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Secondary school teachers' attitude towards information and communication technology (ICT) in Meerut city: A comparative study

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Abstract
This study is related to the secondary school teachers' attitude towards ICT in Meerut City. A descriptive cum survey method was adopted with a sample of 120 secondary school teachers selected using random sampling technique from government and private secondary schools of Meerut City. Attitude Scale towards Information and Communication Technology for Teachers was used to collect the data. The data were analyzed by using the mean, standard deviation and 't' test. The findings showed that secondary school teachers have a favorable attitude towards ICT. The results indicated that there is no significant difference in the secondary school teachers' attitudes towards ICT in relation to stream, gender and areas of school.

Keywords: information and communication technology, secondary school teachers, attitude

1. Introduction
The quality of education as well as teachers, both are interconnected. The main source of quality of education is the teachers' attitude towards ICT. From the very beginning, teacher educators have been the promoters in any educational reformation movement. Teachers who contribute in educational improvement were an effective and dominating personality. The teacher's effectiveness depends upon their attitude, characteristics and their classroom environment and its organization and management.

In India, Various commissions and committees have recommended various methods for qualitative improvements in education. As a result, the teachers are inspired, motivated, to develop better curriculum, text books and teaching aids. But, all teacher's efforts are meaningless, if they do not have the positive attitude towards educational technology. The teaching learning process has been greatly inclined by rapid advancement in Information and Communication Technology (ICT).

The greatest challenge of society is related to face with knowledge and technological expertise that is necessary for finding, applying and evaluating information. Appearance of Information and Communication Technology has accompanied in a new era of our civilization in which digitalization has almost become a better alternative, because it has influenced every facade of human life including education. The introduction of Information and Communication Technology (ICT) in school education will encourage and motivate the students as well as teachers to explore new areas of advancement with reference to its latest developments in various stages

In today's era, every aspect of human life is influenced by scientific discoveries and inventions. The field of education also could not remain free from its effects. The development of ICT like radio, tape recorder, television, radio, computer etc. is bringing education closer to technology. Any part of education, whether it is method, objectives or teaching process, or research work, provisions helpless due to lack of technology. Whether it is a problem related to theoretical knowledge of teachers or a problem in their field of experimental learning, technology help us. The truth is that knowledge of technology has become very essential for teachers. In the absence of this, the teaching – related knowledge of teachers or the knowledge and skills acquired in their testing and training is considered incomplete.

Communication is a bilateral process, with the help of which we share our thought, beliefs and information with others, we need both information and communication to learn and understand the way of acquiring knowledge. In this way, information and communication technology means a technology with the tools, tools and application base that collects, stores, represents use of information. While being helpful in reliable and accurate editing of transfers, synthesis and analysis, self – satisfaction etc. proves to be a great help to the user to enhance his knowledge and his communication and these by increase his decision and overall solution ability.

Need of study

ICT has an influenced of our daily lives in a continuous emergent digital world. The digital era has changed the way of life of a young people to communicate, to seek support and search network for accessing different information. New generation are mostly inspired with technological knowhow and sound pedagogy. Education has been benefitted within developed countries by providing education through computer technologies like as interactive multimedia, internet etc. Now it is necessary to include this technological advancement in Indian lecture room also. Learning by use of multimedia is an enthusiastic and betrothed procedure. By this technology learner are actively involved in working with challenge and events they might be used (Savery & Duffy, 1995). Therefore, ICT should be certain more flexible and learner centered.

Today the work of education is very challenging, In the development of technology, many doors of development have been opened in the field of education, due to which new research works are being done on teaching method, educational technology etc., Teachers are required to have knowledge of information and communication technology only then they can overcome their difficulties by using appropriate method and can be capable to give proper guidance to their students for using ICT.

Statement of the Problem

Secondary School Teachers' Attitude Towards Information And Communication Technology (Ict) In Meerut City: A Comparative Study

Objectives of the Study

1. To compare the attitude of secondary male and female teachers towards information and communication technology.
2. To compare the attitude of Arts and Science teachers of secondary schools towards information and communication Technology.
3. To compare the attitude of Urban and Rural School Teachers towards information and communication Technology.

