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A STUDY ON E-PEDAGOGY KNOWLEDGE AND ATTITUDE TOWARDS DIGITAL LEARNING AMONG B.ED. TRAINEES IN COIMBATORE DISTRICT

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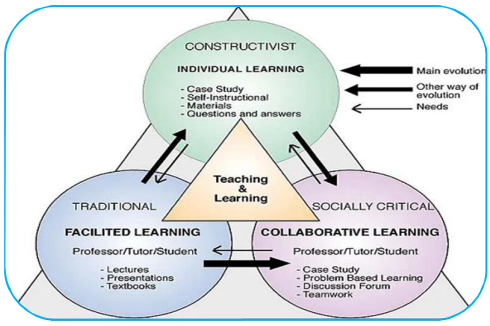
ABSTRACT:



E-pedagogical knowledge refers to an understanding of teaching and learning processes in combination with technology, including its advantages and limitations within specific instructional methods. Teachers and B.Ed. trainees commonly enhance their pedagogical approaches by effectively integrating Information and Communication Technology (ICT), which helps improve student interaction, simplify complex concepts, sustain learners' attention, and address individual learning needs, thereby making teaching more effective. The findings indicate that there is a significant difference in e-pedagogical knowledge among B.Ed. trainees based on their profiles. Furthermore, e-pedagogical knowledge shows a strong, positive, and meaningful relationship with their attitudes toward digital learning.

KEY WORDS: *Attitude, B.Ed. Trainees, Digital Learning, e-Pedagogy Knowledge*

INTRODUCTION:

E-pedagogical knowledge refers to the professional understanding of techno-pedagogical approaches possessed by teachers or B.Ed. students, combining both technological and pedagogical knowledge (Koehler et al., 2011). Technological knowledge reflects an individual's awareness, skills, and interest in using emerging and modern technologies, while pedagogical knowledge involves an understanding of how learning occurs, along with the ability to design, manage, and facilitate effective learning environments. It also encompasses social, cognitive, and developmental dimensions derived from learning theories (Koehler et al., 2013).

Strong e-pedagogical knowledge among B.Ed. students contributes significantly to improving the effectiveness and efficiency of their learning processes, while also supporting their professional and personal growth through the meaningful integration of technology (Archambault & Crippen, 2009). It enables them to present content more creatively, adapt teaching strategies to diverse learners, promote active and collaborative learning, and utilize digital tools for assessment and feedback. Moreover, it enhances critical thinking, problem-solving abilities, and digital literacy skills, which are essential in contemporary education.

E-pedagogical knowledge also plays a vital role in increasing students' engagement, motivation, and interest in learning by ensuring the appropriate and purposeful use of technology. It is closely linked with their attitudes toward digital learning, as individuals with higher levels of e-pedagogical competence tend to exhibit more positive perceptions and greater willingness to adopt digital

platforms. Additionally, it supports inclusive education by enabling personalized learning experiences and facilitating interaction beyond traditional classroom boundaries.

For B.Ed. trainees who are actively involved in teaching-learning processes and social interaction, possessing a high level of e-pedagogical knowledge is essential. Those with stronger competencies not only demonstrate a more positive attitude toward digital learning but also continuously refine their skills through practice and exposure. Therefore, examining the relationship between e-pedagogical knowledge and attitudes toward digital learning among B.Ed. trainees is crucial for enhancing teacher education programs and preparing future educators for technology-integrated classrooms.

LITERATURE REVIEW

Disonglo and Limpot (2023) reported that teachers possessed a high level of e-pedagogical knowledge, which was significantly associated with their digital literacy, research abilities, and overall professional competence.

Thirunavukkarasu (2021) found that B.Ed. students demonstrated a moderate level of e-pedagogical knowledge, with no significant differences observed based on gender or locality and their academic achievement.

Bhuyan and Tripathy (2020) reported that B.Ed. students exhibited a high level of techno-pedagogical knowledge, with significant differences observed based on gender and academic stream.

Beri and Sharma (2019) found that teacher educators possessed a moderate level of technological pedagogical knowledge, and this knowledge varied significantly with respect to gender, academic stream, locality, and type of college.

Kumar (2018) revealed that Hindi teachers had a satisfactory level of techno-pedagogical knowledge, with significant differences noted according to their gender and educational qualifications.

Can et al. (2017) concluded that pre-service science teachers demonstrated a moderate level of technological pedagogical knowledge, and significant differences were identified based on gender and location.

Solak and Cakır (2014) observed that male pre-service EFL teachers had higher techno-pedagogical knowledge than their female counterparts, and no significant relationship was found with other variables.

OBJECTIVES OF THE STUDY

1. To investigate the differences in e-pedagogical knowledge of B.Ed. trainees in relation to their gender, subject specialization, and type of institution.
2. To explore the differences in e-pedagogical knowledge of B.Ed. trainees based on the location of the college, medium of instruction, and their residential background.
3. To examine the association between e-pedagogical knowledge and attitudes toward digital learning among B.Ed. trainees.

HYPOTHESES OF THE STUDY

1. There is no difference amid e-pedagogy knowledge of B.Ed. trainees and their gender, and subject group.
2. There is no significant difference amid e-pedagogy knowledge of B.Ed. trainees and their location of college, medium of instruction and residential area.
3. There is no significant relation amid e-pedagogy knowledge and attitude towards digital learning among of B.Ed. trainees.

RESEARCH METHODOLOGY

The present study was conducted in the Coimbatore district of Tamil Nadu. The B.Ed. trainees were selected by employing random sampling method and data was gathered from 950 B.Ed. trainees by using structured questionnaire. The study employed e- Pedagogy Knowledge Test constructed and validated by G.Gnanawilson and Dr. P.C. Naga Subramani in the year 2023 along with Attitude towards

Digital Learning Scale had developed and standardized by M. Ramesh and Dr. V. Sharmila in the year 2021 are used in the study. Percentage analysis was used to examine the profile variables of the B.Ed. trainees and their e-pedagogy knowledge. Additionally, correlation analysis was carried out to determine the relationship between e-pedagogy knowledge and attitude towards digital learning among the B.Ed. trainees.

RESULTS

PROFILE OF B.ED. TRAINEES

The profile of B.Ed. trainees is disclosed in Table-1.

Table-1. Profile of B.Ed. Trainees

Profile	Frequency	%
Gender		
Male	435	45.66
Female	515	54.34
Subject Group		
Arts	360	36.30
Science	590	63.70
Location of College		
Urban	544	56.65
Rural	406	43.35
Medium of Instruction		
Tamil	354	41.64
English	596	58.36
Residential Area		
Urban	616	61.15
Rural	334	38.85

The findings revealed that 54.34% of the B.Ed. trainees are female, while 45.66% are male. With regard to subject group, 63.70% belong to the science stream, whereas 36.30% are from the arts stream.

The results further showed that 56.65% of the trainees are studying in colleges situated in urban areas, while 43.35% are in rural colleges. In terms of medium of instruction, 58.36% are enrolled in English medium, whereas 41.64% are in Tamil medium. Additionally, 61.15% of the trainees reside in urban areas, while 38.85% come from rural areas.

PROFILE OF B.ED. TRAINEES AND E-PEDAGOGY KNOWLEDGE

The difference amid profile of B.Ed. trainees and their e-pedagogy knowledge is disclosed as below.

Gender and E-Pedagogy Knowledge

The difference amid gender of B.Ed. trainees and their e-pedagogy knowledge is disclosed in Table-2.

Table-2. Gender and E-Pedagogy Knowledge

Gender	N	Mean	SD	t-value	Level of Significance
Male	435	36.52	5.61	3.91	0.01
Female	515	29.96	5.42		

Male B.Ed. trainees (Mean=36.52) are having higher degree of e-Pedagogy Knowledge than Female B.Ed. trainees (Mean=29.96). The t- value of 3.91 demonstrates that significant difference is found amid gender of B.Ed. trainees and their e-pedagogy knowledge.

Subject Group and E-Pedagogy Knowledge

The difference amid subject group of B.Ed. trainees and their e-pedagogy knowledge is disclosed in Table-3.

