 1982; Ravindranath, 1982; Menon, 1984; Choudhary, 1985; Gautam, 1986; Joshi, 1988; TYhaker, 1993; Agashe, 1995; Shah, 2002; Pandit, 2003; Dubey, 2004 and Kaur, 2005]. PLM was found to be as effective as structured lecture methods in terms of achievement of students [Chandrakala, 1976; Govinda, 1976].

Lecture method was found more effective than demonstration method and programmed learning method [Ghetiya, 1999]. Also students expressed favourable options towards PLM [Govinda, 1976; Chouhan, 1973; Kuruvilla, 1977; Sansanwal, 1978; Mavi, 1981; Davies, 1982; Menon, 1984; Agashe, 1995; Shah, 2002 and Kaur, 2005]. In addition to it, the developed instructional material was found to be significantly effective in enhancing creativity [Sharma, 1995], in developing better understanding about environment [Sharma, 2005] and in enhancing reading skills amongst students [Danikhel, 1998] and reasoning amongst students [Suri, 2002].

The developed Computer Assisted Instructions [CAIs] were compared with the lecture method/traditional method and found that the developed CAIs were significantly superior to lecture method/traditional method in teaching different subjects [Hayes, 1987; Perkins, 1987; Cates, 1988; Cohen, 1988; Karvelis, 1988; Lawson, 1988; Yates, 1988; Bonk, 1989; Conlin, 1989; Drexell, 1989; Fillingim, 1989; Isler-Hamilies, 1989; Koza, 1989; and Prabhakar, 1995]. Further, the traditional method of teaching was found to be more effective in comparison to CAI [Hulick, 11987; Oates, 1988; Cosmos, 1988; Benson, 1989; Park, 1990; and Clem, 1990].

The International Association for Evaluation and Educational Achievement [IEA] decided in 1997 to conduct such comparisons by means of Second Information Technology in Education Study [SITES]. This study consists of three phases: Module-1 [1997-1999]: a school survey, Module-2 [1999-2002]: case studies of innovative ICT-practices, Module-3 [2001-2005]: school, teacher and student surveys. Between November 1998 and February 1999, data were collected in representative sales of primary and secondary schools in 26 countries.

Turbill [201] focuses on the resistance to technology in teaching literacy in Australian Kindergarten classrooms. She concludes that technology could play a much greater role if there were more computers, more support, more time for familiarization with content and more appropriate software – findings that are familiar from countless studies of the use of ICT in schools. She urges that just as children need to develop concepts of print to read so too they need to develop "concepts of screen" if they are to become "screen" and "visually" literate. Yelland [1999] and Snyder [2002] also discussed new literacies in terms of understanding diverse media. As Ullmer and Ishii [2001] comment, "the screen has cultivated a predominantly visual paradigm of human – computer interaction".

There are also imaginative uses of tangible interfaces to contrast with the "talking books" approach to developing literacy. These include *Sam*, an embodied conversational agent [Ryokai *et al.,* 2003*],* and a "magic carpet" [Stanton *et al.,* 2001], although both projects work with children aged 5 or over. With regard to the use of internet, one may observe that in some countries [e.g. Canada and Finland], it is expected that students in primary as well as secondary schools use the internet, this was to a much lesser extent the case in other countries [e.g. Cyprus, Israel, Japan]. From qualitative [Fullan, 1991] as well as quantitative study [Janssen Reinen, 1996], it has been often argued that staff development is a crucial factor in the process of adoption and implementation of ICT in education.

National ICT policies have reached an established position in both developed and developing countries. A study funded by the Australian Department of Education, Science and Training revealed that most national ICT policies focuses on the educational sector [Kearns & Grant, 2002]. As early as 15 years ago, Hawkridge [1990] discerned four different rationales that drive policies related to the integration of ICT and the use of computers in education:

(a) an economic rationales: the development of ICT skills is necessary to meet the need for a skilled work force, as learning is related to future jobs and careers;

(b) a social rationale: this builds on the belief that all pupils should know about and be familiar with computers in order to become responsible and well-informed citizens;

(c) an educational rationale: ICT is seen as a supportive tool to improve teaching and learning;

(d) A catalytic rationale: ICT is expected to accelerate educational innovations.

IV RESEARCH METHODOLOGY

(a) Research Question

(i) Are the students really satisfied with the use of ICT tools in the Classrooms

(ii) Are the teachers satisfied with digital teaching

(b) Research Sample

The students and teachers [approximately 125 and 30 respectively] of the Bhopal School of Social Sciences [BSSS], an autonomous private institute, were interviewed to find their opinions on the use of ICT tools.

TABLE 1
EXPECTED CHANGES FROM EDUCATION IN THE INDUSTRIAL SOCIETY TO EDUCATION IN THE INFORMATION

Actor	Education in the industrial society	Education in the information society
School	-Isolated from society -Most information on school functioning confidential	-Integrated in society -Information openly available
Teacher	-Initiator of instruction -Whole class teaching -Evaluates student -Places low emphasis on communication skills	-Helpstudents find appropriate instructional path -Guides students' independent learning -Helps student to evaluate own progress -Places high emphasis on communication skills
Student	-Mostly passive - Learns mostly at school - Hardly any teamwork - Takes questions from books or teachers - Learns answers to questions - Low interest in learning	-More active -Learns at school and outside school -Much teamwork -Ask questions -Finds answers to questions -High interest
Parent	- Hardly actively involved in learning process -No steering of instruction - No life-long learning model	- Very active in learning process - Co-steering - Parents provide model

Source: Pelgrum, ten Brummelhuis, Collis, Plomp, Janssen Reinen [1997]

The idea of "digital classrooms" where education is delivered through digital platforms has got the imagination of the education community. They pose as a good strategy for engaging the digital generation and improving individualized learning opportunities, says Dr. Ravi Gupta, Editor-In-Chief of digital LEARNING.

(i) ICT encourages out of box thinking says Dr. Lily George of Shalom Hills International School, Gurgaon, India. Through technology supported class rooms, young scholars are introduced to a realm of opportunities where they explore and study. We believe in moving from traditional chalk and talk methods to break through methods, which will give the winning edge to both our children and teachers. Further, it saves time as terminology aided class rooms gave quick solutions, simulated lectures, question banks on variety of topics.

(ii) ICT brings entire world into the classroom. Mr. Tajvir Singh, IB Coordinator and Head-IT Department, highlights the importance of ICT in the Cathedral Vidya School, Lonavala.

(iii) New generation class rooms have drastically changed teaching, learning process. Teachers have greater flexibility in carrying out their tasks. Lesson planning has become easier as well as "designer" depending upon teachers' level of interest. Teaching, learning process has become more legible, more detailed and better presented says Principal Mr. Vikaram Seth of the Holy Heart Presidency School, Amritsar. He personally noticed that many teachers are still not willing to use ICT tools and prefer primitive method of teaching.

(iv) Dr.Rajesh Kumar Chandel, Principal, Gyan Ganga International School, Jabalpur describes ICT as beyond bookish language. He adds on ICT as the educational transformation in taking place and delivery mechanism in education. ICT has made the classrooms more innovative and interactive which has enabled in information and knowledge to travel faster and further sharing on a large scale available just-in-time information and knowledge for learning. The students have become bilateral, efficacious and compassionate towards learning process being followed in school.

(v) Principal Ms.Rama Datt, Sanskar School, Jaipur highlights ICT as interactive, absorbing and engrossing classrooms. The use of ICT base solutions in classrooms is creating a long lasting effect on the minds of the students as audio visual impact is much stronger than only video. Learning supported with technology offers benefits to children for long run.

TABLE 2

S.No.	Name of School	Place	Strength of pupil	Strength of faculty and staff
1.	Sanskar School	Jaipur, India	2,100	103
2.	Shalomhills International School	Gurgaon, India	2,000	200
3.	The Cathedral Vidya School	Lonavala, India	250	36
4.	Holy Heart Presidency School	Amritsar, India	5000	300
5.	Gyan Ganga International School	Jabalpur, India	800	100

V ANALYSIS

The survey was conducted for students and teachers of an autonomous college having ICT facilities. The respondents were interviewed face to face and in a few cases were approached through telephones..

(a) Student's Feedback

(i) I like to be taught using ICT tools
(ii) I am satisfied when a teacher uses ICT tool for theory classes

(iii) Use of ICT in Class room makes the class more lively
(iv) It helps us to understand better
(v) A digital display is always more effective .
(vi) Large in formations can be obtained in less time
(vii) My Institution supports use of ICT tools
(viii) It helps me to improve my spellings
(ix) It helps be to use correct terminology
(x) I like to be taught using ICT tools always
(xi) I am satisfied when a teacher uses ICT tools in teaching
(xii) It helps us to understand better
(xiii) It encourages development of 'out-of-the-box' thinking and free and critical thinking.
(xiv) It has seen better focus and almost zero distractions and independent learning.
(xv) Qualitative as well as quantitative learning happens when teachers use digital tools.
(xvi) The class is more attentive when new advanced methods are used.
(xvii) It helps me to improve my spellings
(xviii) It helps be to use correct terminology.
(xix) A digital display always more effective.
(xx) Large information can be obtain ed in less time.
(xxi) I am really excited and filled with rejoice to have the new technology in my class room.
(xxii) My Institution supports use of ICT tools.

On the other hand teachers using ICT tools responded to the comparison of their times (traditional method using chalk and board)and present scenario and the responses were as follows:

(b) Teacher's Feedback

(i) It is good to use ICT tools in teaching as it helps us to transfer the information more effectively
(ii) Higher quality lessons can be prepared through greater collaboration between teachers in planning and preparing resources.
(iii) Improved technology enabled fast tracking of students' performance, participation and progress.
(iv) It is very challenging to capture the attention of students who are increasingly distracted by cell phones, laptops and other devices of our modern age.
(v) They can make the students pay attention in class and store, retrieve lessons quickly, connect to the internet and bring the outside world into the class room.
(vi) The student is actively making choices as to how to generate, obtain, manipulate or display information.
(vii) There is an increase in students' levels of motivation, sense of self-confidence and self-sufficiency.
(viii) It is a more student centric and more stimulating learning teaching process.
(ix) There is an enhancement of technological literacy of the students and thus helps them preparing for global careers.
(x) ICT caters to Multiple intelligences of the students.
(xi) But many a times it feels that student is interested only in watching the videos
(xii) There exists more anxiety and queries among the students which is easy to clarify using 3D effects
(xiii) The students are more narrow focused and demanding and are more aware of their needs
(xiv) Also on the other hand ,admit the lack of respect for teachers as the one to one interaction is losing its significance.
(xv) Students do not feel the need of teachers at times as they find more easier to update their curiosity with the available gadgets.
(xvi) The use of library has reduced from the then times as students are more into visual aids of learning.

VI CONCLUSION

A range of studies have looked at why teachers choose to use ICT. These typically involve conducting case studies of class rooms use in a particular setting or from a longitudinal perspective. They portray use of ICT in teaching as being inherently advantageous.

The integration of ICT in teaching and learning processes builds on the professional attitude and willingness of the individual teacher and principal. The ICT proficiency will go to an advanced stage as children learn how to diploy tools like Adobe Photoshop, Adobe Dreamweaver, Adobe Image Ready, Jquery. They are able to use them for their class room works and various competitions. The coming years will provide an upcoming, competition in the field of website designing and international avenues.

Undoubtedly classroom teachings can be made more effective with the use of ICT tools. In learning, though there exists several challenges that need to be addressed. Teachers can take time to discover that computers do not need extra work – rather they actually make their work easier. Again more competent students themselves can be useful resource, this time for their peers. There is no doubt those teachers who use ICT in class rooms have to demonstrate high levels of energy, hard work and perseverance. In my opinion , the fundamental problem that India is facing is the need of more trained teachers. Until the teachers are effectively trained to impart knowledge to their students in the classroom, the mission of improving educations in India would be that much difficult.

A major concern is in the mindset of teachers who fear that ICT implementation may eliminate the role of teachers in the class rooms, thus creating a resistance to the digital growth in the educational Technology. Furthermore, we might expect that teachers attitudes towards using ICT can be influenced by the information they have about the value of ICT, their previous experiences in using ICT, their expertise in using ICT and the expectation that it will contribute to their pupil's learning.

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Technology - Boon for an Effective Education and Skilling

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ABSTRACT
Why is it that some Education institutes are effectively using technology for teaching and learning? This question is often asked as educators and technology supporters seek ways to enhance educational opportunities for students by technology The current research and best practice to show how to integrate technology into teaching in higher education . This resource discusses the relationship between knowledge, learning, teaching, and the nature of media, and shows how this information should inform the use of technology in a teaching environment. . In this paper, we focus on using multimedia technology as an innovative teaching and learning strategy in a problem-based learning environment by giving the students a multimedia project to train them in this skill set.
Keyword: - Education, Technology, Multimedia, Teaching, Learning.