Hypothesis of the study

1. There is no significant difference in the attitude of male and female teachers of secondary schools towards information and communication technology.
2. There is no significant difference in the attitude of Arts and science teachers of secondary schools towards information and communication technology.
3. There is no significant difference in the attitude of Urban and Rural school teachers towards information and communication technology.

Definition of technical term used in research

Secondary Schools: - Secondary Education and Secondary schools refers to schools in which students and students from class 9 to 10 study. In which education is given in subjects like mathematics, Arts, science commerce and Agriculture etc.

Information and communication Technology

"Information and communication technology" is the technology in which any subject or information is available anywhere in the universe, by any person at any time. Information and communication Technology is an old concept in which information process and all involved. Computer hardware, software, Internet is the basis of information systems.

"Information and communication is a process in which individuals try to exchange" through mutual understanding.

Attitude

Thurston and chew: - It is the sum of a person's circles, prejudices and fixed views toward a specific subject. That is the amount of negative or positive influence related to a psychological eloquence or substance is an expression.

Delimitation of the study

The delimitation of the minor research study is following: -

1. Four secondary schools in Meerut city have been included in this minor research study.
2. The research study presented the attitude of secondary school teachers.
3. The study was delimited to the sample of 120 teachers from population of Meerut city.

Research method:

A descriptive cum survey method was adopted for the study.

Population of the study

All secondary school teachers, teaching in secondary schools affiliated to CBSC and UP Board located in Meerut city are taken as the population of the study.

Sample of the study

The present study was conducted on a sample of 120 secondary school teachers teaching in secondary schools, affiliated to CBSC and UP Board in Meerut city. The random sampling method was applied for selecting the sample of schools and stratified random sampling method for selecting teachers as samples for the study.

Description of the Tool

For the present study the investigator used questionnaire of Indian adaptation of administration of an "Attitude scale towards information Technology for teacher" ASTITT- NI– Dr. (Mrs.) Nasrin (Aligarh), Fatima Islahi (Aligarh)

Details of the test

At present, in this attitude form. There are 30 question related to teacher's attitude, which is based on four types of dimensions.

1. Impact of IT
2. Usefulness for students
3. Productivity of teaching
4. Teacher's interest and acceptance.

This attitude measure was preferred as a first step towards the creation of an approach to information communication technology for teachers of secondary schools. It uses the Likert method, which is simpler to construction and more valid with Thurston's technique.

This scales employs five options expressing varying degree of agree or disagree. There are 5 options in front of each statement, such as Completely Agree (SA), Agree (A), Uncertain (U), Disagree (D), and Completely Disagree (SD) indicates with this sign [ ] that are closet to your view.

In its marking, scoring is given 5 points for completely agree (SA), 4 points for Agreed(A), 3 points for uncertain (U), 2 points for disagree (DA), 1 point for completely disagree (SD). Markings will be given according to positive and negative questions. For negative questions, 1 mark will be given for completely agree (SA), 2 marks for agree (A), 3 marks for uncertain (U), 4 marks for disagree (DA) and 5 marks for completely disagree (SD).

Statistical Techniques used in the study

The following statistical methods have been used by the researcher in the study presented.

1. Means (M)
2. Standard Deviation (S.D)
3. T – test

Statistical Analysis and Interpretation:

Hypothesis 1

There is no significant difference in the attitude of male and female teachers of secondary schools towards information and communication technology.

Table 1: Comparison of mean scores for attitude of Male and Female teachers

Name of Group	No. of Teacher	Mean score	Standard Deviation	" t" Values	Level of Significance
Male	60	113.2	14.52	1.36	Not Significant at 0.05 level
Female	60	116.6	12.80		

Interpretation of the study: - Table no.- 1 Compares the total female and male teachers at the secondary school and their attitude for Information and communication technology. The calculated t-value 1.36 is less than table value (1.98 at 0.05 level of significance). Therefore, it can be said that these is no significant difference in the attitude of total male and female teachers. Therefore, the null hypothesis of research is accepted. In secondary level male and female teachers, the effect of information and communication technology no meaningful difference was found in the use of computer, E-mail, Internet etc. and the attitude for conducting teaching work through them Both acknowledge its usefulness and to impact in teaching work, Hence the null hypothesis of research is accepted.

