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Teacher Readiness for Digital Teaching among Prospective Teachers

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ABSTRACT

With the swift incorporation of digital technologies in education, there is a pressing need for teachers to be adequately equipped to effectively use digital technologies in teaching-learning. This current study sought to determine the extent to which prospective teachers were ready for digital teaching and whether there were any significant differences between them in terms of institution types and subject streams. The survey approach was employed, and the sample comprised 100 prospective teachers drawn from government and unaided colleges of teacher education in Thrissur district. Data were gathered using the self-designed Teacher Readiness for Digital Teaching Scale. The results indicated that the prospective teachers had a moderate degree of readiness for digital teaching (M= 26.60, SD= 2.66), with 62% having a moderate level of readiness. There were significant differences in teacher readiness regarding institutions (p=0.038), while no significant difference existed based on subject streams (p=0.970).

Introduction

Rapid development in digital technologies is changing the nature of education and moving from traditional teacher-centered approaches towards more advanced and interactive methods of teaching based on technologies and innovations. Utilization of different digital devices and software, use of web-based platforms, development of virtual classrooms, and artificial intelligence applications have become indispensable parts of modern education systems. Moreover, the outbreak of the COVID-19 pandemic

has intensified the transition to digital teaching and has forced most educational institutions around the world to use digital technologies. Thus, today's teachers not only should have subject content and pedagogical skills but also should be proficient enough in using digital technologies for teaching and learning processes.

Readiness of teachers for digital teaching involves the ability of teachers to use digital technologies in relation to their technological skills and knowledge, pedagogical skills and attitudes, self-efficacy, and the willingness to use digital tools for instructional purposes. As prospective teachers will become teachers in the near future, it is important to prepare them well for this challenge since educational institutions that train future teachers have great importance in this context.

From the review of related literature, it can be observed that teacher digital readiness has become an important field within education-related research. Previous findings show that the digital competence, technology acceptance and self-efficacy of teachers considerably affect their efficiency in applying digital teaching methods. Researchers have indicated the impact of institutional assistance, training and the provision of technological tools on the readiness of teachers to apply digital teaching methods. It is worth noting that, although many studies have investigated the issue of teacher readiness to apply digital methods among practicing teachers, few studies have looked at this issue among future teachers. The current research aims at investigating the degree of readiness of teachers to use digital teaching methods among future teachers. The results of the research will prove useful in understanding the degree of readiness of future teachers and improving the teacher education programs.

Need and Significance of the study

With the fast-paced development of technologies and their widespread adoption in educational activities, the process of education at various levels of learning has been completely redefined. The lessons learned in terms of digital teaching competencies for educators from the experience of teaching and learning during and after the coronavirus pandemic have shown how much such competencies matter today. Future teachers as educators are required to be knowledgeable, skilled, attitude-oriented, and confident in applying the principles of digital teaching to the teaching and learning process. Hence, the evaluation of the readiness of prospective teachers for using digital tools becomes vital since it is necessary to guarantee their successful inclusion into the technology-based teaching and learning process. This study is meaningful since it will help determine the readiness of prospective teachers for meeting the needs of modern teaching and learning and show how teacher preparation programs need to be changed to enhance digital skills of educators. It is possible to say that the findings of the research can provide valuable insights for designing interventions, training sessions, and even revisions of the curriculums for

prospective teachers. Additionally, it may also be helpful in successfully implementing national education policies on digital learning and technologies.

Objectives

The main objectives of the study are

- To assess the Teacher Readiness for Digital teaching of Prospective Teachers
- To compare the Teacher Readiness for Digital teaching of Prospective Teachers with respect to
  i. Institution type
  ii. Subject stream

Methodology

Survey method has been adopted and all the Prospective Teachers (who have completed or are doing their school internship) from College of teacher education in Thrissur district were the population of this study. Out of this 100 Prospective Teachers (50 Prospective Teachers from Government and the remaining from Unaided) were selected for this study. A self-made Scale of Teacher Readiness for Digital teaching test was used as tools for data collection. Attitude scale consisted of 35 statements in which 20 statements are favorable and 15 are unfavorable. The scale has 5 points having the responses 'Agree', 'Neutral', 'Disagree'.

