iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 **Issue:** IV **Month of publication:** April 2022

DOI: https://doi.org/10.22214/ijraset.2022.41287

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 10 Issue IV Apr 2022- Available at www.ijraset.com

Techno-Pedagogical Skills of Teacher Educators with Special Reference to E-Learning

Miss Poonam Kumari[1], Dr. Manisha Rani[2]
[1]*Research Scholar, Regional Institute of Education, Utkal University, Bhubaneswar*
[2]*Assistant Professor, Mahatma Gandhi Central University, Bihar*

***Abstract:* "The art of teaching is the art of assisting discovery."- Mark Van Doren**
The term "techno-pedagogy skills" refers to the ability to use technology for pedagogical purposes as well as the ability to integrate technology into the classroom. It is a mixed or hybrid teaching method in which electronic resources or information and communication technology (ICT) are used in the learning process. These skills guide the teaching experience in an effective manner. Technical teaching skills are very much necessary for making the teaching process an enjoyable experience as it will significantly change the teacher's mode of interaction. While technical pedagogy is a boon in the teaching process, and circumstances such as the pandemic have increased the value or importance of these skills as virtual classes replace face-to-face classes, but the truth is that due to lack of knowledge about technical teaching skills, teachers are not using these skills correctly. There are so many reasons which are responsible for this condition. But in the present scenario the knowledge of teachers regarding techno-pedagogical knowledge demands focused attention as it is one of the basic or primary necessities in practicing the skills. This paper presents about the importance of techno-pedagogical skills of Teacher Educators with reference to e-learning.
Keywords: Techno-Pedagogical skills, Teacher Educators, E-learning

I. INTRODUCTION

Techno pedagogy skills are related to hybrid teaching style in which ICT is used to teach and learn in a classroom setting. Pedagogy literally translates to "teaching science and art." The term "techno" is derived from the Latin word "texere" which means "to weave or to create." Techno is a qualification that intersects or crosses pedagogy's meaning with its own. Thus, Techno-Pedagogy is an art of teaching with the addition of technology to improve academic achievement and also helps in remote learning. Education Technology provides such teaching learning situations, which brings the best practices or means of instructions which effect on learning positively. There domains of knowledge cover three main areas with respect to techno-pedagogy, which are content, pedagogy, and technology respectively. The subject matter to be taught is referred to as content. Technology includes both modern and everyday technologies such as computers, the internet, and digital video, as well as overhead projectors, blackboards, and books. Pedagogy is the study of teaching and learning techniques, processes, tactics, procedures, and approaches. As a result, Techno-pedagogical abilities refer to a teacher's ability to integrate these main areas of knowledge domain and apply them in a teaching-learning environment. Teachers use ICT facilities to acquire information, generate solutions, analyse, and apply knowledge in teaching learning process by means of their ability or potentiality.

II. CONTENT

First of all, we have to understand content which includes the subject matter. Content along with pedagogy and technology are the important aspects of teaching learning process. Actually, good content knowledge and its successful integration with technology and pedagogy are the essence of quality education. So, in this connection understanding of different types of pedagogies and technologies are very much required. Some of the important pedagogies and technologies are as follows-

III. PEDAGOGY

1) *Cooperative Learning:* Is the process of where teacher educators divide a class of students into small groups so that they can work together to learn a new idea. Cooperative learning has been around for a long time, but it has never achieved the same level of popularity as blended learning or differentiated instruction.
2) *Concept Mapping:* Can help the teacher educators to visualize relationships between various concepts and test their understanding of complex subjects. Thinking and visually representing relationships between ideas forms mental connections that allow for better retention of knowledge. This is a popular way to capture understanding of a topic for work, school, or personal study. It's used most frequently in academia, but the process can be easily applied to other fields

3) *Blended Learning:* Is an approach to learning that combines face-to-face and online learning experiences. Ideally, each (both online and off) will complement the other by using its particular strength.
4) *Flipped Learning:* Is that pedagogical technique through which direct instruction transfers from the group learning space to the individual learning space, transforming the group area into a dynamic, interactive learning environment in which the educator supports students as they apply concepts and participate creatively in the subject matter.