Hypothesis 2.

There is no significant difference in the attitude of Arts and science teachers of secondary schools towards information and communication technology.

Table 2: Comparison of mean score for attitude of Science and Art teachers

Name of Group	No. of Teacher	Mean score	Standard Deviation	't' values	Level of Significance
Art Teachers	80	115.16	14.31	0.060	Not Significant at 0.05 level
Science Teachers	40	115.32	13.41		

Interpretation of the study: - Table no. 2 Compares the attitude of Arts and science teachers of secondary schools towards Information and communication technology. The calculated t-value 0.060 is less than table value (1.98 at 0.05 level of significance) Therefore, it can be said that there is no meaningful difference in the attitude of Art and science teachers of secondary schools.

No meaningful difference has been found in the Art and science teachers of secondary schools using information and communication technology, computer, E-mail, internet etc. and the ability to conduct teaching work through them. Both acknowledge its usefulness. And its impact in teaching work. Hence the null hypothesis of research is accepted.

Hypothesis 3.

There is no significant difference in the attitude of Urban and Rural school teachers towards information and communication technology.

Table 3: Comparison of mean score for attitude of Urban and Rural school teachers

Name of Group	No. of Teacher	Mean score	Standard Deviation	't' Value	Level of Significance
Urban	50	118.76	12.6	2.48	Not significant at 0.01 level
Rural	70	112.77	13.7		

Interpretation of the study: - Table no. 3, Compares the attitude of urban and rural secondary school teachers towards Information and communication technology. The calculated t-value 2.48 is less than table value (2.62 at 0.01 level of significance). Therefore, it can be said that there is no significant difference in the attitude of Urban and rural school teachers. Therefore, the null hypothesis of research is accepted.

In urban and rural secondary school teachers, no meaningful difference was found in the attitude for conducting teaching work through use of information and communication technology, computer, e-mail, Internet etc. Both

acknowledge its usefulness and its impact in teaching work. Hence the null hypothesis of research is accepted.

Findings of the study

The findings obtained from researcher's study are as follow:

1. There is no significant difference in the attitude of secondary school teachers on gender basis towards information and communication technology. Both are aware of using communication technology.
2. There is no significant difference has been found in the attitude of science and art teachers. Both the teachers of science and art consider the use of information and communication in their respective subjects necessary.
3. There is no significant difference has been found in the attitude of urban and rural secondary school teachers. The teachers of the urban and rural school both are considered its utility and its influence in teaching work.

Educational Implications

Research can be valuable when its finding is applied for anything which may have some practical importance can also be derivative from the findings of the present investigation. Findings of the present study will benefit as the basic data for the advance studies related to information & communication technology. This study promotes to the policy makers and helpful to given path for the use of information & communication technology and head of institutions for improving in information & communication technology awareness for the teachers. By the following of study, the reliance of researcher is that the teachers will be promoted from the findings of the study. Since the study provides the basic for awareness and better understanding of find their present attitude of information & communication technology. Parents should also take advantage of the result obtained from research and inform their children about the use of technical education. Increase your understanding of information and communication technology and get more information in this regard and so that children can benefit more.

Suggestions for further study

Suggestions for future research are following

1. The attitude of primary level teachers can also be studied.
2. The similar study can also be done by increasing the sample.
3. Similar study can be conducted by taking B.Ed. teachers attitude.
4. It can also study teacher aptitude of B.T.C and B.Ed. teachers.
5. This research study can also be done to find out the attitude of students.
6. One can also study the attitude and effectiveness of teaches in this research study.
7. We can also do this research study on the dimensions given in the tool, which are given in the tool.
8. We can also study the attitude of teachers of different Board of school like UP, CBSE and ICSE.

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