# Techno-Pedagogycal Skills For 21st Century Teacher's: Contextual Enabler

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**ABSTRACT-**

**"***Education is a fundamental pillar of human rights, democracy, sustainable Development and peace***."-** *UNESCO World Conference on Higher Education* **(***1998***).** *Education act as catalyst for the all-round development of an individual, it empower the pupils to meet the emerging needs ; especially Techno-pedagogical skills of teachers is vital importance to achieve the objectives of 21$^{st}$ century educational needs in different context. Acquiring this proficiency will make teaching learning environment pleasurable, lessen the pressure of teachers and enable the students plunge deeper into knowledge acquisition process. As the present education system revolves around technologically enhanced learning so, teachers need to understand the values of integration of technology with pedagogy in different context for coping with ever changing learning environment. Present paper author try to analysis the importance of techno-pedagogical skills in the process of education and its contextual enablers.*

***Key words:****Techno-pedagogical Skill, ICT, TPACK model,*

## I. INTRODUCTION

Good thinking skill cannot be develop on their own, they must be taught**!** (Beyer, 1987)

Education has become the basic needs for an individual just like food, shelter and clothes. Nelson Mandela has rightly said that **"**Education is the most powerful weapon you can use to change the world.**"** Education without effective teaching is meaningless in nature. It's not a mere transactions of the content to the concern class but it's an art and science. Its highly logical, sequential, practical, experimental and systematic in nature.

The 21st century has introduce new imperatives in to education practices, simulated by increasing concern about global inequities and lack of fairness. As demonstrated first by Millennium development goal, and currently by the Sustainable Development Goals (United Nations 2016),the concern are about both access to education and quality of education. 21st centuries quality have consequences for how education system must cater to all children and youth. Education system need to provide educational experiences need to 21st century world that learners face like problems  in critical thinking and problem solving, initiative, creativity and entrepreneurship, communication, team work, meta cognition, digital literature etc.Learner's creative mind depends on learner quality learning environment, transferable skills & competencies of the teachers. Now the questions arises about how will the teacher design his/her learning activities? What is the effective strategies that the teacher needs to apply to the class? How the teacher does prepared a skilled millennium generations to make 21st century education system ecologically sound, cognitivically advanced, technologically superior and qualitative?In our transformative world to address the 21st century learning needs of the leanersTechno-pedagogical skills of teachers in demand.

## II. CONCEPT OF TECHNO-PEDAGOGICAL SKILL:-

Techno-pedagogy decide whether or not the education news product is successful. Pedagogy Means 'science or art of teaching '. 'Techno' is derived from the Latin word 'texere' approach 'weave or merge'. Techno-pedagogy means tailoring teaching strategies in the learning environment itself. Educational Technology provide simulated learning, maintaining a focus on teaching and learning objectives with excellent instructional methods. Techno-pedagogy is an important area that determines weather an educational media product is effective or not.'Techno' is a paradox; it intervence or crocess such pedagogy with its own. Techno-pedagogy means adopting the tactics of teaching in the realm of learning (Saravanakumar AR., and Padmini Devi, 200).

'**I hear and I forget,I see and I remember,I do and I understand**.'

Confucius proverb clear that if someone learn something with using his more senses then he shall be understand the concept in a well manner. In the same way, the use of information technology can engage learners in the four steps process as describe by Kolb in the book of Experimental learning (1984), where he identifies the steps the following manner:
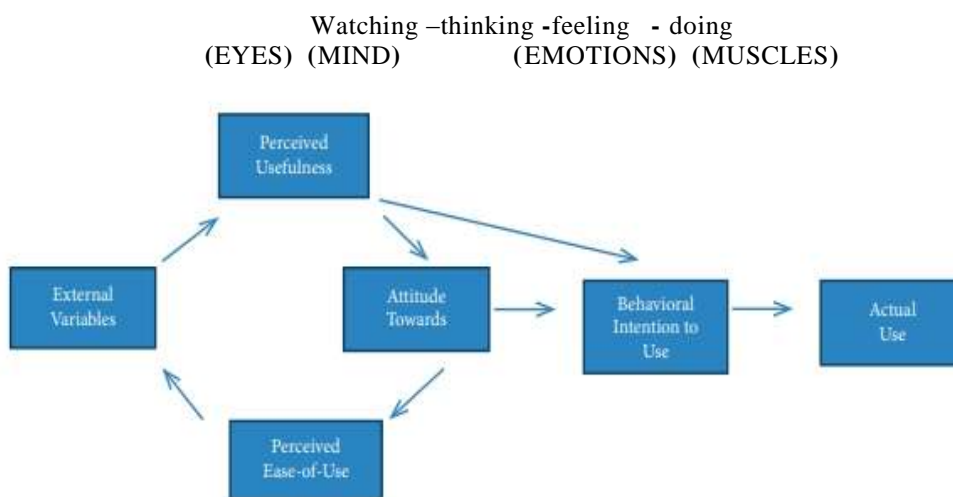
Watching –thinking -feeling  - doing
(EYES) (MIND)          (EMOTIONS) (MUSCLES)



FIGURE 2: Technology acceptance model in education.

## III. WHY AND HOW THE CONCEPT TECHNO-PEDAGOGICAL SKILL IS REQUIRED FOR 21ST CENTURY'S CLASSROOM:-

In the present education system teacher is at the forefront of education and arts in the pyramid building. Technology is the broad and flexible set of processes that requires intelligence and choosing the right techno-pedagogical strategies to effectively engage students in content is a unique set of issues. Media texts contribute to student's development, and the growing use of critical media is a critical skill for student. In understanding how technology and media interact with learning, considered the correlation between technology concept and education, and how that relates to the content. There may be a need for instructors and an institutional level, to select and clarify work truths where technology and skills interact while understanding and communicating how technological resources   and strategies can engage students and improve student learning (Saravanakumar AR, Paavizhi, K., and Palanisamy, P., 2019).

## IV. IMPORTANCE OF TECHNO-PEDAGOGICAL SKILLS FOR 21STCENTURY'S TEACHER:-

Technology promotes effective, user centric, interdisciplinary, self-paced, real time teaching. It meets the needs of individual learners and is applicable for all learning methods. Therefore its widely used for teaching purpose in the education sector. It encourages the students to develop higher level of thinking skill, such asanalysis, synthesis, application and creation which are very important to our to-days competitive wold.

Teachers today must understand ICT and its applications in the teaching process.They should know how to successfully incorporate the right type of ICT in to their subject while planning course and providing learning experiences. The selected technology assets should complement educators information's and help learners for their quality constructions of knowledge. Technical teaching capabilities enable classroom educators to teach topics more effectively by focusing on personal needs in an inclusive manner. It enables the learners to fully grasp the concepts in way that better maintains the learned concepts. Mastering the level of professional teaching will make teaching enjoyable because it will reduce the burden n teachers and enable students to remember more deeply. It helps teacherto engage students in self-study because this is an important skill that all students should have today. There are many E-Learning resources, and teacher with solid technical teaching skills can motivate and help students choose comprehensive reading materials using e-resources. Teacher can also encourage students who are unable to continue their education for obvious or personal reason to continue their education through remote E-learning model.

## V. INFLUENCE OF TECHNO-PEDAGOGY THROUGH TPACK (TECHNOLOGY PEDAGOGY AND CONTENT KNOWLEDGE) MODEL:-

Nowadays , teacher are in great need of technical teaching ability in guiding and preparing for learning because it encourage feasible education and learning. Technical teaching ability is nothing more than a teacher's ability to effectively used creative ability in teaching. At that time, teacher can frequently use this ability in teaching which will turn makes the learning process basic and feasible.

(i) The Content is the topic to be directed.

(ii) Technology includes advanced innovative technologies such as computer, the web, advanced videos and computing projectors, writings pads and ordinary advances in books.

(iii) Pedagogy describe the collected disciplines, forms, techniques, strategies and instructions and learnings strategies. In addition in contains information's about teaching, assessment and student learning.

The integration of technology in teacher teaching is largely influenced by TPACK model.The technical model refers to a model that enables the lecture to almost use innovations to ensure information and talents while academic model refers to a model in which teachers connect their innovative information with their educational information during education. The TPACK exhibition is an educational model that incorporates innovation into teaching, that is, 'innovative academic material information'. It combine the introduction of the concept by using technology: information about the useful use of innovation to guide substances, information about complex or encouraging learning learning concept, and information about ways that innovation can help to understand troublesome topics and relevant in formation and innovate the information that is used.
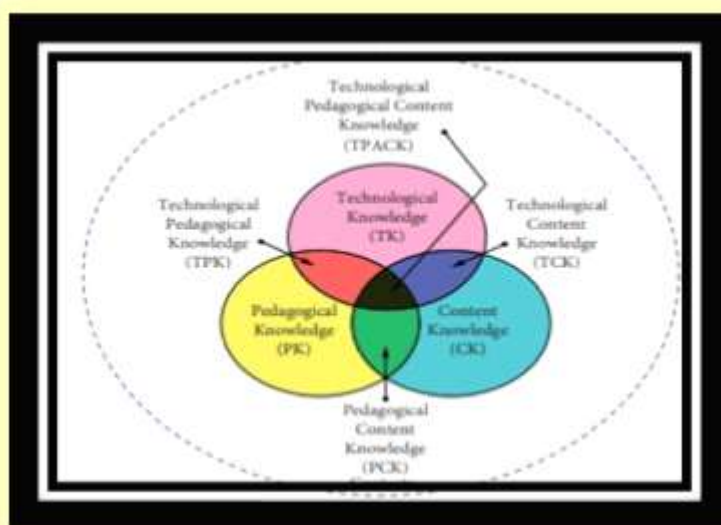
This TPACK system is the complex exchange of three essential shapes of information: content knowledge (CK), Pedagogical Knowledge (PK) and Technological Knowledge (TK). This approach goes advanced by emphasizing the sorts of information that lie at the convergences between three essential shapes: Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK) and Technological pedagogical knowledge(TPK) and Technological Pedagogical Content Knowledge(TPCK).

## VI. Fundamental skills to be required for 21st century teachers:-

❖ Teachers should possess the skills of foundational knowledge(to know) like cross-disciplinary knowledge, core content knowledge and digital\ICT literacy knowledge.

❖ Teacher should possess the skills of Humanistic Knowledge (to value) like life/job skills, ethical and emotional awareness and Cultural Competence.

❖ Teacher should possess the skill of Meta Knowledge (to act) like creativity and innovation, problem solving & critical thinking and communication and collaboration.

## VII. Contextual Enablers of Techno-pedagogical Skills:-

Cotextual enablers of techno-pedagogical skill refers to the factors or elements within a particular educational environment that support the development and effective utilization of technology enhanced teaching methods. This may include access to appropriate technology, training for educators, alignment with curriculum goals, a supportive administrative culture and the presence of well-connected learning community. It's the ability to effectively integrate technology in to educational practices to enhance learning outcomes Contextual enablers of techno-pedagogical skills include:

1. *Infrastructure:*Access to reliable and up-to-date technology tools, devices and internet connectivity is essential for implementing technology-enhanced teaching methods.

2. *Professional Development:* Ongoing training and workshop for educators to develop their technological proficiency and pedagogical strategies for integrating technology in to the curriculum.

3. *Curricular Alignment:* Designing curricula that incorporate technology seamlessly to support learning objectives and 21st century skills such as critical thinking, creativity, collaboration and problem-solving.

4. *Administrative Support:* School leadership that foster a culture of innovation, encourages experimentation, with new teaching methods and allocates resources for technology integration.

5. *Pedagogical Strategies:* Equipping educators with strategies to use technology effectively such as flipped classroom, blended learning, gamification and online assessment.

6. *Students – Centred Approach:* Creating opportunities for personalized learning, allowing students to engage with technology in ways that suit their learning style and paces.

7. *Assessment Methods:* Developing assessment techniques that evaluate both technological and pedagogical competencies, ensuring that the integration of technology enhances learning outcomes.

8. *Collaboration and Community Participation:* Facilitating a collaborative environment where educators can share experiences, ideas and best practices related to techno-pedagogy.

9. *Digital Citizenship:* Teaching students responsible and ethical use of technology, including online etiquette, privacy and critical evaluation of digital resources.

10. *Support Services:* Providing technical support to educators and students to address any challenges or issues that may arises during the integration of technology.

11. *Flexibility and Adaptability:* Creating an environment where educators can adopt technological advancement and changes in educational needs, fostering a continuous improvement mind-set.

12. *Research and Evaluation:* Encouraging educators to stay informed about emerging technologies and research on their effectiveness in improving teaching andlearning.

Combination of these contextual enablers can empower educators to develop strong Techno-pedagogical skills and utilize technology as a meaningful tool to enhance the learning experience for students.

## VIII.  Conclusion:-

**"**Education is not only gives us details but makes our way of life harmonious throughout life**."** (Rabindranath Nath Tagore**).** As the 21st century approaches the educated citizen is increasingly predicting the use of ICT for quality and accessible information**.**So, making our education system as transformative and technologically competent, modern education system must give priorities to the teacher**'**s techno**-**pedagogical teaching skills**.** This is the ability of educators to effectively integrate technology in to their teaching practices to enhance learning outcomes. It can significantly impact the quality of education by fostering engaging and interactive learning experience. The presence of strong contextual enablers is crucial to create an environment where educators can successfully leverage technology to enhance pedagogy and ultimately benefit students learning.

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