IV. TECHNOLOGY

1) *Audio- visual Technology:* The value of audio-visual (AV) technology in teaching cannot be overstated. There are two reasons for this: first, studying through AV offers a vibrant and interactive environment that is more favourable to learning; and second, we live in an audio-visual age, which means that knowing how to utilise AV equipment is essential for future employment opportunities. As a result, it is critical that students have access to AV technology at school.
2) *Animation:* Online learning modules help students learn and retain information more effectively by combining a variety of quirky and fascinating animation technologies. The human brain has also been shown to process and remember information acquired in the audio-visual realm more successfully. As a result, online education channels have grown in tandem with advances in innovation and technology, utilising immersive animation and digital multimedia capabilities to create fascinating real-time educational content that better captures students' attention.
3) *Discussion Forums:* Are probably the earliest form of social media platform. Early adopters of Internet technology may recall newsgroups and subcommittees (SIGs) hosted on early Internet-connected websites and systems. These communities were rooted in technical topics, but eventually expanded to cover almost any category that could attract viewers. These platforms have matured and are now hosted on consumer social networking sites.
4) *Assessment and Evaluation:* It is an important process through which we can get proper feedback in educational process. By means of MOODLES and with the help of several online apps we can assess the progress of students.

V. TECHNO-PEDAGOGIC SKILLS-INCLUDES

1) Ability to evaluate the benefits and drawbacks of various learning systems.
2) Ability to do a needs assessment in order to introduce technology in a pedagogical order.
3) Ability to use and troubleshoot basic tools and software, as well as address small technical issues.
4) Appropriate work plan and design ability.
5) The ability to plan for crossroads both inside and outside the classroom.
6) The ability to invest in new and interactive technologies that are compatible with the subject's nature.
7) The ability to manage time and integrate technologies in the most efficient way possible.

Techno-Pedagogical Skills is basis of effective teaching which refers to electronically mediated skills that integrate pedagogical principles with the use of technology. Techno-Pedagogy does not mean only use of internet and digital devices/applications but to use technology as means of achieving learning objectives related to content.

VI. DEVELOPING TECHNO-PEDAGOGICAL SKILLS IN TEACHING LEARNING PROCESS

1) To define the skills that emerge from the convergence of pedagogy and technology.
2) Teacher educators study technology, develop technical skills among themselves, evaluate the relevancy of different technologies in their concerned subject areas, and devise creative and outcome-based approaches to incorporate technology into sound pedagogy in an innovative online learning environment as well as in physical classroom.
3) The emphasis is on developing both technological and critical and reflective thinking abilities, which are required to continue employing cutting-edge technology in the classroom.

VII. CHALLENGES OF USING TECHNO-PEDAGOGY IN TEACHER EDUCATION:

There are numerous challenges associated with Techno- Pedagogy. Some of them are as follows:

1) *Lack of Infrastructure Facilities:* Many educational institutions lacking proper infrastructure facilities even they do not have proper rooms or buildings so as to accommodate the technology. Most of the ICT labs are facing poor network with internet even though no power supply they have. These poor conditions of labs hamper the web-based instruction, usage of electronic machine such as radio, television in or other technologies in educational process and creates the challenges to use techno-pedagogical skills.

2) *Lack of Competence:* We can understand this in the form of following most common mistakes in introducing techno-pedagogical skills into teaching are -

a) Lack of need analysis
b) Improper involvement of faculty and students;
c) Usage of inappropriate content
d) Production of low-quality content having poor instructional design.