I INTRODUCTION

One of the major concerns of many countries today is that there is a mismatch between graduates' skills, acquired from higher education institutions and the skill sets needed in industry. Many of the current graduates are found to be lacking in creativity, communications skills, analytical and critical thinking, and problem-solving skills (Teo & Wong, 2000; Tan, 2000). As such, there is much need for institutions of higher education to focus on training future graduates to be more adaptable to the needs of the industry.

Currently, many institutions are moving towards problem-based learning as a solution to producing graduates who are creative and can think critically, analytically, and solve problems. Since knowledge is no longer an end but a means to creating better problem solvers and encourage lifelong learning, problem-based learning is becoming increasingly popular in educational institutions as a tool to address the inadequacies of traditional teaching. Since these traditional approaches "do not encourage students to question what they have learnt or to associate with previously acquired knowledge" (Teo & Wong, 2000), problem-based learning is seen as an innovative measure to encourage students to "learn how to learn" via "real-life" problems (Boud & Feletti, 1999).

(a) Multimedia in education
The use of multimedia in industries has been extensive, as it has been effective in increasing productivity and retention rates, where research has shown that people remember 20% of what they see, 40% of what they see and hear, but about 75% of what they see and hear and do simultaneously .It is now permeating the educational system as a tool for effective teaching and learning. With multimedia, the communication of the information can be done in a more effective manner and it can be an effective instructional medium for delivering information. A multi-sensory experience can be created for the audience, which, in turn, elicits positive attitudes toward the application. Multimedia has also been shown to elicit the highest rate of information retention and result in shorter learning time). On the part of the creator, designing a multimedia application that is interactive and multi-sensory can be both a challenge and a thrill. Multimedia application design offers new insights into the learning process of the designer and forces him or her to represent information and knowledge in a new and innovative way.

Multimedia, defined, is the combination of various digital media types such as text, images, sound and video, into an integrated multi-sensory interactive application or presentation to convey a message or information to an audience. In other words, multimedia means "an individual or a small group using a computer to interact with information that is represented in several media, by repeatedly selecting what to see and hear next" .

(b) Problem-solving: The multimedia project in the classroom
The move towards using problem-based learning in many educational institutions has resulted in a shift in the curriculum model. The focus is moving from content towards problems to provide a more realistic approach to learning and to create an educational methodology which "emphasises real world challenges, higher order thinking skills, multi-disciplinary learning, independent learning, teamwork and communication skills" via a problem-based learning environment (Tan, 2000). However, this model can be further strengthened with the inclusion of multimedia technology into this problem-based learning environment to enhance the students' learning experience. This reinforced model is illustrated in Figure 1.

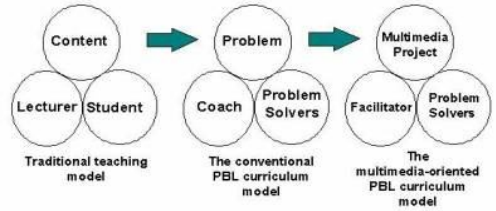

Figure 1. The multimedia-oriented Problem-Based Learning curriculum model

With the use of multimedia projects, students can utilise the knowledge presented to them by the teacher, and represent them in a more meaningful way, using different media elements. These media elements can be converted into digital form and modified and customised for the final project. By incorporating digital media elements into the project, the students are able to learn better since they use multiple sensory modalities, which would make them more motivated to pay more attention to the information presented and better retain the information.

Creating multimedia projects is both challenging and exciting. Fortunately, there are many multimedia technologies that are available for developers to create these innovative and interactive multimedia applications (Vaughan, 1998). These techologies include Adobe Photoshop and Premier to create and edit graphics and video files respectively, SoundForge and 3D Studio Max to create or edit sound and animation files, respectively. They can also use an authoring tool such as Macromedia Director or Authorware to integrate and synchronise all these media elements into one final application, add interactive features, and package the application into a distributable format for the end-user. Another advantage of creating multimedia projects in the classroom setting is that when students create multimedia projects, they tend to do this in a group environment. By working in a group, the students will have to learn to work cooperatively and collaboratively, using their group skills and a variety of activities to accomplish the project's overall objectives.

As stated by Agnew et. al (1996, p9), "Student-created multimedia projects are beneficial, in addition, because they often involve substantial work, open-ended assignments, theme-based activities, and knowledge and experiences that the students draw from a wide variety of sources." Multimedia-oriented projects are "a way for students to achieve high self-esteem, to increase their ability to function as self-directed learners, to learn to think effectively, and to practice problem-solving and decision-making" (Agnew et. al, 1996). Therefore, using multimedia in the teaching and learning environment enables students to become critical thinkers, problem-solvers, more apt to seek information, and more motivated in their learning processes. Multimedia is slowly gaining ground as a way for students to represent the knowledge that they acquire in class and to construct their own interpretation of the information acquired. It also fosters collaborative and cooperative learning between and among students, thus better preparing them with a skill set for real-life work situations (Roblyer & Edwards, 2000; Jonassen et. al, 1999).

II COURSE STRUCTURE OF THE INTERACTIVE MULTIMEDIA CLASS

The class was structured toward creating a problem-based learning environment for the students in a multimedia design context in order to harness their abilities to use and appreciate media effectively when representing various pieces of information to convey a message to the audience. This problem-based learning environment is employed to develop the students' capabilities to solve real-life problems and to exercise analytical, critical and creative thinking in their work (Boud & Feletti, 1999; Newby, Stepich, Lehman & Russell, 2000). Thus, by designing a multimedia application that is multi-sensory and interactive, the students are challenged to learn more about their chosen subject material and to develop their abilities to analyse and draw conclusions from it. Some of the goals for a multimedia project that were adapted from Agnew et.al (1996) for use in this class included the following:

(a) **Higher-order thinking skills**. Here the students were required to present their information appropriately and effectively. They were also required to select the appropriate media and to use them effectively in conveying their project's message, theme, drama and impact.
(b) **Group and interpersonal skills**. This goal requires that the students to work successfully in a group and with members of their groups in class and interacting with people outside of the classroom environment. This is especially true when the students have to interview and do research.
(c) **Content and discipline**. This requirement enables the student to learn significant facts and concepts in the multimedia discipline as well as interdisciplinary topics. The students can also familiarise themselves with the vocabulary of multimedia, its terms and interpretations.
(d) **Technical skills**. No multimedia project is complete without the use of multimedia software technology. Here the students will learn about project planning and acquire execution skills. More importantly, the students learn how to use a multimedia authoring tool to complete their project and incorporate interactive features into their presentations. These interactive links will work alongside the display of information in multimedia form, using text, graphics, sound, video and animations, in an effective manner. The combination of all these elements will bring about a successful final interactive multimedia application.

The Interactive Multimedia course is a course taken by second-year students of the Multimedia University who are taking their Bachelor of Multimedia (BMM) degree. In this course, the students were given interactive lectures on multimedia concepts and multimedia project development. They were also given interactive tutorials and lab sessions on Macromedia Director, which would be the main authoring tool for them to use to create their final multimedia project. Their task was to propose a

multimedia topic of their choice and to design and create an interactive CD-ROM application using multimedia technology.

Part of the class consisted of lectures that dealt with multimedia and the creation of multimedia presentations. It involved providing students with the fundamental concepts of the multimedia process (see Figure 2). This included deciding on the multimedia hardware and software, what was involved in creating a multimedia project, how media elements were gathered and modified, the creation of the presentation interface, and the use of interactivity in a multimedia presentation. These students have already been exposed to multimedia and using some multimedia software packages. However, they have had no exposure to working with a multimedia authoring tool, and in creating and managing multimedia project in a group setting.

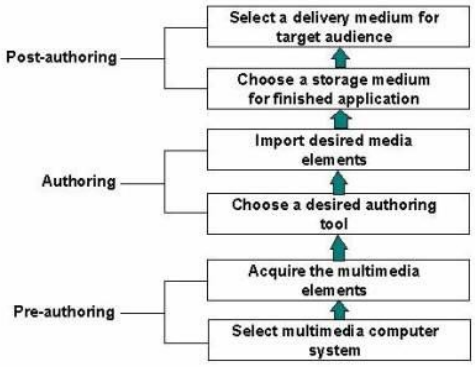

Figure 2. The multimedia process (Source: Neo & Neo, 1999)

The final project for the class involved breaking up the students into groups of 4 to 6 persons. Each group had to create and design an interactive multimedia application of their choice on a CD-ROM. The students had the option of choosing their own team members and the topic, and were given the entire 14-week semester to develop the project. The purpose of this project was to access the students' skills in framing and solving problems using multimedia technologies. As a group, the students had to decide on the concept of the presentation, the design of the presentation interface and navigation, and the appropriate digital multimedia elements and interactive features to use to best convey their topic of interest.

III PLANNING THE APPLICATION PROJECT PROPOSAL

The first stage in a multimedia development process is to come up with a project plan. This project plan will define the scope of the final multimedia application, the targeted market and the treatment of the presentation. After introducing the general theme to the class, the students had to submit a project proposal outlining their topic of choice and the team members and their specific functions. They had to identify the target audience and concept of their final project. Upon proposal approval, the team then had to create a storyboard. In their storyboard, the group had to outline the specific interfaces of each screen, the media elements to be used and the information that was to accompany the screen design. They also had to outline the type of interactivity that they were going to use in each screen and their navigational structure. Each screen of the application was sketched and the entire storyboard was submitted on paper.

It is also at this stage that the groups elected their group leader. The group leader would be responsible for providing the direction and objectives for the final project and to moderate any disagreements that may arise from the group's discussions. The groups were to meet and discuss their proposal outside of class times. After the groups had been formed and the area of interest was identified, each group gave a short presentation and a brief summary of their project in class.

IV PROJECT EXECUTION

(a) **Research: Acquiring the resources**
At this stage of the multimedia project development, materials had to be gathered from the application's sources to be used as information in the final project. To be able to assemble the various media elements for the final multimedia projects, the groups had to collect materials from the various sources of their topics. These materials range from brochures to product information, to photographs taken at the respective sites, to video footage shot at the sites themselves. The media materials assembled were usually in analogue format. This meant that they were collected in their raw state and not yet ready to be processed in the PC. The collection of materials at this stage is critical because the groups had to make sure that they had enough material for use in their multimedia presentations. Therefore, their brainstorming and planning stage prior to this provided them with their direction and objectives for the project. The acquisition of the materials thus required the groups to visit the sites of their topics, interview the necessary people and collect data on the topic.

(b) **Converting the media elements to digital**
After all the materials have been collected and assemble in their raw analogue state, they have to be converted into a standard digital format in order for the PC to be able to process them. This would entail using scanners to convert images and graphics, and digitising any analogue video footage into digital movie clips. These files were then saved as appropriate media formats and stored in the PC's hard drive. For example, images were scanned and stored as JPEG (Joint Photography Experts Group), GIF (Graphic Interchange Format), or BMP (Windows Bitmap) files, and digital movie clips were

stored as AVI (Audio Video Interleave) or MOV (Quicktime Movie) files.

(c) **Editing or creating media**
Once the media elements have been digitised and stored in the PC, they can then be edited or modified in software packages. In these packages, the media elements are modified to include special effects and filters to further enhance its look and perspective. The group members who were designated as graphic designers had the responsibility to edit images in image-editing packages. Many chose to use Adobe Photoshop for this purpose. Adobe Photoshop is a sophisticated image-editing tool that is popularly used to modify and edit digital images. Other media elements like animations were digitally created in animation software like Macromedia Flash and 3D packages like Kinetix 3D Studio Max.

(d) **Multimedia authoring: Macromedia Director**
Authoring is the stage where all the media elements that have been created or modified and stored digitally in the PC are brought together into one final application and integrated into a cohesive presentation for the purpose of conveying a specific message to the audience. It is also at this stage that elements of interactivity and navigation are incorporated to involve the user in the application and to create a multi-sensory experience.

Macromedia Director was chosen to be the primary authoring tool for this course. Director is currently the de facto authoring tool for creating interactive multimedia applications such as kiosks, product brochures, interactive advertising applications, and multimedia presentations. It is also very popularly used in the Multimedia University for multimedia application development and interactive presentations. Director follows a movie metaphor and has many elements of movie-making incorporated in its authoring scheme (see Figure 3). These include a Cast Window to house media elements, a Stage to showcase the production, a Score to synchronise the entire presentation, and Scripts to control each Castmember (Neo & Neo, 1999).

Figure 3. Director's interface

The students were taught the basics of Director and given tutorials in creating interactive applications using Director's tools and features, and packaging techniques to save multimedia applications as standalone presentations for CD-ROM delivery. In particular, they were introduced to Director's interface and working areas and taught how to create animations, incorporate interactivity using Behaviors, writing simple Lingo scripts and creating projectors to package Director movies for CD-ROMs or "shocking" the application for the Web (Neo & Neo, 1999). Students also had to incorporate design principles acquired from any of their previous classes into their interface design to be able to create screen interfaces for their final applications.

