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## A Study On Techno Pedagogical Competency Of Prospective Teacher Educators

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### ABSTRACT

Techno Pedagogical Competency is hugely required for teachers in their active learning as it helps their learning and teaching enormously and it is referring to their competencies and skill sets for using various technologies in their teaching and it also promotes learning among students considerably. Besides, Techno Pedagogical Competency is also highly important and playing a very significant role in teacher education and it is largely useful to solve many issues related to academics of Prospective Teacher Educators. The findings explicates that significant difference is existed amongst profile of Prospective Teacher Educators and their Techno Pedagogical Competency. Prospective Teacher Educators in Male Category, Science Group, Government Aided Colleges, Urban Colleges, Tamil Medium and Father's Education of College Education are holding higher level of Techno Pedagogical Competency. Therefore, it is necessary that Prospective Teacher Educators should get exposure and knowledge on various techno-pedagogical methods and techniques for enhancing their Techno Pedagogical Competency. Prospective Teacher Educators must create interest among them for accepting and using different techno pedagogical methods for their learning and teaching activities and also improve their Techno Pedagogical Competency. Prospective Teacher Educators should increase their competence in using different technologies and method pertaining to their effective learning and teaching process. Colleges of Education must give favourable classroom atmosphere to Prospective Teacher Educators for discussing and interacting with their colleagues and faculty members to improve their Techno Pedagogical Competency. Besides, family members should give their supports and helps to their Prospective Teacher Educators for increasing their Techno Pedagogical Competency.

**Key Words:** Prospective Teacher Educators, Techno Pedagogical Competency

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## **1. INTRODUCTION.**

Techno Pedagogical Competency is the hybrid method using information and communication technologies for effective teaching and learning activities (Sathiyaraj and Rajasekar, 2013) and it represents the abilities of teachers to integrate pedagogy and technology for teaching in class room atmosphere (Guru and Beura, 2019) and they are possessing competency in integration of techno pedagogy which is brining the whole world in to class room. Techno Pedagogical Competency is the capabilities of teachers to use of technologies efficiently for their teaching (Gloria and Benjamin, 2018) and teachers have to possess and improve continuously their knowledge on different technologies that are to be used in their teaching and personal learning environment(Setua, 2022).

Techno Pedagogical Competency is referring to capabilities of teaches for integrating different technologies with their teaching methods to improve qualities of teaching and learning (Sibichen, 2018). Techno Pedagogical Competency is hugely required for teachers in their active learning as it helps their learning and teaching enormously (Dangwal and Srivastava, 2016)and it is referring to their competencies and skill sets for using various technologies in their teaching (Rao and Jalajakshi, 2021) and it also promotes learning among students considerably. Techno Pedagogical Competency of teachers is developed and improved in a continuous manner by using different strategies and methods.

Besides, teaching and learning activities are moved towards student oriented, thus, teachers have to develop their knowledge and skills continuously in different technologies used for their teaching and make it very efficient (Bala and Imlikokla, 2018). The effectual blend of technologies and pedagogy is leading to produce many desirable outcomes in students and teachers relating to their academic success (Jena, 2023). Further, Techno Pedagogical Competency is also highly important and playing a very significant role in teacher education and it is largely useful to solve many issues related to academics of Prospective Teacher Educators. With this back ground, it is imperative to study Techno Pedagogical Competency of Prospective Teacher Educators.

## **2. REVIEW OF RELATED LITERATURE**

Nayak and Choudhury(2024) found that teacher educators had moderate degree of techno pedagogical competency and no significant disparity was found in techno pedagogical competency among their academic stream.

Kumar and Praveena(2023)concluded that teacher trainees had moderate degree of techno pedagogical competency and it was differing among their gender and it had influenced their performance.

Qurashi and Jan (2022) revealed that three fourth of private school teachers had high degree of techno pedagogical competency, while, one third of Government school teachers had high degree of techno pedagogical competency and it was significantly differing among them.

Sharma and Sharma(2021) indicated that teacher trainees belonging to science stream were holding higher degree of techno pedagogical skills in comparison with arts stream and significant difference was seen in techno pedagogical skills among their streams.

Sobha and Joshi (2020) showed that senior secondary teachers had moderate degree of techno pedagogical competency and it was not differing significantly among stream, gender and experience in teaching.

Sindhwani (2019) found that senior secondary teachers were holding moderate degree of techno pedagogical competency and it was differing among their experience in teaching, gender and academic stream.