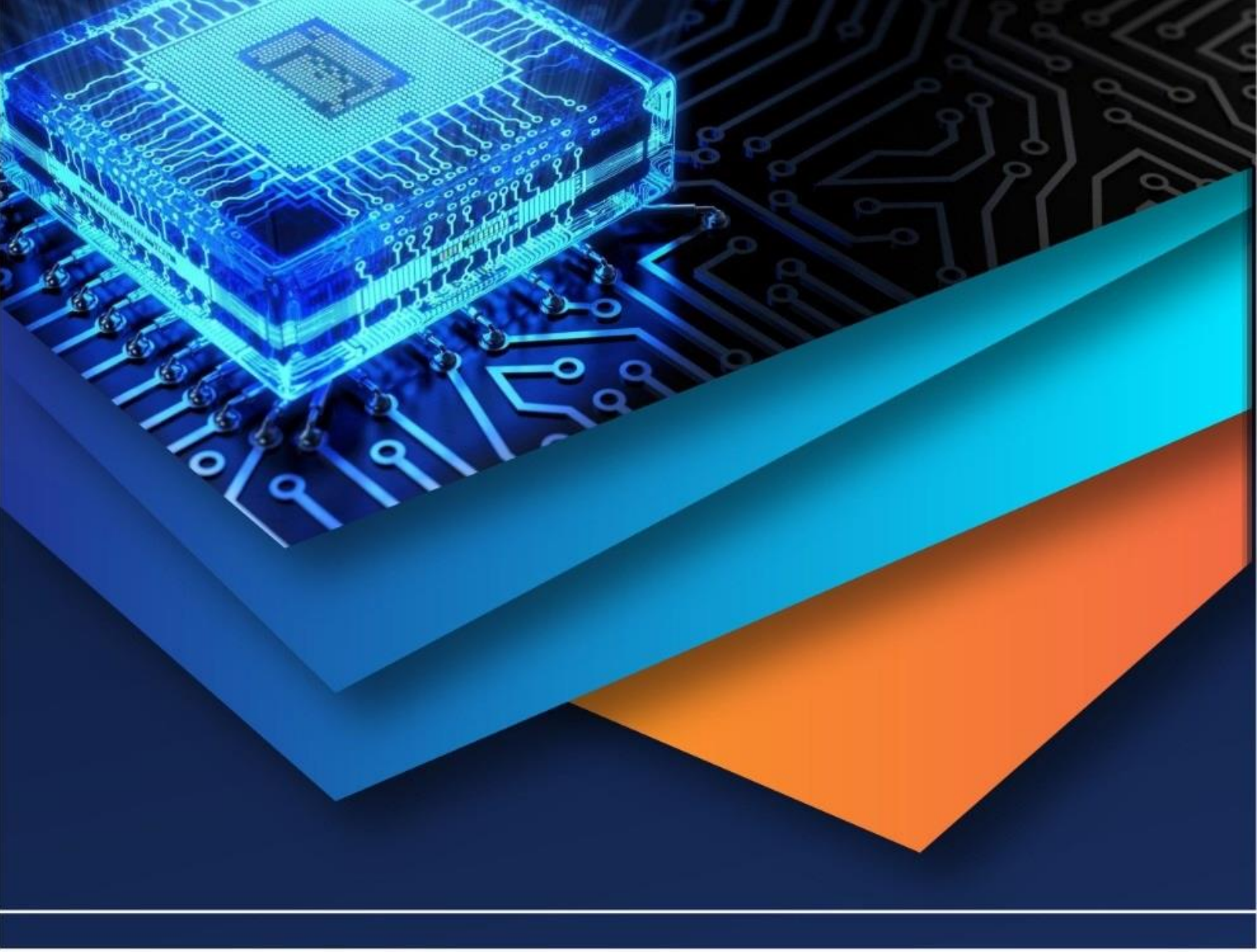
3) *Lack of Awareness of Existing techno-pedagogical Skill:* Sometimes we see that in some areas teachers are not aware about recent existing techno pedagogical skills which leads a challenging situation for teachers because it creates many problems in integrating content with technology and pedagogy.
4) *Lack of Techno-pedagogical Resources:* lack of sufficient techno pedagogical resources and imperfect usage of these resources for hybrid teaching methods leads to inferior learning outcomes for students, resulting the ICT illiterate of students at higher level of education.
5) *Lack of Motivation and Commitment:* Sometimes various contextual and personal factors results into lack of motivation and commitment among teachers which is an emerging challenge in this context.

VIII. CONCLUSION

We know that techno pedagogical skills are very important for effective output along with sound content knowledge in relation to E-Learning. However, there are various challenges are there for teacher educators regarding this but with the help of proper techno pedagogical skills they can minimize these which further leads to quality education.

REFERENCES

[1] K.K, S. (2018). Techno-Pedagogical Skills of Secondary Teacher Education Students. International Journal of Science and Research,7(12), 887-890. 10.21275/ART20193724
[2] Ali, M. (2018). Techno- Pedagogical Competency of Teachers: An Area of Concern in the 21st Century Higher Education. Review Of Research, 7(11), 1-5.
[3] GLORIA, R., & Benjamin, A. E. W. (2014). Techno-Pedagogical Skills in Teacher Education. International Journal of Scientific Research, 3(12), 91-92.
[4] M, L. K., & Saleem, T. M. (2017). Infusion Of Techno Pedagogy in Elementary Teacher Education Curriculum: Perspectives and Challenges. IOSR Journal of Humanities and Social Science, 22(1), 06-10.
[5] Thakur, N. (2015). A Study on Implementation of Techno-pedagogy Skills, Its Challenges and Role to Release at Higher Lever of Education. American International Journal of Research in Humanities, Arts and Social Sciences, 182-186.
[6] Beaudin, L., & Hadden, C. (2001). "Technology and Pedagogy: Building Techno-Pedagogical Skills in Preservice Teachers. Innovate.



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY