



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2016; 2(1): 75-77
www.allresearchjournal.com
Received: 28-10-2015
Accepted: 01-12-2015

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Aptitude of teacher educators towards information and communication technology

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Abstract

The main goal of this paper is to find out about the aptitude of teacher educators towards ICT. Normative survey method has been used and by using random sampling technique 300 teacher educators were selected. Gathered data was analyzed by using the statistical techniques. The results show that there is no significant difference in the Aptitude of teacher educators towards Information and Communication Technology with respect to their type of college and also with respect to their teaching experience. The results show that there is significant difference in the Aptitude of teacher educators towards Information and Communication Technology with respect to their knowledge of computer.

Keywords: Aptitude towards ICT, normative survey method, random sampling technique, etc.

Introduction

In the present era of information and communication, there is revolution information and communication technologies which offer unprecedented opportunities to enhance effectiveness and expand access to high quality education. Information Technology is a new medium, a new way of representing communication and working with information. It is both an important area of study in its own right and a tool that is being integrated into the everyday life of more and more people. Today information and knowledge are the motivating power for social development. In future the wealth and power of nation, equality of individual life will be valued in proportion to intellectual assets such as technology, information and knowledge. Hence, the investigator has taken a study on attitude of teacher educators towards information and communication technology.

Need and importance of the study

Information Technology literacy is becoming essential for the new educator, who has to deal with new studies, in a new school, using new media, namely the internet in a new learning environmental with free access to a large amount of information resources. Realizing this importance of Information Technology, the IT education in India is being incorporated as a part of the academic curriculum in schools, colleges and universities. At the school level, the basics of Information Technology and training on computer usage are focused upon to make the school outgoing children IT literate. At the college and university levels, the study of IT application in all disciplines is focused.

The National curriculum framework for school education developed by National Council for Educational Research and Training (NCERT) recommended. IT rich school with substantial technological input. The council has worked out a blueprint for smart schools, which the Ministry of Human Resource Development (MHRD) proposes to establish all over the country albeit in limited numbers. Apart from working out a conceptual framework for this school, the technological support and expenditure involved there in the changing role of the teacher, nature of learning programmes, exemplar activities for students and skills expected by them in different grades and finally, imperatives for teachers council for IT education has also been recommended for developing IT course for various levels of training to teachers.

The teachers must become knowledge about technology and become self-confident enough to integrate it effectively in the class room, and this motivation can easily be provide to them at the time of their pre-service training. This point to the need for teacher educators themselves to acquire proficiency in the various means of ICT.

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The national council for teacher education is striving for the promotion of use of Information and Communication Technology in pre-service teacher education course, who would, in-turn, contribute in making every child IT literate. Keeping all these in view the researcher is inserted in study the Teacher Educators attitude and aptitude towards ICT.

Review of Related Literature

Peeraer, Jef; Van Petegem and Peter (2011) [8] examined the ICT in Teacher Education in an Emerging Developing Country: Vietnam's Baseline Situation at the Start of "The Year of ICT". This study investigates the current situation of ICT integration in teacher education in Vietnam, an emerging developing country at the beginning of integrating ICT in education. Suggestions are provided for the country to move beyond an access and skills based approach of integration of ICT in education and for emerging developing countries to cease the promise of ICT for education.

Nagamani, Deepa; Muthuswamy and Prema (2013) [7] conducted a study on Teacher's Professional Use of Information and Communication Technology in Secondary Schools in Tamil Nadu, India. The purpose of the study is to evaluate secondary school teachers' abilities to use Information and Communication Technology (ICT) in schools in Tamil Nadu, India. Questionnaires method was used for data collection. Around 200 questionnaires were distributed to secondary school teachers and headmasters, in which 157 were completed and returned. The study reports that use of computer and internet exist between the teachers of different age groups and various backgrounds. There was evidence of significant difference in the use of information and communication technology between teachers in different age group and location. The analysis also reports that there was no significant difference in the use of ICT by the gender. Thus, the overall finding of the study reports that teachers are moderately using ICT for professional purposes

Method and Sample of the study

Normative survey method is adopted in this study Random sampling method is used for collection of data. The present study consists of 300 teacher educators from Government, Government Aided and Self finance colleges.

Definition of Key Terms

The key terms of the title are defined below for their operational meaning in the study and for better understanding of the study.

Information and Communication Technology

ICT can be broadly being defined as a set of activities that is facilitated, by electronic means, the capturing, storage, processing, transmission, and display of information. This paper uses the term 'Information and Communication Technologies' (ICT) to encompass the production of both computer hardware and software as well as the means of transferring the information in digital form.

Aptitude

An aptitude is defines as a set of condition that is symptomatic or indicative of one's ability to acquire some knowledge or skill in a certain field. They are latent potentials which in environmental conditions. They are undeveloped capacities, to acquire abilities and skills in special areas. Aptitude is a discrete, specific, unitary characteristic, related to success in a particular field.

Tool used for the present study

The following tools used in the present study

- Teacher educators Aptitude towards ICT scale developed by Samuel Gnanamuthu.J and Krishnakumar R (2010)

Aptitude Scale

The total number of selected items in the aptitude test was 20. The maximum score of the tool is 20 and the minimum score 0.

Content Validity

The item validity was found using item analysis. In order to establish content validity, the items in the tool were discussed with experts of educational technology. Some of the items in the tool were corrected according to the suggestions given by them. Thus the content validity was established.

Reliability

To find out the reliability of the tool the split-half method was used. The reliability of the tool was found to be 0.85

Statistical Techniques Used

In the present study the investigator had applied the following statistical techniques- descriptive analysis (Mean and Standard Deviation) and differential analysis ('t' test and F test) to analyze the aptitude of teacher educators towards information and communication technology.

Objectives of the study

1. To find out whether there is any significant difference between the Aptitude of teacher educators towards Information and Communication Technology based on the background variables; namely
 - a) Type of college
 - b) Knowledge of Computer
 - c) Teaching experience

Hypotheses of the study

1. The level of aptitude of teacher educators towards Information and Communication Technology is less favourable.
2. There is no significant difference in the Aptitude of teacher educators towards Information and Communication Technology with respect to their type of college.
3. There is no significant difference in the Aptitude of teacher educators towards Information and Communication Technology with respect to their knowledge of computer.
4. There is no significant difference in the Aptitude of teacher educators towards Information and Communication Technology with respect to their teaching experience.

**Data analysis and Interpretation
Hypothesis Testing 1**

Table 1: The levels of Aptitude of teacher educator towards Information and Communication Technology

Variable	Sample	Mean	SD
Aptitude	300	14.08	2.19

In the Table 1, the mean Aptitude for the whole sample is 14.08 for a maximum of 20 that is 70.4 percentages. It is inferred that the level of Aptitude of teacher educator towards Information and Communication Technology is favourable.

Hypothesis Testing 2

Table 2: Significant difference in the Aptitude of teacher educators towards Information and Communication Technology based on type of college

Type of college	Sum of Squares	df	Mean Square	F	Significant at 0.05 level
Between Groups	5.511	2	2.756	0.569	Not Significant
Within Groups	1437.406	297	4.840		

In order to find out the significant difference in the aptitude of teacher educators towards Information and Communication Technology based on type of college 'F' value was calculated. The calculated 'F' value is found to be 0.569 which is not significant at 0.05 level.

Thus it is inferred there is no significant difference in the Aptitude of teacher educators towards Information and Communication Technology with respect to their type of college.

Hypothesis Testing 3

Table 3: Significant difference in the Aptitude of teacher educators towards Information and Communication Technology based on knowledge of computer

Knowledge of computer	N	Mean	SD	t	Significant at 0.05 level
Yes	210	14.34	2.230	3.173	Significant
No	90	13.48	2.001		

In order to find out the significant difference in the aptitude of teacher educators towards Information and Communication Technology based on knowledge of computer 't' value was calculated. The calculated 't' value is found to be 3.173 which is greater than the table value and significant at 0.05 level.

Hypothesis Testing 4

Table 4: Significant difference in the Aptitude of teacher educators towards Information and Communication Technology based on teaching experience

Teaching experience	Sum of Squares	df	Mean Square	F	Significant at 0.05 level
Between Groups	26.369	2	13.185	2.764	Not Significant
Within Groups	1416.547	297	4.770		

In order to find out the significant difference in the aptitude of teacher educators towards Information and Communication Technology based on teaching experience 'F' value was calculated. The calculated 'F' value is found to be 2.764 which is not significant at 0.05 level.

Thus it is inferred there is no significant difference in the Aptitude of teacher educators towards Information and

Communication Technology with respect to their teaching experience.

Findings of the study

The following are the important findings obtained from the present investigation.

1. The level of Aptitude of teacher educators towards Information and Communication Technology is favourable.
2. There is no significant difference in the Aptitude of teacher educators towards Information and Communication Technology with respect to their type of college.
3. There is significant difference in the Aptitude of teacher educators towards Information and Communication Technology based on knowledge of computer.
4. There is no significant difference in the Aptitude of teacher educators towards Information and Communication Technology with respect to their teaching experience.

Conclusion

The present investigation has revealed that the aptitude of teacher educators towards Information and Communication Technology are found favourable. It is found that the teacher educators have good computer skills but the facility to apply and integrate computer education in educational institution very nominal. In limited sense only the teacher educators are utilizing internet in their day to day academic updates.

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