Results and Discussions

The resulting data were analysed objective wise by using appropriate statistical treatment.

Table 1

Mean and Standard deviation of Teacher Readiness for Digital teaching among Prospective Teachers

Variable	N	Mean	SD	M + SD	M - SD
Teacher Readiness for Digital teaching	100	26.6	2.66	29.26	23.94

For this, the total sample has been classified into three groups: high, moderate and low with respect to the scores of Teacher Readiness for Digital teaching.The quantities M + SD and M –SD were calculated and the obtained values are 29.26 and 23.94, respectively. Hence, those who scored above M + SD (29.26) were considered under high group, those who scored below M – SD (23.94) were considered under low

group and those who scored between M + SD (29.26) and M – SD (23.94) were classified under moderate group.

Table 2

Percentage distribution of Level of Teacher Readiness for Digital teaching among Prospective Teachers

Level	No. of Students	Percentage (%)
High	28	28
Moderate	62	62
Low	10	10
Total	100	100

It is noted that 28% of Prospective Teachers possess high level of Teacher Readiness for Digital teaching while 62% possess moderate level and 10% possess low level of Teacher Readiness for Digital teaching among Prospective Teachers. This shows that majority (62%) Prospective Teachers possess high level of Teacher Readiness for Digital teaching. Hence Prospective Teachers have moderate level of Teacher Readiness for Digital teaching (M=26.6, SD=2.66).

Figure 1

Graphical Representation of Level of Teacher Readiness for Digital teaching among Prospective Teachers

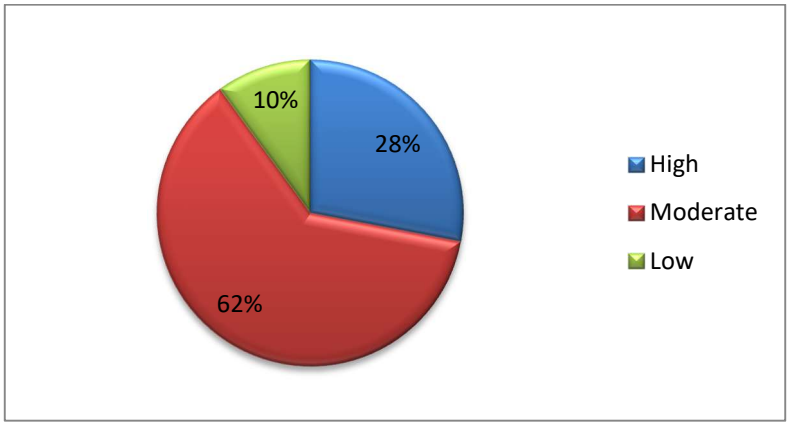


Table 3

Comparison of Teacher Readiness for Digital teaching among Prospective Teachers towards based on their type of institution

Variable	Type of institution	N	Mean	SD	p	Remarks
Teacher Readiness for Digital teaching	Government	50	26.0	2.20	0.038	Significant
	Unaided	50	27.1	2.96		

It is found from table 3 that mean and standard deviation of Prospective Teachers from Government College are 26.0 and 2.20 respectively. Similarly the same for Prospective Teachers from Unaided College are 27.1 and 2.96 respectively. The obtained p value is 0.038 (<0.05), which indicate there exist significant difference between Teacher Readiness for Digital teaching of Prospective Teachers with respect to their institution type.

Figure 2

Graphical Representation of Mean score of Teacher Readiness for Digital teaching among Prospective Teachers

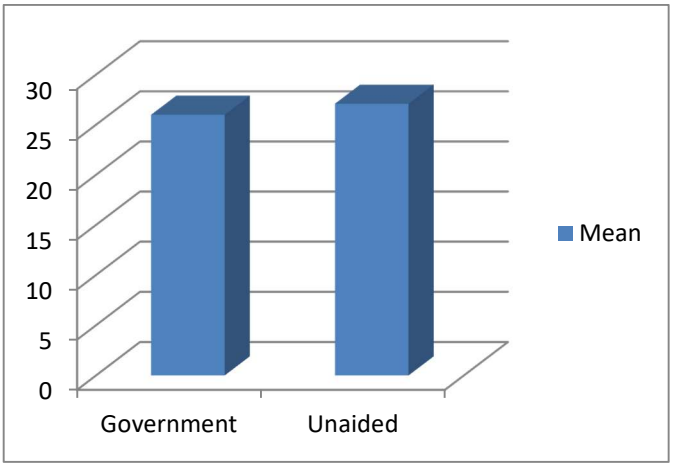


Table 4

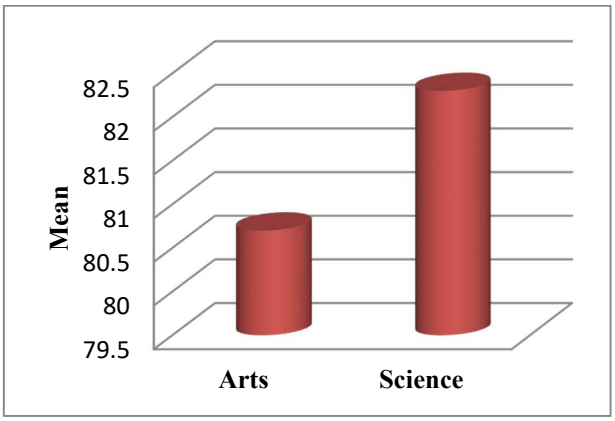
Comparison of Teacher Readiness for Digital teaching among Prospective Teachers based on their subject stream

Variable	Subject stream	N	Mean	SD	p	Remarks
Teacher Readiness for Digital teaching	Arts	50	26.6	2.49	0.970	Not significant
	Science	50	26.6	2.84		

Table 4 shows that there is no significant difference between Teacher Readiness for Digital teaching of Arts (M= 26.6, SD=2.49) and Science (M=26.6, SD=2.84) Prospective Teachers' as the p value 0.970(>0.05)

Figure 3

Graphical Representation of Mean score of Teacher Readiness for Digital teaching of Arts and Science Prospective Teachers



Conclusion

In the current study, the degree of Teacher Readiness for Digital Teaching among prospective teachers was studied. It was investigated whether there were any significant differences based on the types of institutions and streams of subjects taught by these prospective teachers. It turned out that the prospective teachers had medium readiness for digital teaching, meaning that these prospective teachers had achieved some fundamental knowledge regarding digital teaching techniques but were in need of developing these skills even further so as to meet modern needs of teaching with the use of digital means.

Another significant outcome of this study was that there was a significant difference in Teacher Readiness for Digital Teaching with regard to the type of institution. This result indicates the possible influence of many factors at different institutions, such as infrastructure, availability of facilities, quality of training provided, technological and other kinds of assistance to these students, as well as chances for practice, etc., all of which are crucially important in terms of preparing these future teachers to the new teaching environment in terms of digital tools used by these teachers.

In contrast, there was no significant difference in Teacher Readiness for Digital Teaching with regard to subject streams. This finding signifies that prospective teachers from varying specializations

have the same level of readiness when it comes to the use of digital technologies in teaching and learning. In other words, digital teaching competencies are equally important in all subjects, and thus the demand for these skills is rising irrespective of one's field of specialization. As such, it is important to acknowledge that the present study highlights the significance of encouraging the readiness of prospective teachers for using digital technologies in teaching. Specifically, teacher education programs should aim at developing digital pedagogical competency among their learners. In this way, future teachers would be more prepared to work in a technology-enabled learning environment and adopt novel teaching approaches. Institutional support plays a key role in this context.

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