Parkash and Hooda (2018) concluded that techno pedagogical competency was at higher degree among private in comparison with Government higher secondary school students and it was differing among them significantly with respect to their gender and location of schools.

Avni (2017) revealed that techno pedagogical competency was higher among pre service mathematics teachers and it was varying among their gender and experience in teaching and it had positively related with their critical thinking skills.

Ozdemir (2016) indicated that techno pedagogical competency was high among senior pre service teachers working in elementary schools and significant difference was observed in techno pedagogical competency among their gender and experience in teaching.

Sezer (2015) showed that techno- pedagogical knowledge competencies were moderate for high school teachers and it was differing among their experience, gender, school type and location and residence area.

### **3. OBJECTIVES OF THE STUDY**

1. To study difference amongst Techno Pedagogical Competency of Prospective Teacher Educators and their gender, subject group and type of college.
2. To examine difference amongst Techno Pedagogical Competency of Prospective Teacher Educators and their locality of college, medium of study and father's education.

### **4. HYPOTHESES OF THE STUDY**

1. There is no significant difference amongst Techno Pedagogical Competency of Prospective Teacher Educators and their gender, subject group and type of college.
2. There is no significant difference amongst Techno Pedagogical Competency of Prospective Teacher Educators and their locality of college, medium of study and father's education.

### **5. RESEARCH METHODOLOGY**

Chennai and Kancheepuram districts in Tamil Nadu state are selected for this study. Random sampling method is applied for choosing Prospective Teacher Educators. Data are gathered from 825 Prospective Teacher Educators through structured questionnaire. Techno Pedagogical Competency Scale (TPCS) had developed and standardized by Dr. S. Rajasekhar and K. Sathyaraj in the year 2013 and it is used in this study. Percentages, mean, standard deviation t and ANOVA tests are employed to study objectives and test hypotheses.

### **6. RESULTS**

#### **6.1. PROFILE OF PROSPECTIVE TEACHER EDUCATORS**

The profile of Prospective Teacher Educators is given in Table-1. The results explain that 54.55% of Prospective Teacher Educators are females, while, 45.45% of them are males, 66.79% of them are in science group, while, 33.21% of them are in arts group and 60.12% of them are studying in self-finance colleges, while, 12.49% of them are studying in Government colleges.

The results also demonstrate that 62.79% of them are studying in urban colleges, while, 37.21% of them are studying in rural colleges, 62.30% of them are in English medium, while, 37.70% of them are in Tamil medium and 58.67% of their fathers are having college education, while, 12.12% of their fathers are having informal education.

**Table-1. Profile of Prospective Teacher Educators**

<b>Profile</b>	<b>Frequency(N=825)</b>	<b>%</b>
<b>Gender</b>		
Male	375	45.45
Female	450	54.55
<b>Subject Group</b>		

Arts	274	33.21
Science	551	66.79
<b>Type of College</b>		
Government	103	12.49
Government Aided	226	27.39
Self-Finance	496	60.12
<b>Locality of College</b>		
Urban	518	62.79
Rural	307	37.21
<b>Medium of Study</b>		
Tamil	311	37.70
English	514	62.30
<b>Father's Education</b>		
Informal	100	12.12
School	241	29.21
College	484	58.67

## 6.2. PROFILE OF PROSPECTIVE TEACHER EDUCATORS AND TECHNO PEDAGOGICAL COMPETENCY

### 6.2.1. Gender and Techno Pedagogical Competency

The difference amongst Gender of Prospective Teacher Educators and their Techno Pedagogical Competency is given in Table-2.

**Table-2. Gender and Techno Pedagogical Competency**

Gender	N	Mean	SD	t-value	Significance
Male	375	113.97	24.80	5.592	0.01
Female	450	106.41	13.16		

Male Prospective Teacher Educators (Mean=113.97) are having higher level of Techno Pedagogical Competency than Female Prospective Teacher Educators (Mean=106.41). Significant difference is existed amongst Gender of Prospective Teacher Educators and their Techno Pedagogical Competency because t-value of 5.592 is significant in 1% level.

### 6.2.2. Subject Group and Techno Pedagogical Competency

The difference amongst Subject Group of Prospective Teacher Educators and their Techno Pedagogical Competency is given in Table-3.

**Table-3. Subject Group and Techno Pedagogical Competency**

Subject Group	N	Mean	SD	t-value	Significance
Arts	274	106.82	19.83	3.130	0.01
Science	551	111.35	19.46		

Prospective Teacher Educators in Science group (Mean=111.35) are having higher level of Techno Pedagogical Competency than Prospective Teacher Educators in Arts group (Mean=106.82). Significant difference is existed amongst Subject Group of Prospective Teacher Educators and their Techno Pedagogical Competency because t-value of 3.130 is significant in 1% level.

### 6.2.3. Type of College and Techno Pedagogical Competency

The difference amongst Type of College of Prospective Teacher Educators and their Techno Pedagogical Competency is given in Table-4.

**Table-4. Type of College and Techno Pedagogical Competency**

Type of College	N	Mean	SD	F-Value	Significance
Government	103	111.76	16.58	14.165	0.01
Government Aided	226	115.15	22.25		
Self-Finance	496	107.04	18.50		

Prospective Teacher Educators studying in Government Aided colleges (Mean=115.15) are having higher level of Techno Pedagogical Competency than Government (Mean=111.76) and Self-Finance colleges (Mean=107.04). Significant difference is existed amongst Type of College of Prospective Teacher Educators and their Techno Pedagogical Competency because F-value of 14.165 is significant in 1% level.

### 6.2.4. Locality of College and Techno Pedagogical Competency

The difference amongst Locality of College of Prospective Teacher Educators and their Techno Pedagogical Competency is given in Table-5.

**Table-5. Locality of College and Techno Pedagogical Competency**

Locality of College	N	Mean	SD	t-Value	Significance
Urban	518	111.27	20.88	2.715	0.01
Rural	307	107.44	17.26		

Prospective Teacher Educators studying in Urban colleges (Mean=111.27) are having higher level of Techno Pedagogical Competency than Prospective Teacher Educators studying in Rural colleges (Mean=107.44).

Significant difference is existed amongst Locality of College of Prospective Teacher Educators and their Techno Pedagogical Competency because t-value of 2.715 is significant in 1% level.

#### **6.2.5. Medium of Study and Techno Pedagogical Competency**

The difference amongst Medium of Study of Prospective Teacher Educators and their Techno Pedagogical Competency is given in Table-6.

**Table-6. Medium of Study and Techno Pedagogical Competency**

Medium of Study	N	Mean	SD	t-Value	Significance
Tamil	311	115.17	22.80	6.180	0.01
English	514	106.62	16.75		

Prospective Teacher Educators studying in Tamil Medium (Mean=115.17) are having slightly higher level of Techno Pedagogical Competency than Prospective Teacher Educators studying in English Medium (Mean=106.62). Significant difference is existed amongst Medium of Study of Prospective Teacher Educators and their Techno Pedagogical Competency because t-value of 6.180 is significant in 1% level.

#### **6.2.6. Father's Education and Techno Pedagogical Competency**

The difference amongst Father's Education of Prospective Teacher Educators and their Techno Pedagogical Competency is given in Table-7.

**Table-7. Father's Education and Techno Pedagogical Competency**

Father's Education	N	Mean	SD	F-Value	Significance
Informal	100	101.87	15.86	22.760	0.01
School	241	105.81	15.93		
College	484	113.50	21.19		

Prospective Teacher Educators with Father's Education of college education (Mean=113.50) are having slightly higher level of Techno Pedagogical Competency than school (Mean=105.81) and informal educations (Mean=101.87). Significant difference is existed amongst Father's Education of Prospective Teacher Educators and their Techno Pedagogical Competency because F-value of 22.760 is significant in 1% level.

### **7. CONCLUSION**

The above results explicates that significant difference is existed amongst profile of Prospective Teacher Educators and their Techno Pedagogical Competency. Prospective Teacher Educators in Male Category, Science Group, Government Aided Colleges, Urban Colleges, Tamil Medium and Father's Education of College Education are holding higher level of Techno Pedagogical Competency. Therefore, it is necessary that Prospective Teacher Educators should get exposure and knowledge on various techno-pedagogical methods and techniques for enhancing their Techno Pedagogical Competency. Prospective Teacher Educators must create interest among them for accepting and using different techno pedagogical methods for their learning and teaching activities and also improve their Techno Pedagogical Competency. Prospective Teacher Educators should increase their competence in using different technologies and method pertaining to their effective learning and teaching process. Colleges of Education must give favourable classroom atmosphere to

Prospective Teacher Educators for discussing and interacting with their colleagues and faculty members to improve their Techno Pedagogical Competency. Besides, family members should give their supports and helps to their Prospective Teacher Educators for increasing their Techno Pedagogical Competency.

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