(e) **Packaging for delivery**
Multimedia applications inevitably have large file sizes. Therefore, they cannot be accommodated by floppy disks, but by multimedia-capable optical storage devices. Packaging involves the physical packaging of the application and saving it onto an optical storage device. Thus, as the final step in their multimedia project development, students had to create a standalone application and"burn" their application onto a CD-ROM. A standalone application is a self-executing file that, when clicked, can be played back on an end-user's PC without a helper software programme (i.e., the authoring tool, or Director, in this case). They also had to design a CD-ROM cover for their applications. The CD cover would be a conceptual representation of their final multimedia application and would have their "production company" listed. This was to give them authentic experiences in packaging applications for market distribution.

V ASSESSMENT CRITERIA

At the end of the semester, the groups submitted their final projects on CD-ROM together with a copy of their storyboard and project proposal. They were assessed on the following criteria:

(a) **Originality**: How original or creative was their concept?
(b) **Critical thinking**: How well were they able to convert their concept of their topic on the storyboard into the final CD application? Was it well thought out?
(c) **Use of media**: How successful were they in their use of media elements to represent their ideas?
(d) **Director:** How well were they able to use the Director tools taught to them in their tutorials and lab sessions?
(e) **Difficulty**: How complex were their navigational scheme and interactivity (linear vs. non-linear) and how was this accomplished?
(f) **Presentation**: How well was the material presented?
(g) **Cohesion of application**: How consistent were the digital materials used with the message to be conveyed.

(h) **Team work**: How did the team work together to produce the application? Did everyone perform their specific functions?

(a) Student evaluations

The groups or respondents (N=46) were also given a survey on their project and interviewed individually. The survey consisted of questions to assess their interest in group project work and whether or not they were motivated in their project development. The survey also tried to gauge their level of understanding and their critical thinking skills, as well as how they worked as a team. The survey was measured using a 5-point Likert scale, with 1 for Strongly Disagree (SDA), 2 for Agree, 3 for Undecided, 4 for Disagree and 5 for Strongly Agree (SA). These questions made up several constructs to measure the students' problem-solving skills, collaborative efforts and team work. The results of the survey were tabulated and their corresponding means are illustrated in

TABLE 4
MEANS AND PERCENTAGES OF STUDENTS (RANKED)

Questions asked	**Mean score**	**%**
1. I found the project challenging	4.17	91
2. The project allowed me to be creative in my thinking	4.15	91
3. We were better able to present the concept using digital multimedia	4.11	91
4. I was able to have creative input in the project	4.02	83
5. This project allowed me to think critically about the topic	3.98	83
6. The project enhanced my understanding of the subject	3.98	83
7. I felt very motivated doing the project	3.98	76
8. I understood the subject matter better after the project development	3.98	89
9. I was able to learn more working with my teammates	3.91	78
10. The team was able to create the project with the existing software	3.85	76
11. The group was able to achieve its goals	3.83	76
N = 46		

On the whole, the students in the Interactive Multimedia class responded very well to the course structure and were able to have a positive attitude toward this problem-solving learning environment. Based on the results of the survey, we found three areas that were significant in shaping these students' attitudes towards the project. The first is that they were very motivated, enjoyed being challenged and able to have creative input and use multimedia technology and software. This was represented by Questions 1, 2, 3, 4 and 7 with means of 4.17, 4.15, 4.11, 4.02 and 3.98, respectively. The second area is in their ability to think critically about the topic and develop a deeper understanding of the subject via the project, represented by Questions 5, 6 and 8, each with means of 3.98. The third area is the student's ability to function well as a team, represented by Questions 9, 10 and 11, with means of 3.91, 3.85 and 3.83, respectively.

Figures 5 (a), (b) and (c) illustrate some of the percentages of students who answered in the "Agree" and "Strongly Agree" category (numbers 4 and 5 on the Likert scale). As shown below, 91% of the students found the project challenging (see Figure 5 (a)), 89% felt that the project allowed them to have a better understanding of their topic (see Figure 5 (b)), and 78% were able to learn from their teammates (see Figure 5 (c)).

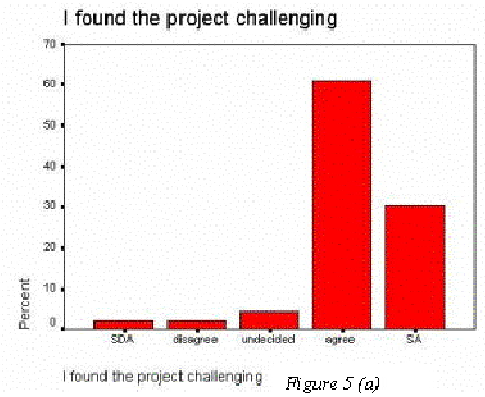

Figure 5 (a)

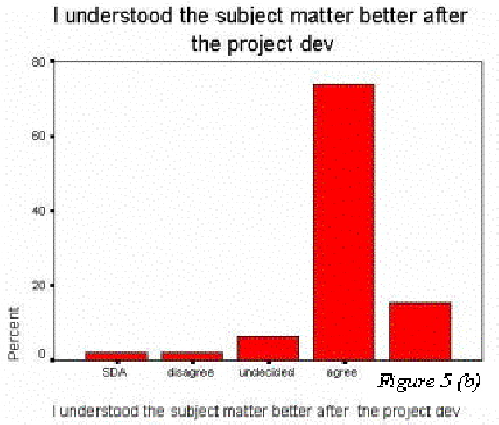

Figure 5 (b)

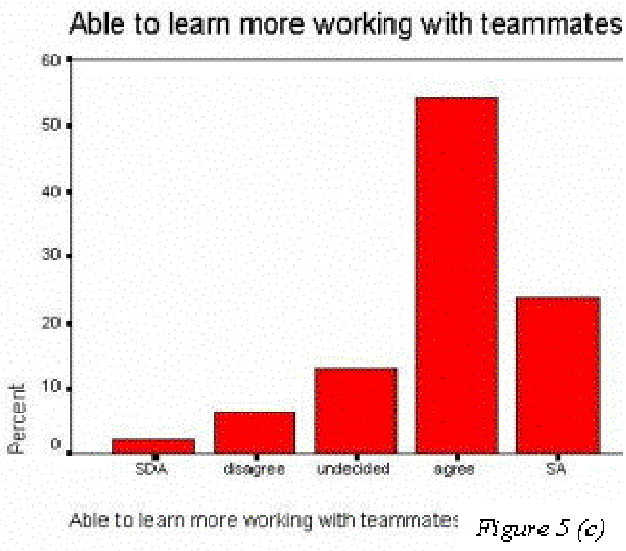

Figure 5 (c).

Figures 5 (a), (b) and (c). Percentages of responses

(b) Student interviews

We also conducted interviews with the groups to find out more about their problem-solving skills and team efforts. We found that the groups that did very well in their projects had very good group leaders and worked well together. Interviews showed that these groups collaborated well in their collective efforts. Many of these groups divided themselves into the general categories of Graphic Designers, Multimedia Author/Programmer (using Director), Resource Manager, and Researcher.

rom the interviews we did with the students as well as the surveys that we conducted, we found that the majority of these students were very motivated and found working on their multimedia project very inspiring and challenging. Many of them enjoyed exercising their creativity and multimedia skills in visually representing their content material. Some even said that they liked doing the project because it allowed them to fully understand what it takes to create a multimedia application from the beginning to end and how to work as a team. They were able to learn more about their topic as well as creating multimedia presentations, and able to design an interactive multimedia application with active links, thus supporting the propositions made by Agnew et. al (1996) and illustrated by

TABLE 8
GROUP RESPONSES FROM INTERVIEWS

	Question: What did you learn from this project?
Group 1	"We learnt more about the topic as well as the software. We also developed a positive group attitude."
Group 2	"We learnt more about multimedia, developing a CD-ROM, software, navigation and interactivity."
Group 3	"Teamwork is not so easy, but I learnt how to be a good leader. We learnt more about our topic. Fun to know everyone on the team and had fun shooting video, never done it before."
Group 4	"Learnt more about group members."
Group 5	"Learnt more about software and hardware in multimedia."
Group 6	"I can use Director for my other projects now. It was very challenging"

For most of the semester, the groups would work either during class times to discuss their projects, or schedule meetings outside of class times. The lecturer also met with the various groups each week to discuss their progress and to act as a consultant and a guide to these groups.

Some groups did encounter scheduling problems with conflicting class schedules and problems with deciding on which theme and topic to concentrate on during the initial stages of the project development, but they were able to resolve them as the weeks progressed. They encountered some more problems when researching the site of their topic of interest as not all groups received cooperation from their chosen topic. Therefore, they had to work around that problem by either using information publicly available or by highlighting that topic indirectly. By doing so, they exercised their creative and critical thinking toward these problems.

Groups that had good leaders and good teamwork were able to finish their projects early. Their applications had little or no problems. The translations of their storyboards into electronic presentations showed minimal changes and they made good use of many media elements. The navigational links and interactive features were also intact and the presentation ran smoothly from beginning to end. Some even went beyond what was taught in class to include a difficult component like scripting.

Some groups had good leaders but were weaker in their application of multimedia knowledge. However, they were still able to make a multimedia presentation of their topic, although the representations of their information by the media elements were simpler than the stronger groups. Groups that did not have a strong leader or were unable to cooperate did demonstrate a weakness in their overall presentations. This was due to the fact that the dynamics within the group were not colloborative or cooperative at all. Statements elicited from them include, *"Don't take friends when doing*

groupwork," and *"I will be more careful when choosing my group members next time,"* and *"I would work individually next time."* For these groups, they would schedule meetings with the lecturer to discuss their problems and present their solutions, with the lecturer acting as the facilitator in these meetings.

However, these groups were small in number and still managed to complete their project, indicating that although they were not able to fully cooperate with each other, they managed to stay as a group long enough to finish the project. Surveys taken by these individuals still indicated that they were very much motivated to doing their project but were unable to do their best because of their inability to get along as team members.

Overall, despite some problems in scheduling and personality conflicts, the students enjoyed working in teams to develop their project. As the means and percentages had shown in Table 4, over 75% of the students favourably rated team efforts (Questions 9,10, 11) and group participation as a factor in completing their project, indicating that they were able to learn from their teammates, collaborate to achieve the group's goals and collectively solve their multimedia design problems together. Specific questions on teamwork showed a lower percentage in student responses (76% and 78%) as compared to the rest of the questions. This is probably due to the fact that this is a new experience for these students who have little experience in working together to solve problems. This is also reflected in some of the statements given by the groups in Table 8. However, teamwork is still positively viewed by the students and should therefore be encouraged so that they will have the necessary problem-solving skills when they face real-life situations, particularly in the IT-oriented business environment of today.

VI CONCLUSION

This paper has presented and discussed the use of multimedia in a problem-based learning environment to equip students with high-order thinking and problem-solving skills and to enable them to experience an IT-oriented learning situation. From the results, we are able to conclude that by integrating multimedia into the teaching and learning process, the conventional PBL curriculum model is reinforced and strengthened and a multimedia-oriented PBL curriculum model can be instituted. The multimedia project in this course enabled the students to exercise their creative and critical thinking skills in solving their design and development problems, work collaboratively to gain team-based experience, and to face the real-life situation of problem-solving. This is a student-centered learning approach which allows them to construct their own framework of knowledge and understanding, and determine their own learning goals.

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What Ails Indian Higher Education System

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I INTRODUCTION

For almost last one decade the wind of change is blowing as never before. The youth today is questioning every system in existence. Youth – which forms 65% of country's population making India the youngest country in the world. Though these systems have been corrected, modified and remodified in the past, still they have not been able to deliver desired results, which makes the youth restless and agitated. Be it politics, be it agriculture be it administration or be it industries- for every system, demand for change is getting stronger day by day. Slow process of improvement is not satisfying today's youth. There is a strong desire for a drastic change, to the extent of almost replacing the current structure with fresh ones- more transparent, more efficient and more technology oriented. Out of all the ailing systems, the higher education system tops the list. Every day new revelation, fresh scams and need for frequent intervention of judiciary in higher education are some of the issues, which put a big question mark on efficacy of the present education system. It appears that mostly we try to plug the hole on discovery, normally in a reactive and repair mode rather than having a proactive approach. In recent times there have been many initiatives to improve higher education - Rashtriya Uchchtar Shiksha Abhiyan (RUSA), new regulations of UGC, higher ever allocation of funds for higher education in 12th plan, large number of bills on higher education tabled in the parliament and so on and so forth – Will so many initiatives do justice to the demands? Will they bring desired transformation? Will they remove all the ailments and take our higher education back to the twelfth century's glory when India was world guru in education? These are big questions and answer in a positive affirmative is probably not there.

