TPM Vol. 32, No. S1, 2025
ISSN: 1972-6325
https://www.tpmap.org/

RELATIONSHIP BETWEEN DIGITAL SELF-EFFICACY AND DIGITAL COMPETENCY AMONG PROSPECTIVE TEACHERS

G. MAHALAKSHMI[1], Dr. S. KOMALAVALLI[2]

[1]PH.D. RESEARCH SCHOLAR, LADY WILLINGDON INSTITUTE OF ADVANCED STUDY IN EDUCATION, CHENNAI - 600 005.
[2]ASSOCIATE PROFESSOR OF EDUCATION TAMIL, LADY WILLINGDON INSTITUTE OF ADVANCED STUDY IN EDUCATION, CHENNAI – 600 005.

Abstract
The main purpose is to examine the relationship between digital self-efficacy and digital competency of prospective teachers studying in Colleges of Education situated at Chennai District. Sample of the study comprises of 250 prospective teachers studying in both B.Ed. First year and Second year. Normative survey method is employed for this study. Stratified Random Sampling method is used to identify the sample.Digital Self-efficacy scale developed by Hughes, J.E. (2013) and Digital Competency Scale constructed by Ergul, D.Y., & Tasar, M.F.(2023)is used to assess the variables. Pearson Product Moment correlation and 't' test was used to analyze the data.
Results revealed that prospective teachers have low level of digital self-efficacy and moderate level of digital competency. Also, significant relationship exists between digital self-efficacy and digital competency ofprospective teachers. Female prospective teachers have more digital self-efficacy and high digital competencywhen compared to male prospective teachers.
Keywords: Digital Self-efficacy, Digital Competency, Gender, Prospective Teachers

1. INTRODUCTION

The necessity of digital competency among teachers has become increasingly vital in the context of modern education, where technology plays a central role in teaching and learning processes. Digital competency helps teachers stay relevant in a rapidly evolving educational landscape. With the continuous advancement of technology, teachers must update their skills to effectively use emerging tools and platforms. In the context of teacher education, the interplay between digital self-efficacy and digital competency equips prospective teachers to design inclusive, learner-centered environments and meet the demands of 21st-century classrooms. Thus, both constructs are indispensable for empowering educators and learners to thrive in an increasingly digital world.

2. REVIEW OF RELATED LITERATURE

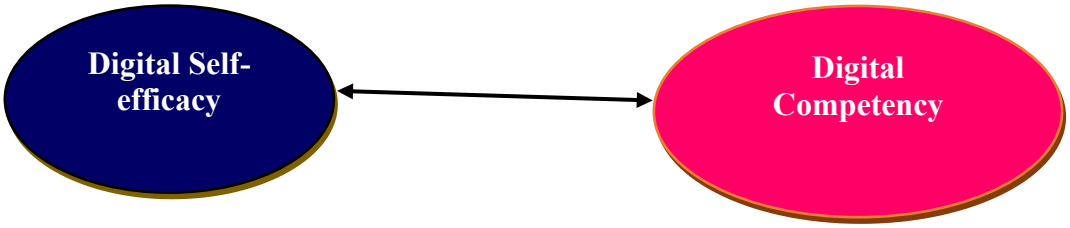
Jyoti (2024) explored the digital competency level and its relation with the teaching competency of pupil teachers. The paper focused on the second-year student teachers as they have implemented their digital knowledge in the various schools during their internship. Purposive sampling technique was used, only the pupil teachers of different education colleges of Delhi were selected for the study. A total of 212 pupil teachers gave their response through the google form for the questionnaire constructed by the investigator. Results indicated that pupil teachers have high level of digital competence, on the other hand their teaching competence and self-efficacy is of average level. There was no significant difference of digital competence on the basis of type of college but student teachers studying in private colleges of education excel in digital self-efficacy than government college student teachers. Also, digital competence of pupil teachers was positively correlated with self-efficacy.
Kumar and Sharma (2024) examined the effectiveness of 200 teachers from secondary schools, ensuring equal representation with 100 teachers from government schools and 100 from private schools. The data was collected using the Teacher Effectiveness Scale by Umme Kulsum, the Digital Competence Scale by Shipra Shrivastava and Kiran Lata Dangwal and the Teacher Self-efficacy Scale by N. Ashraf and S. Jamal. The result of the study showed that teacher effectiveness wa positively related to digital competence. It was also found that self-efficacy was significantly associated with the effectiveness of teachers in secondary schools. Further digital competence among teachers was found to be a stronger predictor of teacher effectiveness as compared to self-efficacy.

3. NEED AND SIGNIFICANCE OF THE STUDY

After reviewing many studies related to digital competence and digital self-efficacy, the researcher found that only few studies are conducted in India to find the relation between the digital competency and digital self-efficacy of the pupil teachers. Prospective teachers are the base of any education system because they are the future teachers and the curriculum taught in the education colleges effect the quality of the education system of any country. In the era of digitalization digital competency is required for any teacher to teach through innovativeness, and they should have self-efficacy to be competent in any area. This study will help the different stakeholders related to teacher education to bring the required changes in the curriculum and methodology for improvement. The study can provide a base to teacher educators to bring necessary changes in their methodologies so that pupil teachers can explore different ideas and make efforts to make themselves competent in technology integrated classrooms.
Hence,the present study is a viable and sincere effort made by the investigator to study the digital self-efficacy in relation to digital competency of prospective teachers studying in colleges of Education in Chennai District.

4. CONCEPTUAL FRAMEWORK OF THE STUDY

Several studies have shown a significant relationship between digital self-efficacy and digital competency of prospective teachers. Prospective teachers with high levels of digital self-efficacy are more likely to engage actively with technology, experiment with innovative teaching methods, and persist in overcoming technical challenges. This confidence facilitates the development of digital competencies such as information literacy, communication, content creation, and problem-solving. Conversely, as prospective teachers acquire and refine digital competencies through training and practice, their self-efficacy is strengthened through successful experiences and mastery. Thus, the relationship is cyclical: self-efficacy promotes competency development, while competency enhances self-efficacy. This dynamic interplay is crucial in preparing future teachers to integrate technology effectively in classrooms and adapt to the evolving demands of digital education. The conceptual framework of this study is depicted as below.



STATEMENT OF THE PROBLEM

Digital self-efficacy and digital competency are deeply interconnected, with the former acting as a psychological foundation for the development of the latter. The interconnection between the two lies in a reciprocal relationship. When prospective teachers possess high digital self-efficacy, they are more willing to explore new technologies, take risks in learning unfamiliar tools, and persist despite difficulties. This proactive engagement leads to the gradual acquisition of digital competencies such as information management, communication, collaboration, and content creation. At the same time, as individuals gain hands-on experience and mastery in using digital tools, their confidence grows, thereby strengthening their self-efficacy. Thus, digital self-efficacy acts as both a precursor and an outcome of digital competency.
The importance of digital self-efficacy in becoming digitally competent cannot be overstated. It influences motivation, learning behavior, and adaptability. Prospective teachers with strong self-efficacy are more likely to integrate technology into their teaching practices, adopt innovative pedagogies, and respond effectively to the demands of digital learning environments. In contrast, low digital self-efficacy may lead to hesitation, avoidance of technology, and limited skill development, thereby hindering digital competency. Both together form a crucial combination for successful teaching and learning in the digital age.
In the present study, the researcher is interested in studying the two different aspects of technology integrated teaching namely, digital self-efficacy and digital competency of prospective teachers studying in colleges of Education situated in Chennai District. The researcher will study all the aspects and the relationship with each other so as to see the impact of the chosen variables in the present context. Hence the statement of the problem is titled as "**Relationship Between Digital Self-Efficacy and Digital Competency Among Prospective Teachers.**"

OPERATIONAL DEFINITIONS

Digital self-efficacy is referred to as the prospective teachers' belief in their ability to effectively use digital tools during their teaching.
Digital competency refers to the knowledge and skills required to use digital technologies efficiently,

responsibly, and creatively.
Prospective teachers are those who are pursuing two-year B.Ed. Programme in colleges of Education.