Table-3. Subject Group and E-Pedagogy Knowledge

Subject Group	N	Mean	SD	t-value	Level of Significance
Arts	360	33.52	5.31	2.65	0.01
Science	590	30.21	5.52		

B.Ed. trainees in Arts Group (Mean=33.52) are having higher degree of e-Pedagogy Knowledge than Science Group (Mean=30.21). The t-value of 2.65 demonstrates that significant difference is found amid subject group of B.Ed. trainees and their e-pedagogy knowledge.

Location of College and E-Pedagogy Knowledge

The difference amid location of college of B.Ed. trainees and their e-pedagogy knowledge is disclosed in Table-5.

Table-5. Location of College and E-Pedagogy Knowledge

Location of College	N	Mean	SD	t-value	Level of Significance
Urban	544	35.61	5.24	3.47	0.01
Rural	406	30.42	5.63		

B.Ed. trainees studying in Urban colleges (Mean=35.61) are having higher degree of e-Pedagogy Knowledge than B.Ed. trainees studying in Rural colleges (Mean=30.42). The t-value of 3.47 demonstrates that significant difference is found amid location of college of B.Ed. trainees and their e-pedagogy knowledge.

Medium of Instruction and E-Pedagogy Knowledge

The difference amid medium of instruction of B.Ed. trainees and their e-pedagogy knowledge is disclosed in Table-6.

Table-6. Medium of Instruction and E-Pedagogy Knowledge

Medium of Instruction	N	Mean	SD	t-value	Level of Significance
Tamil	354	36.79	5.67	3.01	0.01
English	596	33.35	5.32		

B.Ed. trainees studying in Tamil Medium (Mean=33.89) are having higher degree of e-Pedagogy Knowledge than B.Ed. trainees studying in English Medium (Mean=32.27). The t-value of 4.496 demonstrates that significant difference is found amid medium of instruction of B.Ed. trainees and their e-pedagogy knowledge.

Residential Area and E-Pedagogy Knowledge

The difference amid residential area of B.Ed. trainees and their e-pedagogy knowledge is disclosed in Table-7.

Table-7. Residential Area and E-Pedagogy Knowledge

Medium of Instruction	N	Mean	SD	t-value	Level of Significance
Urban	616	35.25	5.57	3.65	0.01
Rural	334	31.47	5.64		

B.Ed. trainees residing in Urban (Mean=35.25) are having higher degree of e-Pedagogy Knowledge than Rural areas (Mean=31.47). The t-value of 3.65 demonstrates that significant difference is found amid Residential area of college of B.Ed. trainees and their e-pedagogy knowledge.

RELATION AMID E-PEDAGOGY KNOWLEDGE AND ATTITUDE TOWARDS DIGITAL LEARNING AMONG B.ED. TRAINEES

The relation amid e-pedagogy knowledge and attitude towards digital learning among of B.Ed. trainees was studied by employing correlation analysis and the result is disclosed in Table-8.

Table-8. e-Pedagogy Knowledge and Attitude towards Digital Learning among of B.Ed. Trainees

Particulars	Correlation Coefficient
e-Pedagogy Knowledge and Attitude towards Digital Learning among of B.Ed. Trainees	0.513**

** Significance in 1% level

The coefficient of correlation amid e-pedagogy knowledge and attitude towards digital learning among of B.Ed. trainees is 0.513 and it clarifies that they have significant, positive and substantial relation among them.

CONCLUSION

The findings of the study indicate that there is a significant difference between the profile characteristics of B.Ed. trainees and their e-pedagogical knowledge. It is also observed that e-pedagogical knowledge has a significant, positive, and strong relationship with the attitude towards digital learning among B.Ed. trainees.

Hence, B.Ed. trainees need to enhance their use of various techno-pedagogical approaches in both learning and teaching, and develop greater proficiency in utilizing diverse educational technologies. They should also engage in regular interactions and discussions with faculty members and peers to strengthen their e-pedagogical knowledge. Such efforts will help improve their attitude towards digital learning and increase the effectiveness of teaching and learning processes.

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