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Technological Competency in Teaching of Student Teachers for Best Practices in Online Teaching

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Abstract

Education and technology are two important basic elements in making one's life more efficient. In the 21st Century, more and more learners are expected to use technology to access and communicate information. The integration of technology in teacher education help to gain confidence in student teachers. This is important to ensure success throughout the education and also in future profession. The purpose of the study to investigate the technological competencies of student teachers in effective online teaching. The sample of the study included 92 B.Ed. student teachers studying in colleges of teacher education in University of Kerala. Qualitative survey design was adopted. The method used was Survey method. The data was analysed qualitatively. Question wise Percentage analysis conducted. This study was analysed to ascertain the technological competencies in online teaching of student teachers. The study revealed that technological competency helped a lot to the student teachers in effective transaction of content in online teaching. They also adopted innovative performances and web applications for making class more effective. In the 21st century the teaching learning model has changed and the selection of teacher candidates is also based on the capability in the usage of technological tools and software in online and offline classes.

Keywords: Technological competency, Student Teacher, Qualitative method, Survey

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INTRODUCTION

The very purpose of educational technology is to facilitate and improve the quality of human learning. For solving the varied problems of education successfully, educational technology consisting of various media of mass communication, suitable child learning processes, and modern testing and evaluation techniques are essential. Especially in developing countries like India, it has to be mastered and utilized by educationists if they are to keep pace with each other and catch up with the developed nations. As such both quantitative expansion and qualitative improvement of education can be facilitated and accelerated with the help of educational technology. Today, technology of education is being developed with the aim not only of making education more widely available, but also of improving the quality of education which is already available. Educational technology is concerned with providing appropriately designed learning situations, which hold in view the objectives of teaching. It modifies the learner's environment through the varied techniques of presentation, arrangement of learning activities and organization of social and physical surroundings. Technology is spreading into schools, opening up diverse opportunities for both students and teachers. But merely being equipped with digital technology does not mean that students and teachers are able to use it effectively for learning and teaching (Considine, Horton, & Moorman, 2009). For that to happen, students and teachers need basic digital skills, i.e. skills to understand, evaluate and communicate with digital technology in daily routines (Ferrari, 2012; Fraillon, Ainley, Schulz, & Friedman, 2014; KMK, 2016; Krumsvik, 2011). Beyond basic digital skills, certain types of knowledge related to digital technology, instruction, and teaching content are assumed to be necessary for teachers when teaching with technology (Mishra & Koehler, 2006).

Today‘s world is a world of information explosion. This information explosion is taking place in such a fast speed that even a literate person is feeling as if he or she is illiterate being not

able to cope up with such an information explosion. It spans a wide variety of areas that include but are not limited to things such as processes, computer software, computer hardware, Programming Languages and data constructs. In short, anything that renders data, information or perceived knowledge in any visual format whatsoever, via any multimedia distribution mechanism, is considered part of the domains space known as Information Technology.

Technological competence is the ability to create and use a particular field of technology effectively, which is gained through extensive experimentation and learning in its research, development and employment in production (Fai & von Tunzelmann, 2001).

The COVID-19 pandemic significantly shifted education from traditional to an online version, which was an emergent state for teachers and students. The substantive situation thus raises the importance of technology integration in education, and teachers are required to update their competencies, respectively. Moreover, the effective integration of ICT is essential in systematizing an efficient online educational program. The successful application of ICT not only contributes to learners' satisfaction but also helps individuals to acquire their desired outcomes (Cervero et al., 2020). It is, therefore, essential to develop competencies in teachers to use ICT effectively in their pedagogical practices by organizing professional development programs (Guillén-Gámez et al., 2020).

NEED AND SIGHNIFICANCE OF THE STUDY

Mustafa Meral and Caner Akuner conducted a research on the Competencies of Teachers' use of Technology in Learning and Teaching Processes. This research has been done on how the teachers will use technology in teaching-learning processes. Teachers' use of educational technologies in teaching-learning processes has caused alteration in teaching qualification and teacher role. Technology has enabled students to learn in more different dimensions by removing time-place limitations in teaching and learning. Teachers have not only been the source of information as in traditional education methods, but also advisors, counselors and pathfinders who guide students to information and redirect them at reaching information. Using technology in education can be possible via its integration to teaching-learning processes, so teachers use technology in arranging teaching-learning processes. Utilized technology is selected harmoniously for education purposes and environments. Technology must be such as to supply teaching-learning process, not a basis model, and must be eligible to be integrated into teaching-learning processes.

Masry-Herzalah, A.,& Dor-Haim, P. (2021) conducted a study on teachers' technological competence and success in online teaching during the covid-19 crisis: the moderating role of resistance to change. The present study aims to examine the relationship between Israeli teachers' technological competence and their success in online teaching during the covid-19 crisis. The study is based on 383 teachers' who responded to a questionnaire about a month and a half after the transition to online teaching due to the covid-19 crisis. The study revealed a significant, positive relationship between technological competence and success in online teaching. Further, the study found that resistance to change among teachers played a key role in teaching success, such that it moderated the association between technological competency and online teaching success. Theoretical and practical implications are suggested. The present study contributes to both theory and practice with regard to the matter of successful online teaching among teachers. The study introduces vital factors – specifically, resistance to change and technological competence – which may predict successful online teaching in schools during times of crisis.

Integration of technology in teacher education is important to ensure success throughout education and also the future profession. During the Covid 19 pandemic situation also realised the necessity of technology and online teaching. Teachers and the student teachers should be well versed in technology for coping with the changes that may emerge in the future.

OBJEVTIVES OF THE STUDY

The following are the objectives of the Study:

1. To find out the relevance of technology for student teachers.
2. To find out the perception of student teachers towards online teaching.
3. To find out the influence of technological competency in student teachers for making effective online teaching.

METHODOLOGY

In the present study the investigator employed qualitative survey design of research. The objectives of the study were to find out technological competencies in student teachers for making effective online teaching. The data required for the study collected from the sample of 52 B.Ed. student teachers from University of Kerala. The data for the study has been obtained using the tool Technological competence Scale. It consists of 15 items with three point scale.(Always, Sometimes, Never)

ANALYSIS AND INTERPRETATION

Analysis includes the item wise analysis and the findings were derived from percentage analysis of each items with respect to 52 student teachers.

Table-1

Sl. No.	Items	A (%)	S (%)	N (%)
1	I prefer online classes with different technological tools than the traditional teaching method	14	76	10
2	I prefer traditional mode of teaching	19	69	12
3	I have confidence in taking online classes with the help of technology	81	14	5
4	Technological awareness gives confidence	83	17	-
5	Technological competency helps me in making students interested in online classes	71	29	-
6	I am good at the online evaluation techniques	38	57	5
7	I use technology in online class	76	24	-
8	I prepare lessons with the help of ICT	45	55	-
9	I collect many e-resources for my teaching	57	43	-
10	I easily incorporate ICT's in teaching	41	57	2
11	I easily select audio visual aids as per the content	71	29	-
12	I prepare PPT for my teaching	64	36	-
13	I select technology according to the objectives	67	33	-
14	I use many web applications for my online teaching	33	62	5
15	I take online classes more effectively with the help of technology	76	24	-

Majority of student teachers (76%) expressed equal preference to both traditional and online teaching with different technological tools. Only 14% students showed interest only on online teaching. 10% teacher trainees preferred only traditional method of teaching. This indicates that student teachers are preferring both online and offline teaching.

Most of the teacher trainees (81%) have confidence in taking online classes with the help of different tools. Only 14% student teachers expressed poor confidence with online classes. 5% students have no confidence in online teaching. This reveals that lack of awareness in technology is the root cause of the lack of confidence and this necessitates a good training related with this.

Majority of prospective teachers (83%) have opinion that awareness and training in technology usage is needed and it gives them appropriate, stress free environment in online teaching. Only 17% of teacher trainees opined confidence is not related with awareness in technology.

Many student teachers (71%) suggested that their competency in technology help them in making the online class more interesting. They showed that technology integration helps best practices in online teaching. 29% of teacher trainees was against this opinion that for making the class always interesting, there is no need of technological competency.

57% of student teachers are not fully competent in online evaluation techniques. 38% of student teachers are familiar with online evaluation techniques and 5% have no knowledge about the online evaluation techniques. This necessitates a quality training programme for the student teachers in the B.Ed. curriculum itself.

Majority of teacher trainees (76%) uses technology and other softwares for online teaching. But 24% of student teachers rarely uses technology. 55% of student teachers gives no importance to ICT in the preparation of lesson plans, but 45% always preferred ICT integration in lesson preparation. This indicates that information and communication technology is the need of hour.

57% of student teachers collect many e-resources for their teaching. 43% were not interested in adopting e-resources in their online teaching. 57% have no interest in integrating ICT in teaching. 41% of student teachers have more interest in searching for e-resources and also shows preference to ICT integration in class room practices. 2% of student teachers have difficulty in integrating ICT in teaching. This reveals that the skill and competency in technology contribute in the integration of ICT in class room practices.

Most of the students (71%) can easily select and use audio visual aids as per the content. 29% of students show less interest in including audio visual aids in the class room practices. 64% of students frequently using power point presentations for their online teaching. 36% of them rarely uses PPT in online teaching. Majority of student teachers (67%) have capability in selecting technology as per the objectives set by them. 33% students have no competency in choosing tools and techniques for lesson preparation.

Most of the teachers trainees (62%) are not using web applications for online teaching. But 33% have interest in many applications for making the online classes effective. 5% students are not using apps for online classes. 76% of student teachers have confidence in online teaching and they suggested that use of technology make class more effective. But 24% have no confidence in taking online classes. This indicates that technology competency is very important in online teaching and this ensures confidence in student teachers.

FINDINGS, DISCUSSION AND CONCLUSION

Majority of student teachers suggested the need of both traditional and most modern teaching methods. From the responses it can be concluded that awareness about technological tools and its applications in the class make class more interesting and effective. So a teacher with technological competency can handle the class most effective way. In the pre service education itself the student teachers have to familiarize with technology and its applications so as to compete with the demands of the society. Teachers are expected to adapt the educational setting to the needs and capabilities of the individual pupils. Powerful learning environments foster optimal learning processes. In order to become a confident user of ICT in the classroom, teachers need to take part in ongoing training. Teachers should understand the benefits of digital literacy. Training in ICT needs to be recognised as essential for teaching such skills, and as an enabler of other teaching and learning practices.

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