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TECHNO-PEDAGOGY- AN INNOVATION IN EFFECTIVE TEACHING

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ABSTRACT

     The progress of any country depends upon the quality of education offered and its practices. Education in India has undergone various phases and stages of development starting in the Vedic age to the post-independent period. At all stages of development there was a concern for bringing in quality education reflecting on the practical aspects in education. In this qualitative study an attempt is made to reflect the necessity of acquired knowledge of every teacher concerning pedagogy to perform in his/her teaching method so effectively. It is a master-plan that includes a detailed analysis of what is to be done by a teacher. Techno pedagogies teaching include use of technology and multimedia in primary and secondary education. New and emerging techno pedagogies are provoking a re-conceptualization of teaching and learning, while also serving as catalysts for transformation and innovation.

KEY WORD: *Effective Teaching, Techno-pedagogy.*

INTRODUCTION:-

     "The technology itself is not transformative. It's the school, the pedagogy that is transformative"

                                                         - Tanya Byron

     Text books are the basic tool to acquire primary knowledge among students in school education. But that type of knowledge is Today's information and technology (IT) is a most important part of human daily life activities. In every situation of life we use technology. Technology without life is meaningless. Today, a class room without technology is inconceivable. Now technology and pedagogy are combined word which using of educational field for making teaching learning process successful and interesting among students and teachers both. Techno-pedagogical approach is useful to the extent that the skills enhance ICT literacy skill and this pedagogy allows student to further develop and maintain these skills in the context of designing classroom-based resources. Students who have undergone this type of training have reported significant changes in their understandings associated with effective implementation strategies, as well as their self-efficacy as to their ICT competencies .The Role of teacher is becoming more specific and specialized and yet demanding a new world order on account of the explosion of knowledge and expansion of skills. Technology based pedagogical system by putting students' curiosity, critical thinking, deep understanding and creative brain storming. NKC(2016) has observed teacher are the single most important element of the education system and country is already facing severe shortage of qualified and motivated teachers at different level of education. Techno pedagogy changes the role of teachers and promotes students to their active engagement and support collaborative learning and meaningful understanding. In 1998, UNESCO World Education report refers about students and teachers must have sufficient access to improve digital technology and the internet in their classroom, schools, teacher and educational institutions. The profile of learners and society has been changing. Smart classrooms and smart lessons are the highlights of new

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generation schools. Today pockets of innovation are sprouting up across the educational landscape, but many schools continue to keep at arm's length the democratizing imperative of "giving voice" to the students, asserting instead a singular top-down authority in the classroom (McWilliam, 2008). Beaudin and Hadden (2004)revealed the results that techno-pedagogically skilled teachers exemplified how a hybrid approach of meta-teaching, technology exposure and critical reflection can be used to enhance instruction. In all of our endeavors to prepare technology- pedagogically skilled teachers, it is crucial that we incorporate an underpinning of technology and pedagogy to prepare our pre-service teachers to teach with technology and become learners on a never-ending journey. McLoughlin & Oliver (1999) define pedagogic roles for teachers in a technology-supported classroom which include setting joint tasks, rotating roles, promoting student self management. Rehana Masrur (2010) found that integration of IT in teaching-learning increased the understanding of subject related knowledge.

OBJECTIVES
1. To study the current status of educational landscape respect to changing needs and demands of learners.
2. To study the different types of techno-pedagogy in school education for changing the way of teaching.

RESEARCH QUESTIONS
1. Whether the current status of educational landscape possesses positive/ negative educational landscape towards the changing needs of learner?
2. Whether techno-pedagogy can possible to effective the teaching-learning process in school education.

METHODOLOGY OF THE STUDY
An adequate and reliable source of literature is very important for the theoretical analysis. In this study secondary data is used for the preparation of the paper.

Techno-pedagogy: A Catalyst for Teaching and Learning change
The classroom is now changing its look from the traditional one i. e. from one way to two way communications. Now teachers as well as students participate in classroom discussion Education is based on child centric education. And effective teaching is the teaching that successfully achieves the learning objectives by the pupils as identified by the teacher. The most effective teaching is that which results in the most effective learning. Techno-pedagogical knowledge carried out based on to increase the effectiveness of learning and teaching process for professional development by technology integration (Archambault & Crippen, 2009; Cox & Graham, 2009). Monsivais, McAnally and Lavigne (2014) found in their study that the integration of ICTs in the classroom depends on the teachers ability to scaffold the learning environment by using effective ICT based pedagogies. So the teacher should prepare to cope up with different technology for using them in the classroom for making teaching learning interested. For effective implementation of certain student-centric methodologies such as project-based learning which puts the students in the role of active researches and technology becomes the appropriate tool.