RESEARCH QUESTIONS
- What is the level of prospective teachers in digital self-efficacy and digital competency?
- Is there any significant relationship between digital self-efficacy and digital competency of prospective teachers?
- Is there any difference in the digital self-efficacy and digital competency of prospective teachers with respect to gender?

5. METHODOLOGY

This is a descriptive study and survey method is employed. The respondents for the study were 250 prospective teachers studying in colleges of Education situated at Chennai District. Stratified Random sampling technique was used for data collection.

INSTRUMENTATION
Digital Self-efficacy scale developed by Hughes, J.E. (2013) and Digital Competency Scale constructed by Ergul, D.Y., & Tasar, M.F.(2023)was used to assess the research variables.

DATA ANALYSIS AND INTERPRETATION
Data collected from the respondents were subjected to appropriate statistical analysis to draw up inferences from it. Pearson product moment correlation and 't' test was used for data analyses.

Research Question 1: What is the level of prospective teachers in digital self-efficacy and digital competency?

Table 1

Variables	Low	%	Moderate	%	High	%
Digital Self-Efficacy	110	44	83	33	57	23
Digital Competency	75	30	109	44	66	26

It is inferred that a greater number of prospective teachers have low level of digital self-efficacy and moderate level of digital competency. This may be due to lack of confidence in using technology and should develop passion towards teaching by integrating technology which is the need of the hour.

Research Question 2: Is there any significant relationship between digital self-efficacy and digital competency of prospective teachers?

Table 2. Pearson's Product Moment correlation co-efficient between digital self-efficacy and digital competency of prospective teachers

Variables	Digital Self-Efficacy	Digital Competency
Digital Self-Efficacy	1	0.638**
Digital Competency	x	1

**Correlation is significant at 0.01 level
From the obtained 'r' value, significant and positive relationship between digital self-efficacy and digital competency was found among prospective teachers. This implies that higher the digital self-efficacy, higher the digital competency of prospective teachers.

Research Question 3: Is there any difference in the digital self-efficacy and digital competency of prospective teachers with respect to gender?

Table 3. Showing the mean difference between male and female prospective teachers in digital self-efficacy and digital competency

Variables	Gender				t value	P value
	Male (N=59)		Female (N=191)			
	Mean	S.D.	Mean	S.D.		
Digital Self-Efficacy	52.08	3.682	54.21	2.927	3.287	0.003**

Digital Competency	65.25	10.589	67.37	9.527	2.628	0.010**

**Significant at 0.01 level

It is evident from the 't' values presented in the above table that there is significant difference in digital self-efficacy and digital competency between male and female prospective teachers significant at 0.01 level. From the mean values, it is concluded that female prospective teachers have more digital self-efficacy and highly competent in digital technology when compared to male prospective teachers. This may be because of the tendency that females put more hard work in learning things and try to excel in all endeavours than male prospective teachers.

CONCLUSION

From the findings, it is understood that both digital self-efficacy and digital competency go hand in hand and both are very much essential for prospective teachers to face challenges in the future classrooms. Improving digital competency is a continuous and evolving process that requires consistent effort, exposure, and support. By combining technical training with confidence-building strategies, prospective teachers can become effective and innovative users of digital technology in education.

Therefore, fostering both digital self-efficacy and digital competency among prospective teachers is essential for promoting innovative teaching practices, enhancing student engagement, and ensuring adaptability in an ever-evolving digital landscape. Ultimately, equipping future educators with these competencies will enable them to function effectively, responsibly, and creatively in technology-rich classrooms.