II MAJOR ISSUES OF CONCERN

It is not that everything is bad with our higher education system. At least in quantity front we have made significant progress. We can boast of being second largest higher education system after China in the world with around 25 million students studying in about 40 thousand colleges operating under close to 700 universities and figures are rising every day. Gross Enrolment Ratio (GER) which is the ratio of population in higher education to population in 18-23 age group and which is a statistical measure used by United Nation to measure education index of a nation has also improved rapidly and stands at 19%, though much below the target of 30%. World average for GER is around 40% for developing nations. Contribution of private participation (private colleges and private universities), which accounts for over 60% enrolments has made this feat possible. It has been said by the Planning Commission that for sustained economic growth of the country in double digits, GER of 30% is an essential requirement. The knowledge commission projects a requirement of 1500 universities to achieve quality and quantity. Still there are many issues which have serious concerns and grave consequences. When we look for remedies, correction and restructuring in light of remarks by Planning Commission and Knowledge Commission, these issues cannot be overlooked. Rather the focus needs to be made on these issues. Quality of education, research and extension, Attitude of distrust towards private participation, Faculty crunch, Over security for faculty in govt. institutes and lack of formal effective organisational structure in private institutes, Industries apathy to participate in institutes, Funding of education sector, Overregulation and policing attitude of regulating and monitoring agencies etc are some of the major issues which may be main cause of our ailing system of education.

III QUALITY OF RESEARCH, EDUCATION & EXTENSION

Non other than President and Prime Minister of India have recently shown serious concern for poor quality of higher education, research and extension. It is a sad commentary on second largest higher education system of the world that non of the our universities/institutes rank in the top 200 universities of the world. Quality as such is a multidimensional concept. Also, quality cost's dearly. It requires heavy investments with no short term gains. For enhancing the quality of education we have to enhance quality and quantity of material, human, technological, research and environmental resources. To improve accessibility to education – Govt does not want to financially burden students and puts a clamp on what fees can be charged from them. In government funded/supported institutes burden of subsidy is borne by the government, though there are moves to make govt institutes also self sustainable in years to come. The biggest sufferers are private institutes and universities. They are not at liberty to charge students for the quality, nor is the government ready to share the cost. Research is still biggest grey area. Here infrastructure and resources need much larger investments. Most of exchequers fund through the government goes to govt institutes/universities, central research labs; and private institutes/universities have to depend only on self investments. This system does not appear rational. The logical question is why govt institutes/universities which account for only 40% of enrolments, corner 96% of exchequers support and private institute/universities which have more that 60% of students on their roll receive almost no support? Also due to lack of accountability and assurance of job security, which faculty in govt set ups enjoy, quality of research remains a weak area. There is therefore serious dearth of quality research, though in quantity they may

have made a mark. The result is that after Dr. CV Raman there is no Noble lauret from Indian institutes/universities, though there are many Indians who have won awards but they did it from foreign soil. So the popular phrase is, Indians are good in research but India is poor. Another serious problem for poor research culture and low research output in HE sector is research being conducted in isolated pockets, in some universities, institutes, govt labs and industries. This results in highly under utilisation of scare resources as there is no sharing or even proper communication between each other, leave alone any collaboration. Universities are supposed to be hub of research activities but most of the govt funds for research go to central research labs who are working in isolation with no notable contact with universities. This not only reduces research strength but in the process the biggest sufferer is education sector. Industry is highly reluctant to jointly do the research work with institutes. Same is the case with central research labs. **The best way for improving research in higher education sector and reducing employability gap is to introduce one or two semester's internship in industries or central research labs compulsorily for all UG/PG Professional degree courses. During the internship industry should be asked to pay a stipend and facilitate students to work on research projects of industries/labs. A legislative compulsion can only ensure such arrangement effectively.**

The present system of funding from govt resources for research also requires serious restructuring and policy correction. If we look at UGC alone, in financial year 2011, it funded only 133 of 383 state universities and only 18% of the govt colleges. Same is story with other govt funding agencies Private universities and colleges do not receive any significant fund. There is strong need to expanded the net of funding and include private universities and institutes as well to the extent of their participation. Irrespective whether the institutes are private or government all are serving the same cause and deserve equal treatment in research funding.

IV GOVERNANCE AND LEADERSHIP

Regulatory framework for higher education is most complex and multifacet. The present system is unfortunately based on distrust, numerous checks & balances and suspicion. This defeats the very concept of autonomy in higher education institutes, which is the basic requirement of good governance. Regulatory bodies normally adopt policing attitude and inspection team start their checks with measuring tapes and weighing balances. The spirit of quality education takes back seat. Verification and monitoring system are based on the premises that other side may be hiding facts, cooking up figures and providing fake information. Inspecting & monitoring agencies behaviour during inspection visits at times gives an impression that the team is on criminal investigation. It appears at times that rampant corruption in education sector may be due to this complex high handed and cumbersome regulatory and verification process. **There is strong need to simplify the regulatory/inspection system and remove the prevailing atmosphere of distrust.**

At institution and university level there is need to strengthen pillars of good governance and leadership. Administration, work culture, examination system and teaching –learning pedagogy are the four pillars of governance. These can be strengthened by an honest and transparent system, good faculty appraisal, feedback and correction methodology. In state universities and institutions job over security, poor appraisal system and lack of effective motivation for performing people, dilute the system of governance. Private universities and institutions suffer from multiple command, undue intervention of management in academics, administrative authorities having extra constitutional powers belittling authority of head of the institution, support of management to such groups who undermine the command structure and authority of head of the institution; give rise to indiscipline and culture of sycophancy. In most of private set ups, command and communication hierarchy is highly diluted due to above factors and indirect or direct encouragement of management. Effective governance in any institution demands respect and authority for hierarchical structure not only in words but in spirit also. **Head of the institute in private setups should not be made only an ornamental leader but should be empowered to command both administratively and academically** then only vision and mission can be translated in to real outputs. With a good and empowered leader only a good work culture can be expected to build in an organisation. Unfortunately most of private institutes/universities suffer from non implementation of proper hierarchy of organisational structure, diluting authority of the head of the institution resulting in power groups and interpersonal conflicts. Most of the time it is with the consent of top management.

Another weak area is quality assurance. Effective and mandatory accreditation system and multiple QA bodies including self quality check could effectively improve quality and reduce burden on governance. For the large size of our higher education system there is need for larger number of accreditation agencies and privatisation of accreditation could be obvious solution. Role and domain clarity with authencity will be biggest challenge for private participation in accreditation task. Significant improvement in teaching learning methodology and evaluation systems could be expected with not only one time but periodic QA intervention and self assessment.

Span of control for a university is very important issue of concern. There are state universities with affiliation of 400 to 700 colleges. This is totally against the span of control norms. **For effective governance there is need to put a limit to number of colleges under a university and limit of maximum 50 could be a good figure to ensure good governance.**

V FACULTY RECRUITMENT & DEVELOPMENT

There are disturbing reports that even in IIT's IIM's and central universities vacant faculty position is as high as 40%. RUSA proposes relaxation of up to 15% of faculty position for the first year. But this is not a complete answer to a grave problem. The root cause of faculty crunch is that teaching is still last choice for talented people. Many people join it as stop gap and switch to financially better jobs on first opportunity and others continue reluctantly. So there is lack of commitment in most of the faculty and only few teachers have aptitude, dedication and enjoy their teaching jobs. Though there has been improvement in pay structure still it's not very attractive as a sought after career. Empowerment of teachers as a cader is a strong need of the hour. **An All India Service similar to IRS, IFS, IAS etc for Education services will not only attract right kind of talent it will provide excellent frame work for inside people to shoulder the responsibility of academic administration right from principal/director secretary to chief secretary and build an effective framework. Non academic outsiders at helm of education affairs are the biggest cause for present poor state of HE.** Faculty on continuous basis to be abreast with the current development in the field is another area which needs attention. Faculty recruitment through a standard all India level examination (UPSC) can also initiate a quality bench marking. At policy level faculty exchange programme with top end institutions will promote environment of development. Collaboration and resource sharing by top end institution with lower tire institutions can also help in improving development environment. These have to be forced through legislation and regulation.

Student feedback, student attendance pattern, result analysis and development effort by faculty in terms of course undergone, papers/books published, patent registered and project initiated should be given very high credits in annual report of faculty for consideration of pay like, incentive reward, retention and penalty. The head of the institution/university need to be empowered for effective control over faculty which is easily said than done. Unfortunately in most of the private set ups faculty recruitment, retention, promotion/pay like etc are done, on extraneous considerations without even knowledge of head of institution, by non academic drivers. In many govt set ups this area suffers from lot of group politics, red tapism, lobbying and corruption. All these adversely affect higher educations quality and working culture of faculty both in govt and private institutions/universities. This area could improve effectively if monitoring/inspecting, regulating bodies during inspection visits, pay adequate attention to this area instead of only counting rooms, books and equipment.

VI OTHER CONSTRAINTS & LIMITATIONS

(a) **Level field for private operators**- There are different sets of rules and regulations for a private university/institute as against govt. Institute/university, though both are discharging same functions. For example there is a moratorium of five years for a private university to operate outside campus and 3 years to become member of association. There are many such rules which give an impression of strong bias against private operators who are now responsible for over 60% of enrolments. Right from funding to various other facilities this bias is evident. There is need to treat everyone, who is giving same services, on equal footing.

(b) **Infrastructure**- In this age of knowledge economy the biggest contributors to a good infrastructure are lab eqpt, hardware/software facilities, connectivity and research resources and not the buildings alone. One has to move the focus from number of rooms and halls to this area of infrastructure. There is need to ensure that knowledge infrastructure is so designed that it provides a student hands on experience, sharpen his skills, motivates him to innovate and carry out research to develop attitude of working with own hands, inculcate feeling of pride of labour and generate social concern. **Regulating bodies also need to change their mind set to see the spirit of regulations rather than just words of regulations as facilitators rather than inspectors**

(c) **Industry – Institute Interface**- This is a very weak area. Todays wide gap of employability is result of poor industry institute interface. Industries should never forget that they have a social responsibility to participate in curricula build up, training and shaping of students to make them employable. Industries have become extremely profit oriented and almost every industry is reluctant to discharge the social function of helping preparing & grooming students. This has given rise to mushrooming growth of coaching centres who impart training in specific area required by the industry. So a student has to spend money for the basic degree in a college/university then go for coaching/training in an industry specific job area and then go for a finishing school for soft skill. Still industry may find him non-employable**. Unless there is a legislative compulsion on industries to participate with institutes in curricula build up, training and exchange programme the situation will never improve. The feeling with industries that their responsibility ends by paying education cess and surcharge needs to be removed and they have to be brought to the campus to participate in industry – institute interface not only in tire one institutes and cities but also in tire two and three institutes from where bulk of student pass out, preferably through legislative compulsion and government intervention. Govt. Needs to seriously consider this.**

(d) **Funding**- For the desired target of GER in the 12th plan estimated additional investment requirement may cross Rs. 350,000/- crore and needs certainly private participation. In private participation biggest road block is Not – for - profit clause i.e. the private operator has to plough back all surpluses and cannot take away the profit. For operating a HEI a private operator has to therefore raise funds at high rate of interest and has to invest huge capital while establishing a HEI without expecting for any returns. Thus funding is the most demotivating factor for a private participant to venture in to education sector. **For faster, sustainable and inclusive growth of HE, the Not – for – profit clause needs to be re-examined and govt needs to provide soft and easier loans to private operators. Also some portion of govt funds needs to be allocated to private HEI for infrastructure as grant.**

VII CONCLUSION

With every fourth graduate in the world being product of Indian education system we are now an important regional hub for education in this part of continent and single largest producer of global talent. In order to gain and retain the leadership, there is need to remove anomalies in weak areas from our education system as discussed and make it world class. **Spending in HE at govt level should take same priority as spending in defence and HE sector certainly needs much bigger budget out lay than being given now. Also Let the HE system be left in the hands of Academicians and let it be run by academic specialists rather than bureaucrats**. **Let there be thinking out of box.** Let us not talk only of building new IIT's IIM's and central universities or increase their capacity. Let us also talk of 2 and 3 tire institutes which account for 60% of roll outs and who remain in India to serve the economy. Let us do something to improve things there and upgrade these institutes to IIT & IIM level instead of building new ones. Let there be more Robin hoods than Sherlock Holmes in regulating bodies. Late Pt. Jawahar Lal Nehru, PM of India had once said that if all is well with the universities, all is well with the nation. So if we have to correct the nation we have to correct our universities, colleges and higher education system.

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Innovation in Play School: A dream concept

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ABSTRACT
A few decades ago, the concept of playschools in India was unheard of, and few children, if any, attended playschools. Still, everyone grew up into mature, sensible, well read and well spoken adults. Now however it seems as if every parent send their pre-nursery child off to a playschool. When people hear the word "playschool," they often envision a popular brand of children's toys that has lived through quite a few decades. While they are right in their thoughts, playschool also refers to a nursery school that children attend for just a few hours per day. As warranted by the age group, the educational component is not very rigid. Really, deciding whether and when to send your kid to playschool is more contingent upon other factors, and here's what you need to know. From many years I was thinking about my childhood, I started my school from 5+.but now children are stating their schooling from 2+.So the Question arises in my mind, are we becoming selfish that we are taking our children's childhood. And I thought about Play School. How can quality play-based learning take place effectively? Early childhood educators should know the children and families in their centre; they assess, document children's learning and know their interests. Then, together with families, they plan carefully how to use play-based activities as one tool to promote the learning that will achieve the Early Years Learning Framework outcomes.Planning the environment to assist children to achieve outcomes is important in providing quality play experiences. Here I will try to explain how the play school works.

I INTRODUCTION

Do you have a lot of time that you can devote to your child? If both you and your spouse are working and you don't have enough of spare time, you may not be around to teach your child much - with the result that when your child starts school he may lag behind his classmates who have attended playschools. However, if one spouse is a stay-at-home parent and has the time to attend to the children and teach them, you could consider not sending your child to a playschool. Remember that very young children too have an incredible ability to learn. Their brains are remarkably sharp, and it makes sense to put them in an environment conducive to learning at this young age.

Nowadays mostly couple are working and they are living as nuclear family because of job their parents are not with them and when they starting their family the main problem come in front them how they manage their child who will look after them. Any how they managed first two years of child and because of job when they are not able to give time so they find a Pre-Nursery school we known as play school.

Actually we send to our child to there to mix up with other, to spread their social area but today's well known play school giving them only academic knowledge. They are not improving their overall development as Gandiji said. As I talk to many parents what their expatiation with the play school they answered that their children should become social and healthy by their mind, body.

As Montessori told "Children should enjoy their childhood with the same age group children in the school far from their parents and become ready for Primary education. But we take another meaning of her view and teaching them from the 2+.and tell them to learn whatever educationist describe. And they revised whole life like a parrot not getting practical knowledge.

We should change our mind and give them time to enjoy the life.

II THE SCHOOL REQUIREMENTS

The school likely has a certain age requirement for the playschool program, whether it be 18 months or two years. Generally, schools are pretty strict with their requirements, so your child will need to make the cut-off date. Let's say only children who will be two years old by December 31, 2012, are permitted to join, and your child was born on December 29th. When birthdays fall that late in the year, you usually have the option to wait an additional year. Whether or not to do so depends on the maturity of your child.

III MATURITY LEVEL

Speaking of maturity, this component is a major one. Of course, no toddler is going to be super mature, but some can be mature for their age. If your child still desperately needs to be around you at all moments, it might be better to find a Mommy & Me or gentle separation program first. However, on the other hand, children who have a strong sense of independence often thrive from such programs.

IV EDUCATIONAL AND RECREATIONAL NEEDS

You must also consider where your child is in terms of educational and recreational development. For example, if he or she has never socialized with children of the same age, then such a program is an excellent idea. What about a child who is speech delayed though? Instead of a program that is focused on play, this child would likely be better in a more formal setting and perhaps even with an early intervention specialist, if such a plan has been permitted.

V THE GENERAL AGE

We have provided you with some guidelines for figuring out if your little one is the appropriate age for playschool. What is the general age of a child in such a program though? Well, most of these individuals are going to be toddlers, so they could be anywhere from 18 months to three years old. At the age of three, they might stay in the program or go to a regular nursery school. By four years old, they will likely be entering into a standard pre-kindergarten class, so it's unlikely that children of this age will be present.

When you are considering sending your child to playschool, the first step is to find out if he or she even qualifies based on his or her age. If you're still uncertain about this decision, call the school to see if they offer trial sessions or a program where you can stay with your toddler for the first few days

VI DEFINING 'PLAY'

While there is no one definition of play, there are a number of agreed characteristics that describe play. Play can be described as:

(a) **Pleasurable-play** is an enjoyable and pleasurable activity. Play sometimes includes frustrations, challenges and fears; however enjoyment is a key feature
(b) **Symbolic-play** is often pretend, it has a 'what if?' quality. The play has meaning to the player that is often not evident to the educator
(c) **Active-play** requires action, either physical, verbal or mental engagement with materials, people, ideas or the environment
(d) **Voluntary-play** is freely chosen. However, players can also be invited or prompted to play
(e) **Process oriented-play** is a means unto itself and players may not have an end or goal in sight
(f) **Self motivating-play** is considered its own reward to the player (Shipley, 2008).

Once you have decided what play means to you, you should next ask yourself, why play-based learning? What is it about play that makes it so important? Play has a long and detailed research history that dates back to the work of Locke and Rosseau.

Research and evidence all point to the role of play in children's development and learning across cultures (Shipley, 2008). Many believe that it is impossible to disentangle children's play, learning and development.

VII BRAIN DEVELOPMENT

While research on brain development is in its infancy, it is believed that play shapes the structural design of the brain. We know that secure attachments and stimulation are significant aspects of brain development; play provides active exploration that assists in building and strengthening brain pathways. Play creates a brain that has increased 'flexibility and improved potential for learning later in life' (Lester & Russell, 2008, p. 9).

Young children's play allows them to explore, identify, negotiate, take risks and create meaning. The intellectual and cognitive benefits of playing have been well documented. Children who engage in quality play experiences are more likely to have well-developed memory skills, language development, and are able to regulate their behavior, leading to enhanced school adjustment and academic learning (Bodrova & Leong, 2005).

VIII FOSTERING PLAY-BASED PROGRAMS

Physically active play allows children to test and develop all types of motor skills. It promotes significant health and wellbeing benefits. Centers that were found to have a high-quality, play-based learning program incorporated:

(a) a daily schedule that included active indoor and outdoor physical play
(b) integration of music, movement and creative expression
(c) adult-child interactions that modeled moderate to high levels of physical activity (meaning that educators were at times as physically engaged in active play as the children) (Steglin, 2005).

Play does not happen in a vacuum; it is usually undertaken within a physical and social space (Lester & Russell, 2008). One of the greatest benefits of playing is to assist with the development of social competence. Children can build relationships, learn to resolve conflicts, negotiate and regulate their behaviours. In

play, children usually have increased feelings of success and optimism as they act as their own agents and make their own choices. Playing is a known stress release; it is often linked to child wellbeing.

- The dispositions for learning, such as curiosity, openness, optimism, resilience, concentration, and creativity (SACSA, 2009), are developed in play. Playing is linked to the development of resilience and the beginnings of empathy as children begin to understand other points of view. However, not all play is kind or inclusive, so educators have to act accordingly to ensure that play is not harmful.

IX WHAT EDUCATIONIST CAN DO

The environment can be intentionally planned in four main ways:

(a) The physical environment-the physical layout of space, furniture and resources. Consider how you will construct and present activities and materials so they are arranged in provoking and inviting ways to encourage exploration, learning and inquiry
(b) The social and emotional environment-children need secure, warm and trusting relationships so they are confidently supported in their explorations and risk taking. Assist children to make connections with others, develop friendships and regulate their behaviours. Together, children and adults set the emotional and social tone of the environment
(c) The intellectual environment-there are times to leave children to play freely and times for intentional conversation, a well-placed question or query that will extend children's learning. Shared sustained conversations (Siraj-Blatchford, 2008) are the hallmark of effective early childhood educators
(d) The temporal environment-the way that educators decide to use the time available in the program. Children need large blocks of time to develop play themes and ideas.

Early childhood educators need to be articulate, to be able to justify clearly, provide evidence for and proclaim the benefits of play-based learning. The EYLF (2009) is based on sound, proven early childhood pedagogy and practice principles. However, for the EYLF to be implemented properly, all early childhood educators need to know what play is, why it is important, how to implement and assess a play-based program and their role in it.

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Risk Management: Future of Banking Sector
Theme: Indian Banking – Emerging Future

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ABSTRACT
The paper enfolds the management of risk in banking industry through maintenance of adequacy of capital according to Basel 2 framework. Basel 2 is being implemented in India since 2008. The accord of Basel 2 enables bank to estimate required level of capital for the banks in proportion to their levels and areas of risks. This further improves the financial soundness of the banks and improves financial health of the economy as a whole.
Key Words **:** Risk, Basel 2, Capital Adequacy.

I INTRODUCTION

Indian banking industry includes nationalised banks, private sector banks, foreign banks and cooperative banks. Commercial banks operating in India are eighty four in number, consisting of twenty eight banks in the public sector, twenty seven banks in the private sector and twenty nine foreign banks (RBI 2006)

With the dynamic business environment and spread of business across the globe, the nature of banking business has changed over the years. It has further resulted in to emergence of diverse risks for banks. Maintaining adequate capital becomes essential for banks to remain solvent and financially strong.

In India, Basel 2 accords as followed by banks since 31st March 2008.RBI is the regulatory body for implementation of Basel 2. The framework concentrates on capital adequacy for risk bearing capacity. ICAAP, the part of pillar 2 of Basel 2 is the internal assessment process for banks which determines the additional capital which banks should maintain in addition to capital calculated according to norms set down in pillar 1 of Basel 1.

The paper deals with the concept of Basel II and the ICAAP as part of Basel 2.

II RISK MANAGEMENT AND BASEL 2 ACCORD

The Indian Banking Industry which has witnessed significant changes since privatization, globalization and liberalization. The banking business has expanded by manifolds beyond its traditional definition of accepting for the purpose of lending. The performance of the banking industry has shown remarkable results over the years.

Table 1
India - Indicators of Financial Deepening

Item	1980-81 to 1989-90	1990-91 to 1999-00	2000-01 to 2008-09	2007-08	2008-09
1	2	3	4	5	6
Growth rate	14.7	14.8	15.3	17.9	24.4
Credit					
Growth rate	14.3	13.9	18.5	18.2	15.0
Credit/GDP (per cent)	19.3	20.6	36.6	50.1	52.2
Deposits					
Growth rate	15.3	14.6	14.2	18.3	16.6
Deposits/GDP (per cent)	29.8	37.4	57.4	67.8	72.0
Bank Assets					
Growth rate	-	15.4	16.0	20.0	12.8
Bank Assets/GDP (per cent)	31.4	34.0	64.4	91.8	93.3

(a) RBI (Handbook of Statistics on the Indian Economy 2007-08)

(b) Report of the High Level Committee on Estimation of Saving and Investment (Chairman Dr. C. Rangarajan)

(c) IMF, Global Financial Stability Report, April, 2009.

The banking industry is showing constantly upward growth rate. The proportion of credit to GDP, deposits to GDP and bank assets to GDP has shown upward trend in spite of uncertain economic conditions of financial year 2008-09. The gross NPAs of the scheduled commercial banks have come down from 15.7 per cent at end-March 1997 to 2.3 per cent as at end-March 2008. The profitability of banks has improved over the years. The Return on Assets (RoA) of scheduled commercial banks increased from 0.4 per cent in the year 1991-92 to 0.99 per cent in 2007-08.

Profit is the reward of risk taken by the banks. The risk-reward equation is stated as Reward = C x (Risk), where the coefficient C reflects the efficiency of risk management. Banks undertake more diverse activities in today's complex business environment and are therefore exposed to many additional risks. Certain major risks

faced by the banks are interest rate risk, price risk, strategic risk, transaction risk, foreign currency risk, liquidity risk, reputation risk and credit risk.

Coverage of risk and management and maintaining desired level of capital is necessary for existence of banking business. There is a risk that the failure of one bank may spill over to other banks and possibly even beyond the banking system to the financial system as a whole, to the domestic macro economy, and to other countries. Banks indulge in continuous lending and borrowing, to and from each other, and need to pay other banks for third-party transfers, and therefore, tend to be very tightly financially interconnected with each other. This is recognized as systemic risk. Thus, banks are particularly susceptible to systemic risk, and shocks at any one bank are viewed as likely to be quickly transmitted to other banks, which in turn can transmit the shock to the corresponding chain of banks.

A bank fails economically when the market value of its assets declines below the market value of its liabilities, so that the market value of its capital (net worth) becomes negative. At such times, the bank cannot expect to pay all of its depositors in full and on time.' (George G. Kaufman, Bank Failures, Systemic Risk, and Bank Regulation, 1995) Therefore ensuring viability of banks is of utmost importance.

Basel 2 accord is the standard of a risk-based capital framework which is being presently implemented across the world. In India the accord is implemented for all banking companies since 31st March 2009. The Basel 2 accord has three pillars;

Pillar 1: deals with the minimum capital requirements calculated according to either The Basic Indicator Approach (BIA) or The Standardised Approach (TSA) or the Advanced Measurement Approach (AMA).

Pillar 2: deals with the internal capital requirements and supervisory review process

Pillar 3: deals with market disclosures and discipline

III THE FIRST PILLAR

The first pillar states the contents of regulatory capital.

Tier-I or core capital (paid up capital, free reserves & unallocated surpluses, less specified deductions) Long term subordinated debt to be < 50 % of tier-I capital i.e., a minimum of 28.5 % of market risk must be covered by tier-I.

Tier-Il or supplemental capital (subordinated debt > 5yrs., loan loss reserves, revaluation reserves, investment fluctuation reserves, and limited life preference shares) Tier II capital restricted to 100% of Tier-I capital.

Tier- III capital (short term subordinated debt >2yrs & < 5yrs solely for meeting a proportion of market risk.) Tier III to be less than 250 %of Tier-I capital assigned to market risk.

The following table shows the capital structure of three different banks prepared according to Basel 2 standards.

Capital Funds

	Details	**Axis Bank**	**State Bank of India**	**HSBC Bank**
		Amount (Rs. In crores)	**Amount (Rs. In crores)**	**Amount (Rs. In millions)**
A	Tier 1 Capital	8826.99	67578	96,031
	Paid up Share Capital	357.71	635	44,992
	Reserves and Surplus	8409.11	63986	54,740
	Innovative Perpetual Debt Instruments	398.55	3844	-
	Other capital instruments (only total)	-	14	-
	Amount deducted from Tier 1 Capital			
	-Investments in Subsidiaries	(12.50)	-	-
	-Deferred Tax Assets	(319.05)	-	-
	-Cash Collaterals against Securitization	(6.83)	-	-
		-	901	3701
B	Tier 2 Capital (net of deductions) (B.1+B.2 +B.3 –B.4)	3063.90	33031	7,334
B.1	Debt Capital Instruments eligible for inclusion as Upper Tier 2 Capital			
	Total Amount Outstanding	1148.38	17658	-
	Amount raised during current year	239.89	1002	-
	Amount eligible as capital funds	1148.38	17658	-
B.2	Subordinated debt eligible for inclusion in Tier 2 capital			
	Total Amount Outstanding	1882.40	10447	2,000
	Amount raised during current year	-	134	-
	Amount eligible as capital fund	1572.90	10108	-
B.3	Other Tier 2 Capital- Provision for Standard Assets	361.95	5299	-
B.4	Deductions from Tier 2 Capital			
	-Investments in subsidiaries	(12.50)	-	-
	-Cash Collaterals against Securitization	(6.83)	-	-
C		11890.89	10608	103364

Source: Final Accounts of Axis Bank, HSBC, SBI, 2008-09

IV THE SECOND PILLAR

The pillar is based on the objectives of Transparency and objectivity. The pillar is designed to ensure adequate capital of banks and encouraging banks to develop and implement better risk management practices (ICAAP- Internal Capital Adequacy Assessment Process).

The internal capital adequacy assessment process is the process of estimating diversified risks faced by the banks other than credit and operational risks measured under pillar 1. It is defined as, "The ICAAP is a system of sound, effective and complete strategies and processes that allow institutions to assess and maintain, on an ongoing basis, the amounts, types and distribution of internal capital that they consider adequate to cover the nature and level of risks to which they are or might be exposed." (Part XVIII of CSSF Circulars 06/273) It may be called as the process of internal governance. Reserve Bank of India (RBI) has released the ICAAP guidelines for banks operating in India and has recommended a format for submission of ICAAP.

The second pillar of Basel 2 introduces the qualitative dimensions of risk management. The pillar emphasizes on adequacy of capital for the underlying risks analysed through Internal Capital Adequacy Assessment Process. It is a mechanism to strengthen risk, capital, and performance management of the bank. Justified implementation of a strong ICAAP carefully designed according to the needs of the bank strengthens the capacity of the bank to sustain different types of risks as well as leverage to enhance profitability.

The main aspects considered under the ICAAP, may include: (1) The internal risks that are not fully captured by the minimum capital ratio prescribed under Pillar 1; (2) The internal risks that are not at all taken into account by the Pillar 1; and (3) The external risk factors for the bank.

Table: 1- The Stages of ICAAP

The ICAAP is based upon four principles. They are as follows:

Principle 1: Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.

Principle 2: Supervisors should review and evaluate the banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with the regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process.

Principle 3: Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require the banks to hold capital in excess of the minimum.

Principle 4: Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

The Principle of proportionality is also observed in drafting and implementation of ICAAP. The banks are encouraged to migrate to and adopt progressively sophisticated approaches in designing their ICAAP. The degree of sophistication adopted in the ICAAP in regard to risk measurement and management should be appropriate according to the nature, scope, scale and the degree of complexity in the bank's business operations. ition

IV THE THIRD PILLAR

The pillar of market discipline contributes to a safe and sound banking environment. Information given under pillar-III should be consistent with that given in the audited statements. Banks are expected to give all information in one place. Disclosures should be given on a semi-annual basis. However, critical information needs to be published on a quarterly basis.

V THE ROAD AHEAD

Capital adequacy, measurement for coverage of risks, asset quality, profitability and well defined internal mechanism for internal administration are on the priority list of banks as the Basel 2cord is in the process of implementation.

The Central Bank has set up a Board for Financial Supervision under the chairmanship of the Governor of the Central Bank. As the appointment of auditors is subject to approval of central bank, control can be exercised on functioning of the bank. Expansion by opening of new branches is allowed only if the financial condition is sound and history of the company is promising , its management is apt, capital structure is adequate, earning prospects are good and the public interests are protected.

A survey reported that larger banks that can afford to have sophisticated risk measurement techniques will have lower minimum capital requirements. Those banks which successfully employ the IRB approach should, in theory, be better placed to avoid over-pricing good risks and under-pricing bad risks. It follows that there may, therefore, be some migration of higher risk SME loans to those banks which do not adopt the IRB approach and which, by implication, rely on less sophisticated

and more standardised measures of risk.(RBI 4TH SEPT 2008)

RBI has suggested Standardised Approach for measurement of capital risk and Basic Indicator Approach for measurement of operating risk In India, the absence of a regulating agency for rating of the banks and the absence of desired regulatory mechanism within the banks do not give a choice of selection of method for measuring risks. This will not make the disclosures cost effective and make an adverse effect on liquidity and profitability of banks as the international players will resort to cost effective measurement of risks.

The banking sector in India may face unique problems in the absence of well-developed credit rating systems, well defined data collection mechanisms, well structured supervisory mechanism, well planned market policies and other infrastructure. Selection of capital assessment methods will affect capital levels and subsequent capital charges. This will give rise to national and international competition making such banks uncompetitive. The impact of both, the first and the second pillars will be severe on the skills of both bankers and supervisors, which will have a greater effect.

The ICAAP developed by the bank needs to be constantly revised according to the dynamics of the environment in which that particular bank is functioning.

The future roadmap of the banking industry is getting equipped for a strong and rewarding financial environment with the implementation of Basel accord.

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Frame Semantics: Cognitive Theory of Semantics

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ABSTRACT
Past 2-3 decades a lot of stress has been given to "cognitive linguistics". Its approach is concerned with how the process and how patterns are conceived in conceptual content and organized. It targets the semantic structure of morphological and lexical forms. Cognitive linguistics, addresses two approaches to language. Firstly, it examines the formal properties of language from its conceptual perspective. Needless to say that it aims to analyze grammatical structure in terms of the functions which in turn works as representation of conceptual structure. Secondly, one of its most distinguishing features is, that it aims to connect its findings to the cognitive structures that relates to the psychological approach. It aims both to help account for the behavior of conceptual phenomena within language in terms of those psychological structures, and at the same time, to help work out some of the properties of those structures themselves on the basis of its detailed understanding of how language realizes them.

I INTRODUCTION

Cognitive semantics is part of the cognitive linguistics movement. Cognitive semantics is typically used as a tool for lexical studies such as those put forth by Leonard Talmy, George Lakoff, Dirk Geeraerts and Bruce Wayne Hawkins. Before getting into the relevant details about cognitive semantics here it becomes necessary understanding to mention a preview about cognition and semantics. In science, cognition is a group of mental processes that includes attention, memory, producing and understanding language, learning, reasoning, problem solving, and making. The dictionary meaning says it is the psychological result of perception and learning and reasoning. Semantics on the other hand is related to meaning or the study of meaning of a language.

Cognitive semantics is the study of knowledge within the human mind, the branch of semantics that studies the cognitive aspects of meaning. Thus it shares one basic property with pragmatics, namely, that language is not analyzed as an abstract structure but as a human quality. Semantics, as the theory of the relation between language and the world, is reformulated as cognitive semantics referring to the theory of the relation between the language and the mind's setup of the world. It combines analysis of cognitive structure, conceptual structure and semantic structure. Thus cognitive semantics as per definition is a cross-disciplinary approach to language where an exposure to psychology, neurology and biology is a necessity. One immediate result of this innovative approach is that truth cannot be described as an absolute measure but as a relative one, as a pragmatic entity, which rests entirely on the users and the situation. Thus meaning is no longer a function of satisfied truth-conditions, i.e., that a if we consider a proposition is to be false that does not mean that it has no meaning. Following are the assumptions which form basis of theory:

(a) Meaning is Conceptual
(b) There is a clear demarcation between real and conceptual
(c) No direct interchange of real and conceptual
(d) Cognitive theory relates only to the conceptualized
(e) It describes only the organization of cognition *i.e.* your conceptualized units.
(f) Human beings have an innate quality to learn these conceptualized thoughts

Cognitive semantic theories are typically built on the argument that lexical meaning is conceptual. That is, the meaning of a lexeme is not reference to the entity or relation in the "real world" that the lexeme refers to, but to a concept in the mind based on experiences with that entity or relation. An implication of this is that semantics is not objective and also that semantic knowledge cannot be differentiated from the knowledge gained by dictionary or encyclopedia.

Cognitive semantic theories are strongly based upon the idea that semantics is acquiescent to the same mental processes as dictionary knowledge. They thus involve many theories from cognitive psychology and cognitive anthropology.

Cognitive semantics has sought to challenge traditional theories in two ways: first, by providing an account of the meaning of sentences by going beyond truth-conditional accounts; and second, by attempting to go beyond accounts of word meaning that appeal to necessary and sufficient conditions. It accomplishes both by examining the structure of concepts.

Another trait of cognitive semantics is the recognition that lexical meaning is not confirmed but a matter of explanation and conversation. The processes of linguistic explanation, as it is argued, are the same psychological processes involved in the processing of perception and learning through encyclopedia. According to the reference from encyclopedia Wikipedia this view has inferences for the problem of compositionality. An account in cognitive semantics

called the dynamic construal theory makes the claim that words themselves are without meaning: they have, at best, "default construal," which are really just ways of using words. Along these lines, cognitive semantics argues that compositionality can only be intelligible if pragmatic elements like context and intention are taken into consideration.

Cognitive semanticists argue that truth-conditional semantics is restricted to account of full sentences. They are not entirely against the truth-conditional semantics; although they point out that it has limited explanatory power. Needless to say, it is limited to indicative sentences, and does not seem to offer any straightforward or intuitive way of treating (say) commands or expressions. By arguing this, cognitive semantics seeks to cover the full range of grammatical moods by also making use of the notions of framing and mental spaces.

II FRAME SEMANTICS

Frame semantics, developed by Charles J. Fillmore, attempts to explain meaning in terms of their relation to general understanding, not just in the terms laid out by truth-conditional semantics. The basic idea is that one cannot understand the meaning of a single word without access to all the essential knowledge that relates to that word. A **semantic frame** is a collection of facts that specify "characteristic features, attributes, and functions of a denotatum, and its characteristic interactions with things necessarily or typically associated with it."

The term frame semantics relates to a wide range of theories to the systematic description of the meanings in natural language. The one common feature of all these assumptions is the following slogan by Charles Fillmore (1977):

"Meanings are relative to scenes."

According to him meanings have innate constitution which is resolved relative to a backdrop frame or a scene.

(a) History- There are at least two historical roots of frame semantics; the first is linguistic Syntax and Semantics, especially Fillmore's case grammar, the second is Artificial Intelligence (AI) and the notion of frame introduced by M. Minsky (1975) in this field of study. A case frame in case grammar was taken to characterize a small abstract scene which identifies (at least) the participants of the scene and thus the arguments of predicates and sentences describing the scene. In order to understand a sentence the language user is supposed to have mental access to such schematized scenes.

The other historical root of frame semantics is more difficult to describe. It relates to the notion of frame-based systems of knowledge representations in AI. This is a well thought-out approach to knowledge representation which combines together information about particular objects and events to arrange them into a taxonomic hierarchy familiar from biological taxonomies. However, the specific formalism suggested in the above mentioned paper by Minsky was not considered successful in AI.

(b) Basic Tools- Considering Frame Semantics to be a theory of meanings we can make the assumption that there is always some background knowledge relative to which a word does some highlighting, and akin to which it is defined. Two ideas are conceived to be essential:

(i) A background concept
(ii) A lexical set including all the words that utilize this conceptual background.

Two other important frame theoretic concepts are frame elements and profiling.

A frame element is basically a regular participant, feature, or attribute of the kind of situation portrayed by a frame. In frame semantics, all word meanings are relative to frames. Buta word meaning does not set off a whole frame. Different words decide on different aspects of the background to profiles (here we use the terminology introduced in Langacker 1984). At times these various facets are just reciprocally selected parts of the kinds of circumstances being described like distinct participants, such as the husband and wife in the marriage frame. However at word meanings vary not only in what they profile, but in how they profile it.

(c) The Understanding- Collective pieces of linguistic evidence motivate the frame-semantic project. Firstly we can highlight that word meaning is an expansion of our bodily and cultural experiences. For example, the notion of school is connected with a series of concepts, like class, board, teachers, games etc. These rich-but-contingent associations cannot be monitored by an analysis in terms of necessary and sufficient conditions, but still they convey us the meaning of a school.

Secondly, and importantly, these conditions are not sufficient to report for irregularity in their usage. According to a semantic feature analysis, there is nothing more to the meanings of "boy" and "girl" than: BOY is a young male and GIRL is a young female. Here we need to mention that people consider girl to be a young woman but are apprehensive of using 'boy' for a borderline young man. This is the result of different exposure of conceptual units.

Thirdly, argument is that in truth-conditional semantics there is a lag in dealing with some aspects at the level of the sentence. Take the for example “You didn't spare me a day at the seaside; you deprived me of one”. In this case, the truth-conditions of the state articulated by the precursor in the sentence are not being denied by the proposition expressed after the clause. Instead, what is being turned down is the way that the precursor is framed.

Finally, with the frame-semantic standard analytical tools, we are able to explain a wider range of semantic phenomena than possible by providing requisite conditions. Some words have the same definitions or intensions, and the same extensions, but convey different meanings at different arenas. For example, the lexemes *land* and *ground* are synonyms, yet they naturally contrast with different things -- *sea* and *air*, respectively.

Acknowledging, that the frame semantic version not only limited to exploring the study lexeme, along with it we can scrutinize it at a higher and filtered level, including the level of the sentence (or, more precisely, the utterance). The notion of framing is considered as a synonym to pragmatic notion of background assumptions. Philosopher of language John Searle explains the latter by asking readers to consider sentences like "The cat is on the mat". For such a sentence to make any sense, the interpreter makes a series of assumptions: i.e., that there is gravity, the cat is parallel to the mat, and the two touches. For the sentence to be intelligible, the speaker supposes that the interpreter has an idealized or default frame in mind.

In totality we can deduce that, in the field of cognitive linguistics and of cognitive semantics in particular considers the representation of conceptual structure in language as its core. The field refers features of conceptual structures both local and global, both autonomous and interactive, and both typological and universal. It connects the linguistics properties to the wide range properties of cognition. Although a lot of work has been done in this novel and young linguistic tradition, it remains quite dynamic and is extending its explorations in a number of new directions.

III APPLICATIONS

Frame semantics has a wide range of applications ranging from sub-branches of linguistic theorizing such as Morphology to Typology, Discourse Analysis, and Language Acquisition. Yet, the fundamental and most successful application seems to be (computational) lexicography. In a frame based lexicon the frame accounts for linked meaning of a single word and its semantic associations to other words. As a result frame based lexicon offers more widespread information than the traditional lexicon. An example of computational lexicography is the Frame Net-System (see Boas (2002)).

IV CONCLUSION

(a) Frames are evoked when we understand words
(b) Some words highlight particular parts of a frame
(c) Frames evoke a particular perspective on a situation
(d) Frames suggest a particular history in a concept
(e) Frames often assume larger cultural frames
(f) Frames are structured representations of causal and relational information about objects, scenes, and events
(g) Knowledge is represented in an idealized form in frames
(h) Cultural behavior often involves negotiating over when to apply particular frame

The syntax of human languages, with some limited but very interesting exceptions in sign language, forces us to lineup the participants of the events we are talking about. The logical notion of a relation, which preserves certain aspects of linearization, has at times appeared to offer an attractive account of what we grasp when we grasp meanings. But the data we have been looking at in this brief excursion into frame semantics has pointed another way. Lexical senses seem to be tied to the same kind schemata that organize our perceptions and interpretations of the social and physical world.

In these schemata participants are neither lineup nor uniquely individuated, and the mapping into the lineup regime of syntax is constrained but underdetermined. Thus we frequently see individual words with options in what their exact participants are and how they are realized or closely related words with distinct realization possibilities for the same participants.

Frames offer a model that is both specific enough and flexible enough to accommodate these facts, while offering the promise of a firm grounding for lexicographic description and an account of text understanding.

We conclude with a quote from Fillmore. Note the careful placement of the negation in the last sentence:

People need to categorize objects and events in their world.

When we wish to study instances of categorization provided by the lexical items in their language, we can do this only by asking what functions such categorizations have in their lives. Some of the categorizations we found are only linguistic explanations: people do it that way because that’s how their language evolved, and it could have evolved in a number of other ways. Others have, at least in part, explanations that depend in crucial ways

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Importance of Learning Business English and Its Social Benefits

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ABSTRACT
Today, we are living in a 'Global Community'. People correspond with others from around the globe on a regular basis, products are bought and sold, and services are provided globally. The English language has inarguably achieved a major role in this "globalization" and it has become the prime language of choice for communication by many different nationalities. The importance of Business English at the moment is that it gives people the edge in a competitive environment. Being able to speak appropriate and competent English at work gives an individual and their employer credibility also. New language skills help to know how to handle business situations in an appropriate manner.This paper reports on increasing demands of learning business English for successful business and social benefit.

I INTRODUCTION

Business English is the general term used for English related to Business, such as international commerce, finance and industry. In the global environment, it has become common for non-native English speakers to study business English as a specific tool, with the aim of interacting with English-speaking countries, or with companies that use English as a shared language. In this atmosphere, business English is what one is required of in order to join, communicate and compete in the international market. This is why the importance of good business English can no longer be underestimated in the age of the new global business market.

II WHY LEARNING BUSINESS ENGLISH IS IMPORTANT

Around the world, there is an estimated 1 Billion people learning English. Many factors point to the reason why learning English has seen exponential growth in recent years, but it all boils down to the English language being the "global language" of business, politics, international relations, culture, and entertainment for so many countries worldwide. And that is just an understatement as in fact, while English is not an official language in many countries worldwide, it is most often taught as foreign or second language.

III BUSINESS LEVERAGE

The rapid growths in technology for global communications notwithstanding, there are still many companies and individual professionals who fail in their quest for business or professional success. And oftentimes the failure primarily lies on one of the most basic foundations of making business relations – the language spoken. Undoubtedly, the English language is the global language for business and having a good command of English will definitely give one who is eyeing globally competitive business or career a clear edge. Any communications problem, whether personal or business, translates to losses, zero result in negotiations, incompetence for global business, or will just simply leave you ill-equipped to carry out international business.

IV CAREER GROWTH AND PROFESSIONAL OPPORTUNITIES

Going down on a more personal level of career success, having the right Business English communication skills will surely equip you with a liberating confidence and ability to express yourself in the English language. It will surely be an advantage in interviews, thus giving you more opportunities to widen your career prospects. Or if you are not looking for a new job, having the confidence and ability to speak Business English is one way of enhancing your potential for earning by making you stand out for career advancement or promotions. Studies show a steady growth in the number of companies worldwide requiring employees who have bilingual skills.

For many people, the benefits of learning English include broadening their employment opportunities, since it is used so commonly in business. People who speak two or more languages are often ideal candidates for jobs in travel, international business, or translation. Many government agencies and employers that offer works with the general public, such as positions in law enforcement or healthcare, often look for multilingual candidates.In some industries, knowledge of business terminology in English is critical for entry into and the success of a business. Workers need to have an understanding and command of detailed vocabulary dealing with specific concepts in order to be able to communicate effectively with other professionals in the business. Examples of specialized businesses requiring knowledge of English include computing, engineering, science, technology, medicine and law.

V SOCIAL NETWORKING AND RELATIONSHIPS

Many people see the ability to communicate and talk with others as one of the major benefits of learning English. Many people find great social and cultural benefits in having pen pals from other countries, and the Internet makes such communication fast and easy. Knowing English can broaden the types of people you can speak to, whether its via email or on an online discussion forum. A tremendous number of websites are available primarily in English, and anyone who does not understand the language may have difficulty using them. For anyone interested in traveling to countries in which English is the primary or common language, it is often essential to understand and speak it. Throughout the UK, US, and Canada traveling and shopping are often made easier by speaking the language since many individuals may not speak any other language. Business English is a concept that covers a wide range of aspects and variables and refers to the changing world of modern commerce and entrepreneurship, as well as to the burgeoning online e-business and networking environments.

Research shows that 80% of the amount of Internet web content is in the English language and that content relating to business written in the English language largely comprises this figure. It goes without saying that having a good grasp of business information, data, or terminologies in the English language is very important to have a good understanding of the wealth of business information available on the Internet

VI CENTRAL GOAL OF BUSINESS ENGLISH

The English language is currently estimated as the third largest mother tongue in the world. However, it is unquestionably the first and most popular second-language. In fact, most of the information that circulates in our world – mail, radio, cable, internet, etc. – is in English. This language has become the working language or bridge language of our time. There is even a specific rubric for Language Skills in any standard résumé template, with the level of English generally being what is examined. This dominance plays a part in the wide range of effects of what is called globalization. As a purpose-specific tool, the central goals of business English is to carry the message across and to reach agreement.

This is why it demands a business-oriented English vocabulary and a bunch of skills. These skills can include English letter writing, delivering presentations, negotiating or plain small-talk. With this in mind, such skills are already considered to be a prerequisite of modern-day international cooperation, and an important key for global business.Gaining knowledge of specialized Business English is quickly becoming crucial too.

VII ENTREPRENEURSHIP & ENGLISH

There is no doubt that professional knowledge and experience is essential for entrepreneurs and managers. But reaching and staying at the top requires more than just being knowledgeable and experienced. One of the reasons why some entrepreneurs are successful and some of them are, let us stay optimistic, less successful, may lie in the ability to communicate knowledge in a foreign language. Of course, one has to agree that entrepreneurs and companies can hire interpreters who are both fluent and skilled. However, entrepreneurs cannot expect that people, who are not really involved in a company's matters, will establish relationships in the way loyal and committed employees of the company can. The solution to this problem lies in constant learning and studying the foreign language. But first of all, it is significant that employers realize the importance of learning (Business) English at the workplace. Over the years, research and needs analyses have produced a wide range of the language-using tasks an employee should be able to tackle in order to deal with the exigencies of the situations which may arise at the workplace. It is important that entrepreneurs create a culture of ethics and social responsibility because people want to conduct business with an organization they trust.

VIII SOCIAL BENEFITS OF LEARNING BUSINESS ENGLISH LANGUAGE

Learning a language is an inherently social activity, you make more friends just by doing it. The fact that they are from another country/culture is an added spicy bonus. It helps to...

(a) **Become a better communicator-** By learning business English, you will become a better communicator socially. You learn how to better simplify your message, especially when talking to non-native English speakers for social and business purpose.
(b) **Get a real experience of another culture-**Learning a language well forces you to accept that culture and let it become a part of you and help you to give broader outlook of understanding and knowledge.
(c) **Get immunised against racism-**You do understand that cultures are different, and while the culture of the language may be very different from your own, you will spot enough similarities to realize that there's more the same than there is different.

IX CONCLUSION

The culmination of all these advantages results in one last benefit: **an increased ability in digital literacy**. Because of these quickened mental abilities individuals which are multilingual have a noticeable ability to stay up to date with modern technologies.The use of business English is becoming a dominant force that has far-ranging implications for enterprises and individuals alike. While this emerging communication technology offers great opportunities to interact with customers and business partners in new and exciting ways, in many countries where English is not the native language, you are considered highly educated if you can speak the language properly. You will be presented with a number of career opportunities, and you will have the option of staying home to work, or you could travel abroad. When you learn how to speak English, the opportunities are limitless. Good Command of English Will Benefit you. Business English skills help with career; it can have a beneficial effect on family and social life too.

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Need and Importance of Environment Education in Secondary School: A Critical Analysis in Indian Context

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ABSTRACT
Environmental education is considered one of the most important long-term solutions to the environmental crisis. Informal or alternative approaches in environmental education become ever more important in motivating attitudinal change. This paper is trying to focus on need and importance of environment education from school level to higher education globally and specific to Indian context secondary school education. Policy, prospects and recommendations by different committee in India and world are critically analyzed by the environmental thinkers are also presented. Research subject we investigate how this institutionalized educational activity is integrated into the general education of children, and what is its role in environmental awareness rising among schoolchildren. We focus on possibilities and difficulties to improve cooperation between public and nature schools for better environmental education. On the basis of our empirical observations of nature school sessions, interviews with schoolteachers, and interviews with nature interpreters an attempt is made to answer the research problem, and final statement of the research with a few recommendations included is presented.

Keywords*: environmental education, environmental awareness, environmental consciousness, nature interpretation, nature school, 'hands-on' method, experiential learning, tacit knowing, action competence, Ecosystem, Environmental Hazards*

I INTRODUCTION

Today's world is world of development and technology. The man of today has become habitual of technology and machinery. It is difficult for him to perform the life activities in the absence of inventions and discoveries he embodied in around last three centuries since the evolution of industrialization. The creation of different kind of machines and instruments, man is living more comfortable with prosperous life than his predecessors in past. Man through his course of so called development has achieved a number of accomplishments to make his habitats comfortable and full of enjoyment using his mind power with an impression that he is the unique animal of the world. Now the man is having power to control the floods, to withstand the droughts, and fight with the diseases and epidemics as these calamities often confronted by the communities' world over. This is a sign that man is now in a situation to have a control of only a fractional degree over nature. It is true that the aim of all the developmental activities is to enhance the quality of life of man beginning with the satisfaction of basic human needs leading to fulfilling health, educational and recreational requirements. Man has achieved a considerable success in this very objective of development. But, the fact cannot be denied and overlooked that the developmental activities have simultaneously been superimposing their negative impacts on the quality of environment.

"It is true that past industrial and agricultural development have created many environmental problems, ranging from the pollution of water, soil and air, and the consequent costs to human health and wellbeing, to the spread of the deserts, largely due to the mismanagement by man of natural ecosystems." (Tolba 1988). This is not the end of the problem. The adverse environmental consequences of developmental projects are not localized in nature but these have global concerns in their impacts. One of the basic features of modern development is that the trench between the rich and poor is widening. The capitalism and the Multi National Corporations are also contributing towards the way of making a gap between not only rich and poor individually but between the nations too.

As stated above is the reality of the today's scenario. Keeping the above facts in consideration, now the time has come when the modern man has to contemplate on how to meet the basic need of human without destroying the resource base. This is a question of prime importance; the humanity has to confront with. There can be no more precise answer than the environmental education. Since the simple and common definition of environmental education is the education through, about and for the environment, hence the spreading environmental education is the right answer to fight the problem created by both poverty and over-development.

II RELEVANCE

"Man is a part of the vast web of life and cannot escape the natural consequences of his actions. The sheer power of the population and technological revolutions may make man himself an endangered species in many parts of the world."

--Stewart Udall

Of course, man cannot escape the consequences of his own deeds whether good or bad. Man has been enjoying on the resources produced in nature over the milleniums. The primitive man derived his subsistence from his natural environment. In doing so he was materially poor but by and large in harmony with nature. But the man in the present time is materially sound but not in harmony in nature. In addition, through his activities man is making complex impacts on environment and is creating disharmony with nature. It is not easy and perhaps appropriate to return to life style of primitive man but some steps for the welfare of mankind need to be initiated. There is great need to harmonies our activities so that the harmony with nature can be achieved.

Due to the over exploitation of natural resources, a great complexity in environmental problems is appeared in the world. Environmental problems now are posing a grave threat to man life in the biosphere. In such a critical situation awareness about the environmental problems is essential. This is the urgent need of time that everyone should be environmentally aware. As MostafaKomalTolba, The Executive Director of the United Nations Environment Programme, stated at the inter-Governmental Conference on Environmental Education, Tlilisi, USSR, October 2007;

He further reveals on behalf of UNEP, "We in UNEP see environmental education, therefore, as a global, life-long process involving society as whole, directed at all members of the community, with due regard to their social, economic, cultural and political needs. We also believe that it is the action of man –as planner, builder, farmer, citizen or consumer – which causes environmental degradation. It is therefore on man's attitude that the future of our air, water, soil, forests, and mineral wealth ultimately depends. This why we feel it is so important that everyone becomes environmentally conscious through proper environmental education." (Tolba 1992, P.83)

III THE ECOSYSTEM

Ecosystem is an area in which all living creatures and the soil-water-air-environment of this physical region of the earth have developed various inter-relationships to produce a quasi-stable or almost stable system of mutual interdependence. Ecosystem has been defined in various ways by different people having concern to the field of ecology or environment. Some of the definitions are:

Every ecosystem consists of biotic (living) and abiotic (non-living) subsystems. There is on fundamental characteristic of every ecosystem, however. Energy transfer plays the central role in defining bounds, character, and extent of the ecosystem. In fact in its most basic sense, an ecosystem is an energy transfer system. (Camp Willium G. and Donahue Roy L. 1994)

Environment consists of the following components:

(a) **Physical component:** Water, air, land, minerals and fossil fuels, tidal processes, climate, chemical and geological processes etc.
(b) **Biological component or resources:** animals, wildlife, vegetation, flora, food webs, specific ecosystems etc.
(c) **Man-made components:** towns, roads, field etc., urban infrastructure, transport and communication systems, agricultural economy etc.
(d) **Social components or resources:** social groups, political groups, cultural groups, social and political structure, legal structure etc.

Hence from the definition of environment given by various environmentalists and ecologists, we may arrive at a common consensus that the environment is sum total of all conditions- Physical, Biological, Social, and Cultural- that affect the development and life of organisms on the earth planet.

IV ENVIRONMENTAL HAZARDS

(a) **Human beings –** the most intelligent creature of the universe known having discovered fire and wheel, his journey of development has not stopped but proceeding with a higher acceleration than ever before in the past. At present Homo sapiens has reached almost at zenith of scientific and technological advancement. Man has used this advancement in science and technology for his own survival. As far as the question of survival is concerned, it may be taken as appropriate step because it a creature has born he has to survive by any means. However, in case of human being, he

has not used the environment but devoured it, exploited it or more appropriately destroyed it.

(b) **The human environment –** air, water, soil, and vegetation, which comprise the basic life support systems on earth, is increasingly going to be degraded by virtue of man's greed and deeds. In the blind race to get political dominance over others leading to material development the ultimately consequence of which is the destruction of nature. This consequence is quite visible in the present time. Man has had always attempted to get victory over nature and to a fractional degree he has succeeded in his attempt but whatever he accomplished it proves false when we see the nature's retaliation for human activities. Man bound to his deeds and greed is pretending to forget the natural law that it answers in same manner as man is behaving with it. As R.K. Sinha states- " In the race for 'material development', made arrogant by their technological achievements mankind is out to exploit 'nature' and its creations and establish a false sense of victory over it forgetting the natural law that 'every action has equal and opposite reaction'. We are watching it more explicitly that nature has started to retaliate.

V ENVIRONMENTAL EDUCATION

There are three threads which have contributed to our present ideas and it has become almost commonplace nowadays to characterise these as education ABOUT, either FROM or FOR environment. Environmental education is the education through, about and for the environment. Its scope is there for very wide. Various combinations of words such as Environmental Education (EE), Environmental Study (ES), And Environmental Approach (EA) are being used in the literature in the context of environment and education.

Defining 'environmental education' is not an easy talk. Unlike other curriculum areas, the specific content of environmental education has never been well defined. It is universally agreed, however, that environmental education should be interdisciplinary, drawing from biological, sociological, anthropological, economic, political and human resources. (Saxena, 1986)

Environmental education is a medium and process of education and that it covers man's relationship with his natural as well social and manmade environment, and also includes the relationship of population, industrialization, pollution, resource allocation and depletion, conservation, transportation, technology, energy and urban and rural planning to the total biosphere. Keeping this in view the nexus of environmental education is multidisciplinary in character and its quintessence is a commitment on the part on one and all, on the part of all of us inhabiting this planet earth, to prevent deterioration of air, water, land and physical and social environment including interrelationship among people so that a nuclear war, a chemical warfare or any other cataclysm generated by man may not destroy the world.

VI OBJECTIVES OF ENVIRONMENTAL EDUCATION

European Community organised a meeting in May 1988 on the need to take the concrete steps for the promotion of environmental education and they emphasized that on a comprehensive way to promote so that the environmental education could be intensified throughout the community. A Resolution on Environmental Education was adapted to that end, with the following objectives and guiding principles:

The objective environmental education is to increase the public awareness of the problems in this field, as well possible solutions, and to lay the foundations for a fully informed and active participation of the individual in the protection of the environment and the prudent and rational use of natural resources.

(a) Guiding principles:

(i) The environment as the common heritage of mankind,
(ii) The common duty of maintaining, protecting and improving the quality and the safeguarding of the ecological balance,
(iii) The need for a prudent and rational utilisation of natural resources,
(iv) The way in which each individual can, by his own behaviour, particularly as a consumer, contribute to the protection of the environment.

(b) UNESCO'S Objectives:-

According to UNESCO (1971), the objectives and guiding principles for developing environmental education in all the countries are as follows:

(i) Awareness: To help social groups and individuals so as to get an awareness of and sensitivity to the total environment and it's allied problems.
(ii) Knowledge: To help social groups and individuals so as to gain a variety of experiences in and get a basic understanding of the environment and its associated problems.
(iii) Attitude: To help social groups and individuals achieve a set of values and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection.

(iv) Skill: To help social groups and individuals so as to acquire skills for identifying and solving environmental problems.

(v) Evaluation ability: To help social groups and individuals so as to evaluate environmental measures and education programmes in terms of ecological, economic, social, aesthetic and educational factor.

(vi) Participation: To help social groups and individuals so as to actively involved at all levels in working towards the resolution of environmental problems.

(c) The guiding principles of environmental education should

(i) The environment has to be considered in its totality – natural as well as built, technological and social economic, political, moral, cultural, historical and aesthetic aspects.

(ii) Environmental education should be a continuous life long process which is beginning at the pre-school level and continuing through all formal and non-formal stages;

(iii) Environmental education should be an interdisciplinary in its approach. The specific contents of each discipline should play specific role in making possible a holistic and balanced perspective;

(iv) Environmental education should emphasize active participation in preventing and solving environmental problems;

(v) Environmental education should examine major environmental issues from local, national, regional and international point of view so that learners get insights into environmental conditions in other geographical areas;

(vi) Environmental education should focus on current and potential environment situations, while taking into consideration the historical perspective.

(vii) Environmental education should emphasize the complexity of environmental problems and thereby the need to develop critical thinking and problem solving skills;

(viii) Environmental education should explicitly regard environmental aspects in plans for development and growth;

(ix) Environmental education should be able to promote the value and necessity of local, national, and international co-operation in the prevention and solution of environmental problems prevention and solution of environmental problems;

(x) Environmental education should use diverse learning environment and a broad array of educational approach with due stress on practical activities and firsthand experience;

(xi) Environmental education should help learners to find out the symptoms and real causes of environmental problems;

(xii) Environmental education should be able to relate environmental sensitivity, knowledge, problem- solving and values clarification at every grade laying, but begin special emphasis on environmental sensitivity to the learner's own community in early years; and

(xiii) Environmental education should make learners to have a role in planning their learning experience and give an opportunity for making decisions and accepting their consequences.

VII GLOBAL ISSUES ON ENVIRONMENT EDUCATION

No one will doubt the fact that our present world is different from the world of the agricultural and the industrial revolution – the pressure on the planet (environment) due to some human activities (unnatural) and some natural activities (flood, earthquake, eruptions) seem to be weighing much on the limited planet that mankind and other living organisms sharing the planet with us are adversely affected by, even the environment itself. This calls for new trends and ideas where all, both young and old, 'educated' and 'non-educated', privileged and non-privileged would take part in saving our planet from 'total physical collapse' since all life on earth depends on it for survival.

This societal transition is seen in part in 'development' as a result of the explosion of science and technology coupled with an exponential increase in the global population. This transforms, irreversibly, not only biological, but also the psychological and social conditions in which humanity is living. Mankind is faced with serious problems created by himself as a result of his activities. Such problems are pollution, over population (hence over demand for everything – food, water, energy, transport, just to mention but few) that deteriorate our quality of life and the 'natural environment'; despite some claims to the contrary (example Lomborg, in the latter chapter(s) of this thesis). These problems are not getting better as time goes on because of increase in demand of the quality of living by more people. This forced some concerned elites in the developed world – Organisation for Economic and Cooperative Development (OECD) in April 1971 to analyse the serious need and urgency of establishing and developing new teaching programmes at school, college and university.

VIII CONCLUSION

That is to say that education (environmental) of pupils and students could be a contributing remedy since there has been little or no effort to make such problems in the past known to students. Other efforts concerted to abate these problems include: the establishment of the United Nations Environmental Programme (UNEP) in 1972 followed by the Belgrade Chapter in 1975; Intermediate Technology Development Group (ITDG) with concerted effort in East Asian and Western Sudan where the communities develop 'appropriate' technology to resolve poverty and devise traditional methods to resolving conflict. Danish University Consortium for Environment and Development – Industry and Urban Areas (DUCED – I & UA) established in 1998 for the qualified elites in environment and technology so as to devise appropriate measures in abating the unfolding environmental problems in industries and urban areas among other global challenges. Prominent in Denmark where universities co-operate and encourage EE and research in Denmark and other countries that receive Danish environmental aid such as Malaysia, Thailand and South Asia. The Danish University Consortium for Sustainable Land Use and Natural Resource Management (DUCED SLUSE) set up and encouraged the teaching of inter-disciplinary environmental courses in Malaysia, Thailand and South Asia (MUCED, TUCED and SACUDE SLUSE respectively). UNESCO is not left out, prominent in her efforts to achieving quality education for all children and encourages education for sustainable development (which on the other hand is EE). Also Danish National Development Assistance (DANIDA) and Danida's Centre for Competence Development (DCCD) are all concerned about sustainable use of natural resources and / or management measures as to abate the environmental issues and problems for the sake of all and the environment itself. Efforts should be made by policy makers, implementers and awareness generation programme among the people towards environment education basic need now a days for overcome environmental issues.

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