A STUDY OF ATTITUDE TOWARDS ICT OF PROSPECTIVE SECONDARY LEVEL TEACHERS IN RELATION TO THEIR GENDER AND ACADEMIC STREAMS

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Use of ICT for teaching and learning has gathered a lot of attention in the past two decades. Innovation of computer technology as a learning tool can dramatically change the traditional concept of teaching. NCF 2005 emphasised the use of ICT in the classroom. NCFTE 2009 also emphasised the introduction of ICT training at both pre-service and in-service level. However, the teacher's attitude is an important issue for integration of ICT in modern classroom teaching and learning process. The purpose of the present study is to find out the attitude of prospective secondary level teachers towards ICT with respect to their gender and academic streams (arts, science and commerce). Attitude scale towards information technology for teachers developed by Nasrin and Fatima Islahi was used to collect data from prospective secondary level teachers of Jodhpur. The scale measures four areas—Impact of IT, usefulness for students, productivity for teaching and teacher's interest and acceptance. Results of the study will give us the direction in which our efforts are needed so as to effectively integrate ICT in school education as well as in higher education.

Keywords: ICT, NCFTE, Prospective teachers, academic streams, attitude scale

Introduction

ICT stands for Information and Communication Technology. It is an agglomeration of technological tools and resources which helps in creating, communicating, storing and managing information systematically. ICT is a major kick for economic growth and development. The term ICT is generally accepted to mean all devices, networking components, application and system that allow people and organisations to interact in the digital world. ICT has become one of the most significant aspects of human life. It is a novel way of representing, communicating and coping with information. Growth of ICT has brought in accelerated changes in various fields. ICT is believed to be the backbone of the education system in modern era. Pelgrum (2001) has noted that "ICT is not only the backbone of the Information Society, but also an important catalyst and tool for inducing educational reforms that change our students into productive knowledge workers". The amalgamation of ICT and education has been accepted as the potential for the new technological tools to revolutionize an old-fashioned educational system (Albrini, 2006). ICT has great potential for spreading knowledge, effective learning and development of productive education services.

Teacher plays an important role in the development, embracement and implementation of any educational curriculum and system. This role becomes more crucial when it comes to integrating ICT

with education sector. In the past 20 years. initiation and projects related to use of ICT into education have motivated teachers to acquire necessary knowledge and skills for hyper efficient use of ICT. It is a well known fact that ICT has great potential for improving and bettering the teaching learning process. Because of its integrated nature, it motivates students to learn in a better way. Educationists believe that with the help of ICT, quality of education provided to the students can be improved. The NPE 1986, as modified in 1992 stressed the need to apply education technology to improve the quality of education.

Positive attitude of prospective teachers towards ICT is important. Without positive attitude towards ICT, a teacher cannot acquire knowledge of ICT in an efficient way. Her own interest in ICT is important for the effective use of ICT in the classroom. In today's scenario, internet is used very commonly. With the help of internet, one can access desired information within seconds. NCFTE (2009) also emphasised to include ICT as a part of teachers training curricula. Therefore, it is high time when each and every teacher must be acquainted with knowledge and skill related to the usage of ICT in the classroom. It was also found that teachers, who have positive attitudes toward technology feel more comfortable and confident in using it and usually incorporate it into their teaching. Any successful transformation in educational practice requires the development of user's positive attitudes towards the new technology. The development of a teacher's positive attitude towards ICT is a main factor, not only for enhancing ICT integration, but also for eliminating teacher's resistance to computer use.

Review of Related Literature

Philomina and Amutha (2016) conducted a research on information and communication technology awareness among teacher educators. The sample included 42 teacher educators. Descriptive analysis was opted to analyse the data. The results indicate that Indian teacher educator's awareness towards ICT differs in relation to their gender and subject. As compared to arts teacher educators, science teacher educators had more awareness towards ICT. When compared with M.Ed. and M.Phil. scholars, Ph.D. scholars have better awareness in different dimensions of ICT than M.Ed. and M.Phil. scholars. Sankar (2015) conducted a study on prospective teachers' perception on ICT in teacher education. The study was done on 98 B.Ed. trainees studying in the Department. of Education, RGU. The study also followed normative survey method using purposive sampling technique. Awareness and attitude scales were constructed and developed related to ICT. Data were collected and analysed quantitatively with statistical treatment. The results were: There was significant difference in awareness and attitude between male prospective teachers and female prospective teachers. Female prospective teachers had less awareness and favourable attitude in using ICT applications in comparison to male prospective teachers.

