

Attitude of Teacher-trainees towards ICT and Willingness to Adopt ICT in Pedagogy

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Abstract

Teacher education program plays a critical role to provide leadership in adopting preservice as well as inservice teacher education to fulfill the current demands of economy and society. To enhance teaching-learning there is a need to model the new pedagogies and tools of learning. Moreover, the teacher-training program should guide to determine how to use new technologies effectively in the context of needs, economic conditions, and culture of the society. In this paper, the investigator tried to measure the attitude of teacher trainees towards ICT and based on the result tried to interpret that they might be willing to adopt ICT in pedagogy. A sample of 300 teacher trainees from the Patna district has been selected randomly to explore the findings using an attitude scale. The result of the study indicates that most of the teacher-trainees possessed a favorable attitude towards ICT, hence they might be willing to adopt ICT in pedagogy.

Keywords: Teacher-trainee, Attitude, ICT

Introduction

Information and communication technology plays a vital role in not only enhancing teachers' instruction and students' learning but also catalyzing improved access to quality education informal as well as non-formal settings of education. Recognizing the impact of technologies on the workplace as well as everyday life, teacher education institutions are also trying to restructure their education programs. To utilize the potentials of ICT to improve the productivity of teacher education, Teacher Education Institutions (TEIs) are modifying their classroom facilities. Information and communication technology as tools within the institutional environment includes not only the use for administration and management but it is successfully used for enhancing the presentation of classroom work, intellectual learning, thinking and problem-solving skills, stimulating creativity and imagination. ICT is widely being used as an instructional tool and communication tool by teachers and means to gather information and presentations by the students.

Information and communications technologies are the hardware and software that enable data to be processed digitally, to be stored, and to be communicated. ICT is important for us in several ways, it can be used to present, access, process, and manage information and model. ICT can control events and communicate with others and construct new understanding also. These are computer-based tools used by people to work with the information and communication processing needs of an organization. Its purview covers computer hardware and software, the network, and other digital devices like video, audio, camera, and so on, which convert information (text, sound, motion, etc.) into digital form. Nowadays we have become very familiar with ICT devices, and it has become a very important part of our lives. It provides us with appropriate information at need. The lack of appropriate information may lead to low productivity, waste of time, and low-quality research works. With the help of ICT, we can get connected with our family, relatives, or friends even if we are abroad. We can use electronic mail, messenger, call conference, or video conference to relate to them. Even we can read our local newspaper using the online newspaper. Our concept of the economy has now be changed to

an economy with no boundary of time and space due to ICT. Digital computers and networking have changed all these things. ICT has the potential to improve the quality of human life as it can be used as a learning and communication medium and can campaign important issues related to health and social area. By enhancing the effectiveness of learning, motivating students to learn, and engaging them in collaborative learning, ICT can add value in pedagogy. It can add a new dimension to learning that is not previously available.

ICT is an interdisciplinary domain that focuses on providing students with the tools that can be used to transform their learning and to enrich their learning environment. The behaviors, knowledge, and skills identified for this domain enable students to develop thinking, learning as well as skills that produce innovative insights and creativity among them. ICT can be used to develop productive ways to solve problems and to work individually and collaboratively. With the help of ICT, the learners can create information that demonstrates their understanding of concepts, processes, issues, and relationships. They can express themselves in socially relevant and contemporary ways, communicate at the local and global level to solve problems, share their knowledge, and understand their social and ethical responsibilities in the use of ICT. Studies have established close links between teachers' attitude and their use of ICT. More positive attitudes towards the computer were associated with a higher level of computer experience. Students' confidence in the use of ICT can be explained through the attitude and behaviors of their concerned teachers. Teachers' behavior critically influences the students' confidence and attitude towards ICT as they provide an important role model to their students. More positive attitudes towards the new technology were associated with a higher level of technological experience.

Significance of the study

Successful integration of ICT in the education system depends largely on the attitude of teachers towards the role of new technologies in teaching-learning. Thus, experienced teachers, newly qualified, and teacher-trainees need to be confident in using ICT effectively in their teaching. Simply having ICT tools in schools will not guarantee their effective use. Although the quantity, as well as quality of technology placed in classrooms, is important, the key is that how much teachers are willing to use those tools for teaching-learning processes. Therefore, teachers must have a favorable attitude towards new technology. The literature suggests that because of a lack of adequate training and experience, teachers do not use technology in their teaching-learning. This also eventuates in teachers' unfavorable attitude towards information and communication technology which leads to the lack of confidence among them. Further, lack of confidence leads to reluctance to use new technology. To overcome this situation, we must build a positive attitude towards trending technology among future teachers but before that, we have to find out the extent of the willingness of teacher-trainees to work with ICT.

Operational Definition of Important Terms

Teacher-trainee: By the term 'teacher trainee' the researcher means a student undergoing B.Ed. program designed to prepare him/her for teaching at the secondary school level.

ICT: By the term 'ICT' the researcher means a diverse set of technological tools and resources which is used to create, store, share, manage and disseminate data and information especially required in teaching-learning or pedagogy.

Review of Related Literature

Nigel Beacham & Kenny McIntosh (2013) studied student teachers' attitudes and beliefs towards using ICT within inclusive education and practice within Scottish University. In the study, they studied student-teachers attitudes towards using Information and Communication Technology for equality as part of inclusive education and practice. The study also explored the extent to which students' teachers need to prepare for both education and digital inclusion. The results of the study showed that their attitude towards using ICT for teaching and learning was strongly positive and also strongly positive towards inclusive education. The study provided evidence that the impact of ICT as a part of inclusive practice was not well understood by student teachers and

their attitudes towards using digital and inclusive practices together were not highly favorable.

Ana-Belen Sanchez, Juan-Jose Mena Maroos, Maria Gonzalez, and He GuanLin (2012) Conducted a study on the attitude of in-service teachers towards using ICT in the classroom. By the survey of 170 in-service high school teachers from kindergarten, they found that teachers' attitudes towards ICT are highly positive. But they also found that the use of ICT in classes was scarce, and it was subjected to innovative processes. Secondly, there were no significant differences after instruction. Lastly, they concluded according to their study that new ways of teacher training need to be developed to enhance the use of ICT in classrooms.

Steve Kennewell (2004) in his book "Meeting the Standards in Using ICT for Secondary Teaching" has explained the potential of ICT in making a real improvement to teaching and learning across the curriculum in secondary schools. The author has discussed a wide variety of ways by which busy secondary schools teachers can enhance learning using ICT.

Babita Gupta, Subhasish Dasgupta, and Atul Gupta (2008) found in their study that performance and effort expectancy, social influence, and facilitating conditions all positively impact the use of ICT.

S. N. Prasad (2005) conducted a study to analyze preservice teacher training initiatives developments revealed that there is a strong government commitment and support towards the implementation of ICT. But there were very few infrastructure and human resources facilities. In addition to this, the study also revealed that teacher educators were treating the tools of ICT as a novelty rather than necessity, which is a symbol of substandard

According to Kozma (2005), ICTs can restructure organizations, promote collaboration, and increase democratic participation of citizens, improve the transparency and responsiveness of Government agencies. Make education and health care more widely available, faster cultural creativity, and enhance the development in social integration. ICT improves the perception and understanding of the world of the student. It can be used to prepare the information society and the new global economy.

Objective of the study

To find out the attitude of teacher-trainees towards the use of Information and Communication Technology

Hypothesis of the study

The study hypothesizes that teacher-trainees have a favorable attitude towards Information and Communication Technology (ICT).

Delimitation of the study

The study is delimited to the following areas:

- a. The study is confined to Patna District only.
- b. The study is confined to B.Ed. colleges only.

Method of Study

A descriptive survey design was method was employed to know the attitude of teacher trainees towards ICT.

Population and Sample

The population was comprised of all secondary teacher training institutions of Patna district of Bihar.

A

sample of 300 teacher-trainees was selected from the population using a random sampling technique.

Tool used

To measure the attitude of sample teacher trainees towards ICT an attitude scale named "Attitude Scale towards Information Technology for Teachers", constructed by Nasrin and Fatima Islahi was used.

Statistical techniques used

The statistical techniques used in the study were Mean and Standard deviation.

Analysis and interpretation of data

The data was collected by survey method using attitude scale. Descriptive statistics like mean, standard deviation, percentages were used for data analysis to make meaningful interpretation and findings.

Data Analysis, Interpretation, and Finding

Table 1 -Attitude of teacher-trainees towards the use of ICT

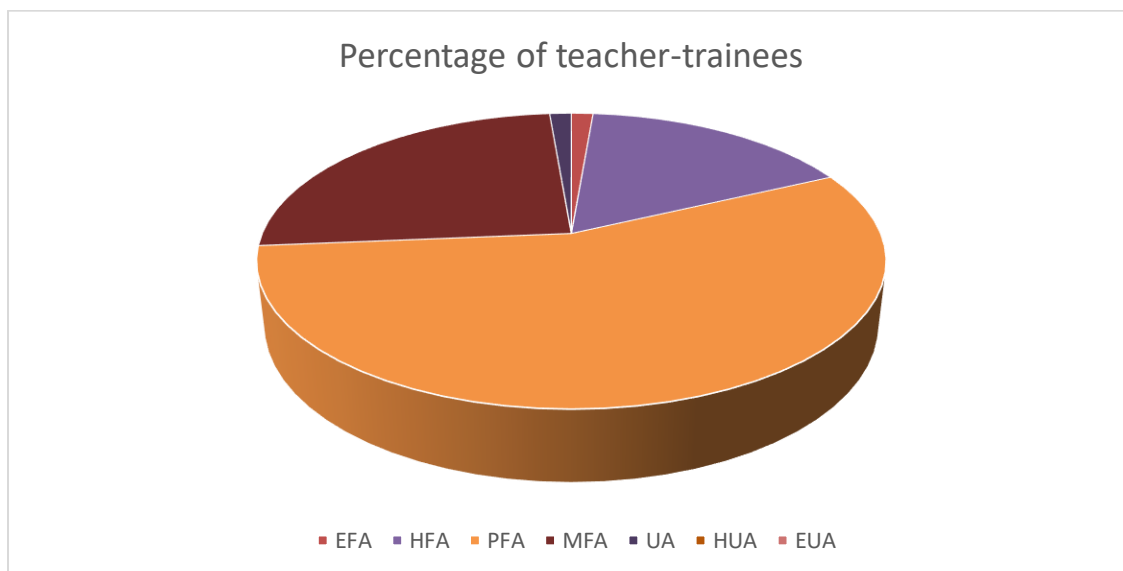
Total score	Mean of the attitude	Standard deviation
150	115.33	11.49

The above table presents the mean and standard deviation for the attitude of teacher-trainees towards the use of Information and Communication Technology. The highest score for 100% favorable attitude towards ICT is 150. Here the mean value of attitude of pupil-teachers was found to be 115.33 and the standard deviation was calculated to be 11.49 which clearly shows the favorable direction of the pupil-teachers attitude towards ICT.

Table 2- % of pupil-teachers in each response category for scale items

Sl. No.	Response category for each scale item	Teacher-trainees (%)
1	Extremely Favorable Attitude	1.33
2	Highly Favorable Attitude	16.66
3	Positively Favorable Attitude	55.66
4	Moderate Favorable Attitude	25.00
5	Unfavorable Attitude	1.33
6	Highly Unfavorable Attitude	0
7	Extremely Unfavorable Attitude	0

Pie chart showing proportion of teacher-trainees under various categories of attitude towards ICT.



In the table-2 all the teacher-trainees are classified into seven different response categories of items of attitude scale used to measure their attitude towards ICT. All these categories show different levels of attitude towards ICT from extremely favorable to extremely unfavorable. Response categories in the 7-point attitude scale were, Extremely Unfavorable, Highly Unfavorable, Positively Favorable, Moderate Favorable, Unfavorable, Highly Unfavorable, and Extremely Unfavorable.

It is clear from the above table that no teacher-trainee was having a Highly and Extremely Unfavorable Attitude towards ICT, while only a very small proportion (1.33%) of teacher-trainees had unfavorable attitudes.

1.33 %, 16.66%, 55.66%, and 25.0% of teacher trainees were extremely favorable, highly favorable, positively

favorable, and moderately favorable Attitudes. It is evident from the above data analysis that nearly 99% (precisely 98.65%) of teacher trainees was having different levels of favorable attitudes. Based on this statistical description, the Hypothesis is accepted meaning thereby teacher-trainees had a favorable attitude towards ICT.

From the above result, it can be interpreted that as the teacher-trainees had a favorable attitude towards ICT, over two-thirds of the total teacher trainees had a positively favorable to favorable attitude towards ICT and a little less than one-fifth of the teacher-trainees had extremely favorable to highly favorable attitude, they might be willing to learn and or adopt ICT in the field of teaching-learning or pedagogy.

Conclusion

Teacher-trainees of the Patna district possessed a favorable attitude towards ICT which might lead to their willingness and adoption to use ICT in the field of teaching-learning.

Educational Implications and Recommendations

- Teacher-trainees must be provided with ICT based pedagogical skills so that they could use it most easily, without spending unnecessary time and energy.
- Infrastructural support and availability of ICT-trained teachers at different levels of Teacher Training Institutions (TEIs) can help in making teacher-trainees skillful in the use of ICT in pedagogy.
- Teacher-trainees should be encouraged to read new related reports or literature on the use and impact of ICT in the area of pedagogy.
- Teacher-trainees are encouraged to use blended teaching-learning methods/pedagogy during the internship in schools.
- ICT based pedagogical skill development workshops should be organized from time to time for initial and in-service teachers to help them develop their ICT skills.

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