



## A REVIEW OF STUDIES ON TECHNO-PEDAGOGICAL AND CONTENT COMPETENCIES

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**Abstract** - Techno pedagogy can be referred to the weaving of techniques of teaching into the learning environment itself (**Gloria, 2014**). The teaching in the class should not be boring or dull or tiresome but it should be vast-open, interesting, creative and should provide a new meaningful environment which is not only possible if the faculty uses different technology techniques or kinds of media to enrich the academic excellence of the student which requires the integration of techno pedagogical skills along with content knowledge. There are many faculty members who still continue to teach through old, boring, uninteresting lecture method but with time to come the efficiency and ability of the teachers can be taken over by technology. So it is expected to increase and integrate techno pedagogical skills along with the content knowledge to raise the growth and achievement of the students, which in turn will help the teacher to be updated and motivated.

**Keywords** -Techno-Pedagogical Competency, content.

### I. INTRODUCTION

The key to distinguish the knowledge base of teaching lies at the intersection of content and pedagogy (**Shulman, 1987**). Techno-Pedagogical Competency focuses on conducting the planning, applying and assessing processes depending upon technological and pedagogical contents in order to raise the effectiveness of the teaching process (**Niess, 2005**). Techno Pedagogical Competencies has been launched as a conceptual framework for the knowledge oriented faculty, who need to effectively tutor or coach with the technology (**Koehler, And Mishra, 2005**). UNESCO (2005) termed technological competency as a competency that consist of three domains namely knowledge on technology, attitude towards technology and technology skills. National policy of education (NPE) 2016 stated that education sector can greatly be assisted by the skilful use of ICT (information communication technology). Faculty members play a very dominant role in teaching learning process. In the 21st-century the society also demands for such faculty members who can easily successfully and productively adapt the changing challenges as per the requirement of education system (**Anand, 2019**).

### II. REVIEW OF RELATED LITERATURE

**Abell, 2008** in recent years, technological pedagogical content knowledge has become the main concept used in the reshaping process of teacher training programs for many universities in EU countries. **Archambault, & Crippen, 2009, Cox, & Graham, 2009**. In Techno-Pedagogical content knowledge, there are 3 areas of knowledge, namely: content pedagogy & technology. **Koehler, and Mishra 2009** stated that technology amalgamation incorporation in the education alongside with the content knowledge of the faculty is crucial to create an equilibrium or fairness among all the components. **Koh, Chai, and Tsai, 2013** So a senior secondary school teacher need to require an incorporation of techno pedagogical competencies and content knowledge to make his tutoring or teaching learning or instructing process in the classroom a fruitful, enjoyable, agreeable and which prove to the satisfaction of the students. Thus the faculty putting technologies into execution must have the capability or potentiality to think about using the new technology techniques with the amalgamation of knowledge in the classroom. **Rosenkranzer et al. 2016** studied on promoting student teachers' content related knowledge in teaching system thinking: measuring effect of an intervention through evaluating a videotaped lesson. **Yildiz, & Baltaci, 2016** Learning to think is more prime rather than shifting or switching the knowledge to teachers' development of openness to the innovations was restricted. **Baltaci, 2016 and Liao, 2017** hence technology has become a very chief or dominant precondition need in the education. **Carroll, 2017** Technological knowledge refers to the science of craft, it is derived from Greek word "techne" Carl Mitcham (philosopher of technology) defined technology in the year 1978 as "human making or using of material artifacts in all forms and aspects" **Patra, & Guha, 2017, Kumar, 2018, Prakash, & Hooda,**

2018.,Bala, 2018., Beri, & Sharma., 2019 & Guru, &Beaura, 2019 stated that there are large differences or substantial differences in the techno pedagogical content competencies of teacher educators with respect to gender, locality, stream, efficacy and type of colleges. Ali, 2018 Nowadays educationist believes that technology can push on education goals to serve or satisfy the need of students in current time. Technology is a chief and potentially impressive and powerful educational tool. Suarmika, 2018 stated that teacher competence includes pedagogical competence, personality competence, social competence and professional competency.Imansari, 2020 studied on developing of technological pedagogical content knowledge through blended learning for vocational teacher's candidate. This study revealed that syntax of TPACK development by integrated learning or hybrid learning was incorporated in the excellent category and was workable or practicable to use. Melo, 2020 studied on exploring pedagogical content knowledge (PCK) or physics teacher in a Colombian secondary school. The study revealed that categories such as knowledge about the curriculum and teaching strategies, evolved after the intervention program in contrast with knowledge about evaluation and pupils.

### III. CONCLUSION

A good faculty brings vast experience and frames of reference to the classroom. The first study was taken by Koehler & Mishra in 2005. After that from 2005- 2020 only 53 researches has been done in the areas of academic development personality traits (anxiety, self-efficacy) Concentration of studies were more on Mathematics, Hindi and other subject such as Science, English and Social Science were left out. Tools used in earlier studies were Teacher Techno-Pedagogical Competence scale by S. Rajashekhar&k.Sathiyaraj(2013). So there is an urgent need to develop more Standardized tool for different subject at different level. Faculty development Centres of different universities have also focused or placed the Techno-Pedagogical content knowledge in its orientation & refresher courses. There are less no. of studies been done in reference to India although it is not denying the fact that research work is needed in Techno-Pedagogical Competencies. Post covid-19 times different platforms have flourished such as Byju's, Unacademy, Wi-Fi Study, Google Meet, Cisco- Web ex, Zoom in which integration of all 3 i.e Technological Pedagogical & Content competencies is seen.

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