In achieving excellence in schools, it is important to ensure that teachers are able to integrate technology into the curriculum. Every teacher should know how to use technology, pedagogy and subject area content effectively in their daily classroom teaching.

In techno-pedagogy, there are three areas of knowledge, namely: content, pedagogy, and technology. Koehler and Mishra (2005) revealed in their study that better teaching was not simply adding technology rather the introduction of technology causes the representation of new concepts and needs developing sensitivity to the dynamic, transactional relationship among technology, pedagogy, content and knowledge.

Content (C) is the subject matter that is to be taught.

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Technology (T) encompasses modern technologies such as computer, Internet, digital Video and commonplace technologies including overhead projectors, blackboards, and books.

Pedagogy (P) describes the collected practices, processes, strategies, procedures, and methods of teaching and learning. It also includes knowledge about the aims of instruction, assessment, and student learning. Good teaching is not simply adding technology to the existing teaching and content domain. Technology as an aid enhances the process of learning and helps in achieving higher level objectives. Techno-pedagogy motivates pupils to learn independently and continuously provides pupils with opportunities to experience learning as enjoyable and satisfying, to increase their self-motivation. Consistently it provides a range of opportunities for pupils to direct their own learning; provides independent learning options, and enables pupils to access these. Encourages self and peer evaluation. Common and emerging innovation of technology-rich innovative learning environment

Technology +Pedagogy=Techno-pedagogy
Blogs, wikis, Social networking site, Virtual learning, Laptop.net, Interactive white board, Web apps, Digital cameras, scanners, projectors, e-Learning.

TECHNO PEDAGOGY IN PRIMARY EDUCATION:

*Pedagogy in primary science &Mathematics &Humanities***:** - There have been a number of specific studies in primary science, some of which reveal aspects of teachers' knowledge and pedagogical practices. Some of this work specifically addresses primary science mainly involving the use of simulations, modeling and information retrieval and is outlined here. Simulations and modeling are very important in learning science as well as being crucial for scientists themselves.

Smart pen by life scribe

Smart pens are able to Capture transmitted information, replay it and sent it. It is like wireless transfer of your ideas anywhere, anytime and ready to share with students and vice versa. During lecture smart pen helps students, when teacher talk fast, student can record and understand all the left out things. Smart pens can record video, audio and diagrams - you can listen and understand during lecture.

Techno pedagogical Competency in Teaching Mathematics

Mathematics education, the specialized field that concerns their activity.This involves developing perspectives about curriculum, student learning, classroom instruction, and student evaluation (Boero, Dapueto, and Parenti, 1996).Knowledge of pedagogical strategies and the ability to apply those strategies for use of technologies. This includes knowledge of tools for maintaining class records, attendance, and grading, and knowledge of generic technology-based ideas such as Web Quests, discussion boards, and chat rooms (Mishra and Koehler, 2006).

*ICT in primary mathematics and numeracy***:**

There is much reported research into the uses of ICT in mathematics teaching at both primary and secondary levels, some of which reveals aspects of teachers' knowledge and pedagogical practices. Results have also indicated superiority in children's judgments of time when specially written multimedia software was used (Panagiotakopoulos& Ioannidis, 2002). These types of studies are important for identifying the affordances provided by particular types of ICT and how they relate to learning objectives and thereby teachers' pedagogies. Many earlier studies have reported on using the programming language Logo with primary school children. For example, using Logo has been shown to improve children's estimation of distance

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ICT in Secondary Education
Secondary literature:

There is a growing body of research related to the use of ICT within Teaching English as a Foreign Language, English as a Second or Other Language or English as an Additional Language (Karrer, 1991; Silver &Repa, 1993; van Haalen& Bright, 1993; Ward, 1996), and the equivalent in non-English speaking countries. Karrer (1991) found benefits of using specific software to develop vocabulary. Silver &Repa (1993) found that the use of word processors improved the quality of writing and self-esteem. Some small-scale studies have investigated more innovative uses of ICT for learning English. For example, Birmingham & Davies (2001) investigated how a prototype of *Kar2ouche* could support students with their study of Shakespeare's *Macbeth*, and the nature of the impact such use might have on teaching and learning. They found that this technology made a valuable contribution to pupils' learning by encouraging them to explore beneath the surface of the text of the play in order to gain a deeper understanding of plot, mood, and atmosphere and character motivation. The study provides some insights into the affordances of this storyboarding software but it focused on pupils' interactions with each other and the software and concluded that the teacher's role needs further research.

Secondary humanities:-

According to the Department of Education and Employment survey in 2000 (DfEE, 2000), stated that less than 35% of humanities teachers reported substantial use of ICT in their teaching. Hollow (2000) describes case studies involving theuse of the Internet and remote access telescopes that allowed students to undertake challenging research and make worthwhile contributions to professional programs.

Social Bookmarking

Bookmarking is the simple process of saving the address of a website in the favorite folder of your web browser so that you can find it again later. Social-bookmarking takes these process two steps further. Firstly, instead of saving the bookmarks to your favorite folder, it saves them online. The great advantage of this is that you can then access them from any computer, not just the one you saved them on, simply by logging into your social-bookmarking account. The benefits of social bookmarking are that it is easy to share and manage social bookmarks. Searching and storing in database is also easy.

Podcast in Classroom

Podcasts are serial recordings, posted regularly online. Basically, producing podcasts is the technology-based equivalent of oral lectures. Much as lectures and news have been shared with listeners, who download the files online .The advantages of podcast are its flexibility, reusability of your lecture. It is advantage for the hearing impaired students.

Screencast

Screencast have emerged as a prominent teaching tool on the Internet. Screencasts are an effective way to share ideas, deliver content, and obtain student feedback. A screencast can be used in any class as a part of real-time instruction or as the lesson itself as in the flipped teaching model. With the flipped teaching method, instructors use screencast videos to deliver their lectures, assigning them as homework. Then, in class, students can ask questions as they work through problems that they normally would have done at home without teacher help.

Smart board-Interactive Whiteboard:

There has been much recent interest in schools in the UK in electronic interactive whiteboard technology. In addition to enabling teachers or students to give an electronic presentation to a class or group as with a computer data projector, the interactive whiteboard enables the teacher and/or students to interact with the software directly on the touch-sensitive board or through other input devices. The results

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of this interaction can be saved or printed. Smart products bring learning to life, helping students experience a deeper level of engagement and understanding by making course content interactive and visual. Smart products are flexible, complementary and evolving.

Blogging

Blogging is a public post. Students can be asked to post notes on class blog. You can analyze, evaluate and create the material. Teachers naturally think back on what has happened in their classroom, and often wonder what they could have done better. Blogging can help with this process, enabling teachers to keep an ongoing personal record of their actions, decisions, though processes, successes and failures, and issues they have to deal with. Blogging can crystallize your thinking, Your ideas are now on the screen in front of you; they can be stored, retrieved and reconstructed as your ideas become clearer.

Text and multimedia editing software

The evidence from this review show that multimedia software resources have been used in a majority of innovative classroom practices around the globe to create products for teach others' and pupils' presentations. However, there is also evidence (Kumpalainen&Mutanenen, 1998) that current pedagogical practices using multimedia resources do not necessarily lead to successful learning relating to subject-based learning objectives. The research presented here suggests that teachers need to plan the focus of the assignment carefully and to provide appropriate materials that relate to the affordances of the multimedia composition experience and their teaching objectives.

Modelling

An important contribution to the understanding of ICT is modeling using ICT tools. Modelling is also useful for ICT in science, geography and mathematics at the primary and secondary level. Most of the research in this area focuses on learning and attainment but large projects such as the London Mental Models Project (Mellar et al, 1994) have also studied the role of the teacher in the classroom relating to students building models. An important aspect of modelling using ICT is that teachers need to know how the facilities provided by different modelling environments support the modelling of particular types of scenarios. Their decisions about whether to use computer-based modelling depend on teachers' beliefs and philosophies (Mellar et al, 1994).

Facebook -: social networking system

Attractive features of the Facebook are "Homepage", "Applications", "Photos and Video Sharing", "Update Ideas", "Creation of Group", "Page", etc. This is one of the tool to communicate from the school or Institute to parents/students. Teacher can use important events like Meeting, Program; Seminars for educational purpose and Students can also used it for online discussion of certain topics. Teachers can used it for updating classroom information, small notes for students, some time they can use it for uploading online experiments/videos of classroom activities/program and stay connected even after school hours.

CONCLUSION:

So it was found that the techno-pedagogy is an innovative tool to motivate and engage all the students to learn meaningfully and teachers teaches the students by their effective teaching. Students and teachers both are benefitted by the techno pedagogy. All the aspects of human life, education has significantly contributed by modern technologies. Primary and secondary school teachers have a new responsibility to use ICT in their day to day teaching life, to enrich the lives of students they teach. The present paper revealed that, techno pedagogy has given outstanding weight age in the newly revised primary and secondary teacher education syllabus. According to government statistics, teachers' confidence in using ICT has improved considerably over recent years. In a large-scale survey of over1800 primary, secondary and special schools (DfES, 2001), 75% of teachers reported that they felt confident in using ICT,

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78% had received some training and 71% had updated their training in the last two years. Nor did the survey method identify whether teachers were thinking of only a narrow range of ICT uses, i.e. word processing and *PowerPoint*, when answering the question about confidence using ICT.

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