Gupta (2015) conducted a study on the attitude of prospective teachers towards the use of information and communication technology (ICT) in teacher education. One hundred fifty students studying in B.Ed. course being offered by colleges of education affiliated

to Kurukshetra University, Kurukshetra constituted the population for study. To obtain the data, the data gathering device 'ICT attitude scale' was prepared by the investigator. The results were: there was no significant difference between the attitude of male and female prospective teachers towards the use of ICT in teacher education; there was significant difference between urban and rural attitude of prospective teachers towards the use of ICT in teacher education and there was no significant difference between the attitude of science and arts prospective teachers towards the use of ICT in teacher education.

Yusuf (2011) conducted a research on student-teachers' competence and attitude towards information and communication technology. This study examined student-teacher's competence and attitude towards information and communication technology. Gender influence on their competence and attitude was also examined. Participants were 382 student-teachers (181 males and 201 females) from the Faculty of Education, University of Ilorin, Nigeria. The data were collected through a questionnaire and were analyzed using percentages, means, and chi-square statistics. Findings revealed that maximum student-teachers have positive attitude towards the use of ICT and they are also competent in the use of few basic ICT tools. Overall, no significant difference was found out between male and female student teacher attitudes and the use of ICT.

In the past 10 years, attitudes towards ICT have been studied with different samples and instruments. Some studies show that there is no significant difference between attitude of science prospective teachers and arts prospective teachers towards ICT (Gupta, 2015). Whereas some show science prospective teachers have more positive attitude towards ICT in comparison to arts teachers (Philomina and Amutha, 2016). Some studies have shown that there is no significant difference between attitude of male prospective teachers and female prospective teachers towards ICT (Gupta, 2015; Yusuf, 2011). However some have shown significant difference between the two (Philomina and Amutha, 2016; Sankar, 2015).

Objectives of the Study

Objectives of the present study are:

1. To study the attitude of prospective secondary level teachers towards ICT.
2. To compare the attitude of prospective secondary level teachers towards ICT in relation to their gender.
3. To compare the attitude of prospective secondary level teachers towards ICT in relation to their academic stream.

Hypotheses

1. There is no significant difference between the attitude of male and female prospective secondary level teachers towards ICT.
2. There is no significant difference between attitude of prospective secondary level teachers of science and commerce stream towards ICT.
3. There is no significant difference between attitude of prospective secondary level teachers of science and arts stream towards ICT.
4. There is no significant difference between attitude of prospective secondary level

teachers of commerce and arts stream towards ICT.

Delimitation of the Study

Present study is confined to only 100 prospective secondary level teachers of Jodhpur city.

Methodology

In the present study, survey method was used.

Tool: A standardised tool 'Attitude Towards Information technology (ASTITT) scale for secondary school teachers' developed by Dr (Mrs) Nasrin and Fatima Ishani was used. Scale consists of 30 items and measures four dimensions—impact of ICT, usefulness for students, productivity for teachers, teachers' interest and acceptance of ICT. Reliability of the scale is 0.89 by Cronbach's Alpha and the validity is fairly high.

Sample: The total sample comprises 100 prospective secondary level teachers from three teacher training institutes of Jodhpur city selected using disproportionate stratified random sampling technique. Out of total sample, 50, 30 and 20 prospective secondary level teachers were from arts, science, and commerce streams, respectively. In all the three streams, the ratio of male and female prospective teachers was equal.

Analysis and Interpretation of the Data

Data were analysed in accordance with hypotheses using proper statistical technique. Analysis and interpretation are shown in tables.

Table 1 shows the significance of difference between mean of male and female prospective secondary level teachers in relation to their attitude towards ICT. The calculated t-value is 0.762 which is less than table value – 1.98 for df 98 at 0.05 level of significance. So there is no significant difference between the male and female prospective secondary level teachers in relation to their attitude towards ICT.
Table 2 shows the significance of difference between mean of science and commerce stream prospective secondary level teachers in relation to their attitude towards ICT.
The calculated t-value is 0.37 which is less than table value-1.98 for df 98 at 0.05 level of significance. So there is no significant difference between the science and commerce stream prospective secondary level teachers in relation to their attitude towards ICT.

Table 3 shows the significance of difference between mean of science and arts stream

Table 1

Significance of difference between mean of male and female prospective secondary level teachers in relation to their attitude towards ICT

S.No.	Gender	N	Mean	S.D.	t-value
1.	Male	50	137.1	10.01	0.762*
2.	Female	50	138.7	10.99	

**Insignificant at 0.05 level of significance (for df 98)*

Table 2

Significance of Difference between mean of science and commerce stream prospective secondary level teachers in relation to their attitude towards ICT

S.No.	Academic stream	N	Mean	S.D.	t-value
1.	Science	30	134.5	7.54	0.37*
2.	Commerce	20	135.5	10.30	
**Insignificant at 0.05 level of significance (for df 98)*					

Table 3

Significance of difference between mean of science and arts stream prospective secondary level teachers in relation to their attitude towards ICT

S.No.	Academic stream	N	Mean	S.D.	t-value
1.	Science	30	134.5	7.54	1.87*
2.	Arts	50	138.4	11.05	
**Insignificant at 0.05 level of significance (for df 98)*					

prospective secondary level teachers in relation to their attitude towards ICT. The calculated t-value is 1.87 which is less than table value–1.98 for df 98 at 0.05 level of significance. So there is no significant difference between the science and arts stream prospective secondary level teachers in relation to their attitude towards ICT.

Table 4 shows the significance of difference between mean of commerce and arts stream prospective secondary level teachers in relation to their attitude towards ICT. The calculated t-value is 1.04 which is less than table value–1.98 for df 98 at 0.05 level of significance. So there is no significant difference between the commerce and arts

Table 4

Significance of difference between mean of commerce and arts stream prospective secondary level teachers in relation to their attitude towards ICT

S.No.	Academic stream	N	Mean	S.D.	t-value
1.	Commerce	20	135.5	10.30	1.04*
2.	Arts	50	138.4	11.05	
**Insignificant at 0.05 level of significance (for df 98)*					

stream prospective secondary level teachers in relation to their attitude towards ICT.

Results

The results of the present study are:

1. There is no significant difference between attitude of male and female prospective secondary level teachers towards ICT.
2. There is no significant difference between attitude of prospective secondary level teachers of science and commerce stream towards ICT.
3. There is no significant difference between attitude of prospective secondary level teachers of science and arts stream towards ICT.
4. There is no significant difference between attitude of prospective secondary level teachers of commerce and arts stream towards ICT.

Discussion

The potentials of ICT as an educational tool in teacher education had been well proved by various studies. This study investigated the attitude of prospective secondary level teachers towards information and communication technology in Jodhpur city colleges. Results from the present study revealed that there is no significant difference between attitude of male and female prospective secondary level teachers towards ICT. This finding is consistent with the findings of Gupta, (2015), Yusuf, (2011). In contrast the findings of Philomina and Amutha (2016), Sankar (2015) show significant difference between the attitude of male and female prospective secondary level teachers towards ICT. The results further indicated that there is no significant difference between the attitude of prospective secondary level teachers of science and arts stream towards ICT. Supporting the findings is the study of Gupta (2015) who found that there is no difference between attitude of prospective science teachers and prospective arts teachers. Contradicting the present findings, Philomina and Amutha (2016) study shows science prospective teachers have more positive attitude towards ICT in comparison to arts teachers. The findings of the present study show no significant difference in attitude of prospective secondary level teachers towards ICT in relation to their gender and academic streams.

Conclusion

Teachers play an important role in achieving education for all, which is one of the most important goals of our country. Subsequently, teachers should strive for providing quality education by integrating ICT in classroom situations. Prospective teachers need to be well updated with the latest trends and approaches in ICT to develop the students in scholastic and non-cognitive domains. So, prospective teachers should act as reflective practitioners by using ICT skills in classroom situations. In this study, it was discovered that prospective secondary level teachers have positive attitude towards the use of ICT. Only there is a need to develop insight for integrating it in classroom according to the nature of academic stream. ICT is a boon for Indian classrooms where we have limited resources.

Suggestions

1. ICT should form an integral component of teachers' training curriculum.
2. More emphasis must be given on its practical component so that the prospective teachers can develop an insight for using it in planning lessons, for teaching and for assessment.
3. During internship prospective teachers must be trained for integrating ICT in their classrooms.
4. Teachers must be trained to develop the skill of using different software for presentation, assessment, etc.
5. To motivate trainees, teacher educators must also use ICT for their classroom lectures.

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