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ICT Literacy of School Teachers and Their Attitude towards the Use of ICT



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Abstract

The integration of ICT (Information and Communication Technologies) into education has been seen as the new technological tools to revolutionize educational system. The main objectives of this study was to compare the attitude of government and private school teachers and then rural and urban school teachers towards the use of ICT in education, to compare the ICT literacy among government and private school teachers and then rural and urban schools teachers. 200 rural and urban school teachers were taken. Scale of attitude of school teachers towards the use of ICT and Test of ICT literacy were prepared by the investigators and used for data collection. t-ratios was employed for analysis of data as the data was normally distributed. The results of the study have shown that the private school teachers have more favorable attitude towards the use of ICT in education than government school teachers and similarly urban school teachers have more favorable attitude towards the use of ICT in education than rural one. Private school teachers are more ICT literate than Govt. school teachers and urban school teachers are more ICT literate than rural school teachers.

Keywords: ICT in Education, ICT Literacy, Attitude Towards Use of ICT.

Introduction

Technology has become a key mediator in Education. Access to computers and other technologies is growing rapidly. Public perceptions of the benefits that computers and other technologies play in students' lives are varied: they range from total fascination and amazement to power to circulate information to a form characterized by fears of unseen dangers and risks.

Such societal phenomena are reflected within the education system also. All concerned with education must realize that in the fast changing world of today, the students have to be prepared to cope intelligently with the social, economic and technological changes.

The integration of ICT (Information and Communication Technologies) into education has been assumed as the potential of the new technological tools to revolutionize educational System. Pelgrum (2001) has noted that ICT is "not only the backbone of the Information Age, but also an important catalyst and tool for inducing educational reforms that change our students into productive knowledge workers".

Knowledge of ICT which is known as ICT literacy and the use of ICT skills in teaching and learning have become imperative for today's teacher. Teacher's attitude has been found to be a major predictor of implementing new technologies in instructional setting and the teacher remains a key component in integration of technology in educational settings.

ICT

Information and Communications Technology or (ICT), is often used as an extended synonym for information technology (IT), but is a more specific term that stresses the role of unified communications and the integration of telecommunications, computers as well as necessary software, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information. The phrase ICT had been used by academic researchers since the 1980s, but it became popular after it was used in a report to the UK government by Dennis Stevenson in 1997.

Now a days ICT is used as instructional material in teaching and learning process in schools and colleges, e.g. the use of smart boards, computers, mobiles etc are part of ICT which is used in education. The schools need teachers which are well versed with ICT and should have a positive attitude towards learning ICT.

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Attitude of Teachers towards the Use of ICT

The attitude of teachers is very much important to check the effectiveness of use of ICT in education. In recent years technology is expanding day by day in every field. It has its vast impact in the field of education that's why the attitude of teachers towards the use of ICT in education is important. The attitude varies from teacher to teacher, school to school or area to area.

ICT Literacy

ICT (Information and Communication Technologies) literacy is using digital technology, communications tools, and/or networks to access, manage, integrate, evaluate, and create information in order to function in a knowledge society. The five critical components of ICT literacy are: Access, Manage, Integrate and Evaluate information.

Rationale of the Study

The ICT can enhance quality of education and competency level of the students and teachers which arises the need to study the attitude of teachers towards ICT. In today's scenario, the use of ICT in education is increasing day by day. So the teacher should use latest technology in education to make teaching learning process more impressive. But some teachers are not well aware about ICT and its use in education. Mostly it has been found in rural areas.

In light of research literature on importance of teacher's attitudes towards information and communication technologies in education, the main aim of this study is to find out the ICT literacy in teachers and the attitude of teachers of government schools as well as private schools in rural and urban areas towards ICT.

Because ICT are the preeminent tools for information processing, new generations need to become competent in their use, should acquire the necessary skills, and therefore must have access to computers and networks during their school life. This becomes possible when the teacher has a fair attitude towards use of ICT. Schools should profoundly revise present teaching practices and resources to create more effective learning environments and improve life-long learning skills and habits in their students. ICT are versatile and powerful tools that can help in this purpose and should therefore be present in every classroom, library and teacher room.

The use of ICT in education certainly gives more clarity to the concepts of students as well as teachers, which enhances the score and confidence of students. Use of ICT is becoming a need rather than an option.

For an efficient teaching and learning through ICT, the teacher needs a positive attitude towards Information and Communication technology. The investigator through this study want know the attitude of teachers towards the use of ICT in their educational process which in turn can motivate them to actually use in their work.

It's not only the attitude which will matter, but the knowledge or literacy of teachers in the field of ICT will also affect the use of ICT in education. The teachers who have a good knowledge of ICT and

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knows how to implement its applications in education can only have the results from teaching through ICT.

So the investigators were curious to know the attitude of teachers towards the use of ICT in education and their ICT literacy.

Objectives of the Study

As the problem is about comparison of govt. & private school teachers and urban & rural school teachers on variable of attitude towards use of ICT in education and their ICT literacy, so following objectives were formed.

1. To compare the attitude of government and private school teachers towards the use of ICT in education.
2. To compare the attitude of rural and urban school teachers towards the use of ICT in education.
3. To compare the ICT literacy among government and private school teachers.
4. To compare the ICT literacy among rural and urban school teachers.

Review of Literature

Following related research studies were reviewed.

Abbas (1995) in his study on Attitude towards using computers among Malaysian teacher education students found that teachers' attitude have been found to be major predictor of the use of new technologies in instrumental settings.

Watson's (1998) study pointed out that the teacher's positive attitude towards ICT is a key factor not only for enhancing computer integration but also for avoiding teacher's resistance to computer use.

Shapkaa & Ferrarib (2003) The literature indicates that there are no consistent results on the gender issues. While some studies suggest that male teachers tend to show slightly more favorable attitude toward computer use than do females.

Zakaria, Watson & Edwards (2010) conducted their research on the use of Web 2.0 technology by Malaysian students. The general opinion gathered about the integration of Web 2.0 tools into learning was positive. Result showed that students preferred using e-mail to disseminate and share digital contents. Similarly it was also found that for finding information related to education, students prefer to use search engines instead of asking friends or teachers.

The review has shown that ICT leads to enhancement of learning and teacher's attitude matters a lot.

Shaibou Abdoulai Haji (2015) studied Science Teachers' Attitudes towards the use of Information and Communication Technology In Secondary Schools in Cameroon and found that science teachers in the Cameroon Anglophone subsystem of education have positive attitudes towards the use of ICT. They also show that teachers perceive ICT as being very productive in teaching and learning, and as making the process easier.

Julia Gerick, Birgit Eickelmann and Wilfried Bos (2017) worked on School-level predictors for the use of ICT in schools and students' CIL in international comparison. The results showed that the relevance of school-level determinants for the use of

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ICT by teaching staff in schools differs between education systems. Only in Germany, for example, does pedagogical IT support seem to be crucial for the use of ICT in teaching. In the Czech Republic, the self-efficacy of teaching staff plays a key role, whereas in Australia, the participation of teaching staff in professional development activities can be identified as relevant for students' acquisition of CIL. The results also showed a statistically significant correlation between the teachers' use of ICT in schools and students' CIL for Germany, yet indicate no significant effects for Australia, Norway and the Czech Republic.

Concepts and Hypotheses

Concepts

ICT literacy

ICT literacy is seen as knowledge about Accessing information, Managing information i.e. Identifying relevant information within messages, Integrating i.e. summarizing information elicited, Evaluating i.e. making decisions based on information gained and Creating i.e. writing up a recommendation

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using an application such as an electronic presentation.

Attitude of Teacher towards use of ICT

The attitude or opinion which forces the teachers to learn something new and to make their teaching effective.

Hypotheses

1. The private school teachers will have more favorable attitude towards the use of ICT in education than the government school teachers.
2. The urban school teachers will have more favorable attitude towards the use of ICT in education than the rural school teachers.
3. The private school teachers will be more ICT literate than government school teachers.
4. The urban school teachers will be more ICT literate than rural school teachers.

Research Design

Descriptive Survey method was followed in present study. 200 school teachers were taken randomly from Ludhiana and Patiala district of Punjab as sample.

Table 1 : Sample Distribution

S. No.	Distt	Area	School	Govt./ Private	No. of Subjects
1	Patiala	Rural	Govt. senior Secondary School, Tohra	Govt.	12
2			Govt. Senior Secondary School, Dakounda	Govt.	13
3		Urban	Govt. Senior Secondary School Bhadson	Govt.	12
4			Govt. Senior Secondary School Sanaur road Patiala	Govt.	13
5		Rural	S.H.S public school Jindpur	Private	12
6			S. Ajit Singh School Ditupur	Private	13
7		Urban	New venus Public school, Bhadson	Private	12
8			S.S kaura Model school Nabha	Private	13
9	Ludhiana	Rural	Govt. Senior Secondary School Bhmadi	Govt.	12
10			Govt. Senior Secondary School Chawa	Govt.	13
11		Urban	Govt. Senior Secondary School, main road, khanna	Govt.	12
12			Govt. Senior Secondary School Ludhiana	Govt.	13
13		Rural	St. Xavier Model Senior sec. School. Sahnewal road	Private	12
14			Young Farmer school Biza	Private	13
15		Urban	A.S Model S. S school Khanna	Private	12
16			O.P Bansal Public School Khanna	Private	13

The rural and urban school teachers were taken proportionately. Data was collected with the help of Scale on the attitude of school teachers towards the use of ICT and Test of ICT literacy which were prepared by investigators themselves. t-ratio was employed to find the significance of difference between the attitude of urban school teachers or rural school teachers and govt. school teachers or private school teachers and their ICT literacy as the data was normally distributed as shown below.

Analysis of Data and Findings

Nature of score distribution

Table 2 : Frequency of Scores of Use of ICT

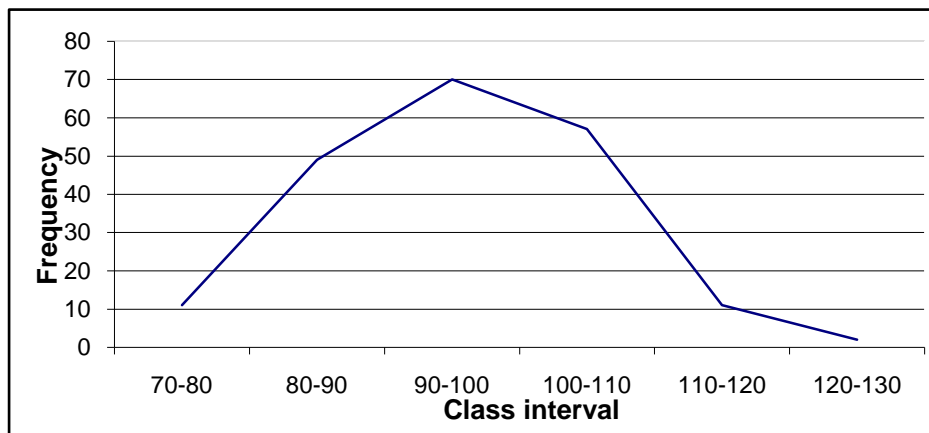
Sr. No.	Class interval	Mid point	Frequency
1	70-80	75	11
2	80-90	85	49
3	90-100	95	70
4	100-110	105	57
5	110-120	115	11
6	120-130	125	2
		Total	200

Table 3: Nature of Score Distribution of Use of ICT

S.No.	Variable	N	Mean	Median	Mode
1.	Use of ICT	200	95.7	93.7	89.7

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Figure 1: Showing Normal Probability Curve of Score of Attitude towards use of ICT for the whole Sample



The Probability Curve of attitude towards use of ICT of total sample is normal.

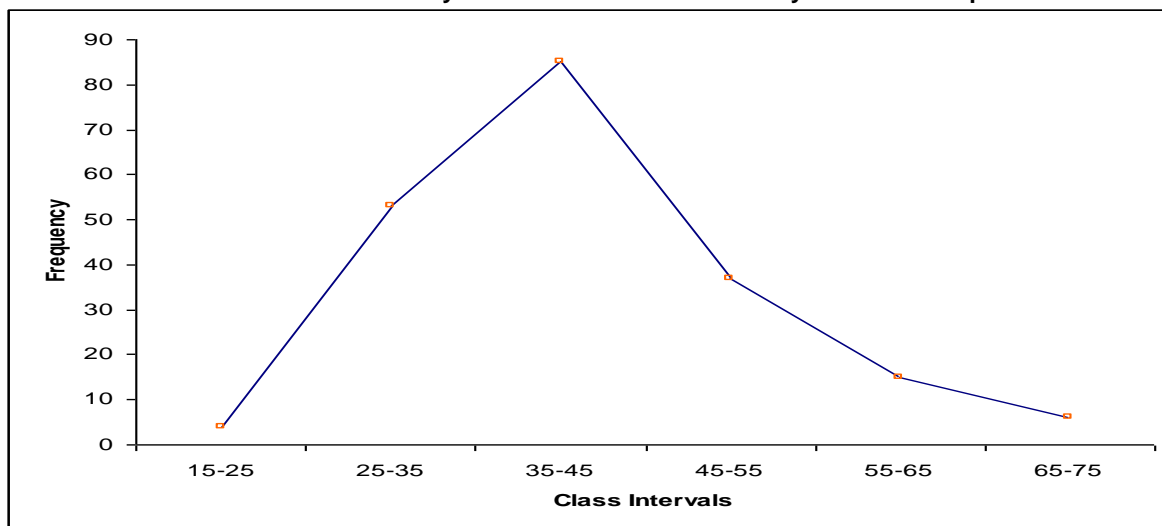
Table 4 : Frequency of Scores of ICT Literacy

S. No.	Class interval	Mid point	Frequency
1	15-25	20	4
2	25-35	30	53
3	35-45	40	85
4	45-55	50	37
5	55-65	60	15
6	65-75	70	6
	Total		200

Table 5: Nature of Score Distribution of ICT Literacy

S.No.	Variable	N	Mean	Median	Mode
1.	ICT literacy	200	41.2	39.4	35.8

Figure 2 Normal Probability Curve of score of ICT Literacy of Whole Sample



The probability curve ICT literacy is nearly normal.

Significance of difference between the mean score of attitude of govt. school teachers towards the use of ICT in Education and the Attitude of private school teachers on the same variable was assessed after employing t-test.

Table 6: Significance of the Difference between the Means of Attitude of Govt. and Private School Teachers towards the Use of ICT in Education

S. No.	Group	N	Mean	S.D	r	t-value	Level of Significance
1	Private	100	96.84	10.19	1.38	3.63	Significant
2	Govt.	100	91.82	9.43			

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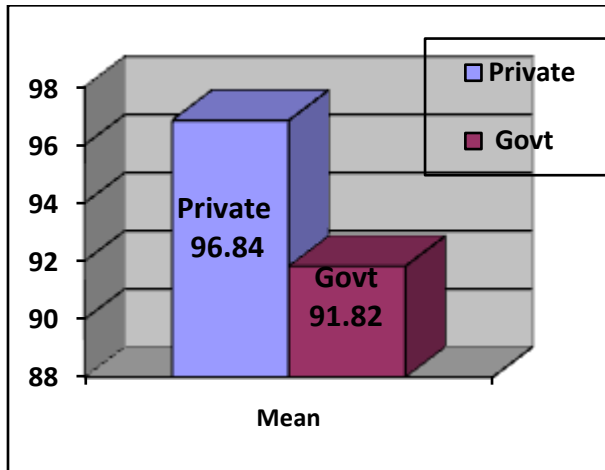


Table 6 revealed that the mean scores of attitude of Private school and Government school teachers towards the use of ICT in education comes out to be 96.84 and 91.82 respectively. The t- ratio was calculated as 3.63 which are significant at 0.05 and 0.01 level of confidence. The higher mean of Private school teachers shows that these teachers have more favorable attitude towards the use of ICT in education.

The reason for the above results may be that in private schools, teachers are getting more exposure towards the costly information and communication equipments.They experience ICT and enhance their teaching getting better results which in turn develops positive attitude in them towards the use of ICT. In this competitive world, the Private schools are more adaptable to the use of ICT.

Table 7 Significance of the Difference between the Means of Attitude of Urban and Rural School Teachers towards the Use of ICT in Education

S.No	Group	N	Mean	S.D	r	t-value	Level of significance
1	Urban	100	96.03	12.41	1.61	2.13	Significant at 0.05 level
2	Rural	100	92.59	10.31			

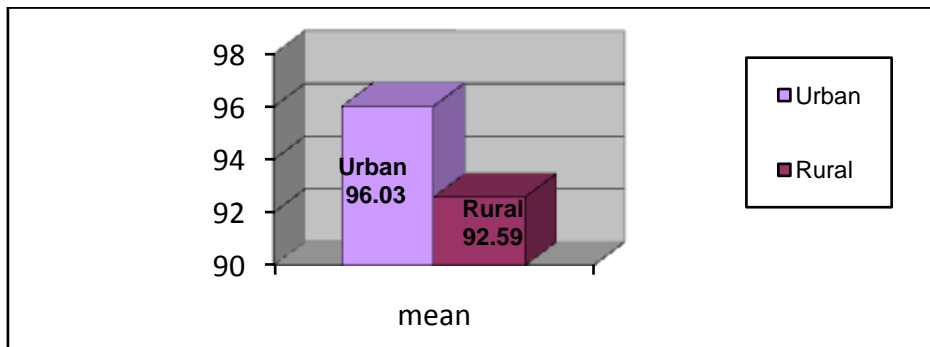


Table 7 revealed that the mean scores of attitude of Urban school and Rural school teachers towards the use of ICT in education comes out to be 96.03 and 92.59 respectively. The t- ratio was calculated as 2.13 which is significant at 0.05 level of confidence. The higher mean of Urban school teachers shows that these teachers have more favorable attitude towards the use of ICT in education.

The reason for the above results may be that in Urban schools teachers are getting more exposure towards the costly information and communication equipments. They experience ICT and enhance their teaching which in turn develops positive attitude in them towards the use of ICT. In this competitive world, the Urban schools are more adaptable to the use of ICT.

Table 8 Significance of the Difference between the Means of ICT Literacy of Government and Private School Teachers

S.No	Group	N	Mean	S.D	r	t-value	Level of significance
1	Private	100	48.40	11.32	1.74	5.60	Significant
2	Govt.	100	38.65	13.37			

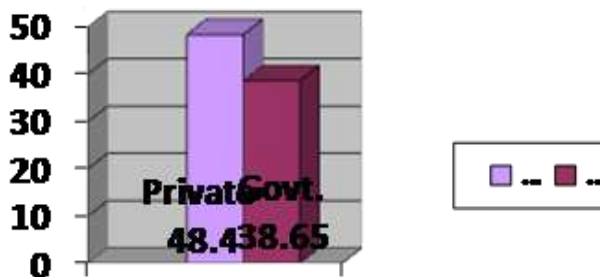


Table 8 revealed that the mean scores of ICT Literacy of Private school and Govt. school teachers come out to be 48.40 and 38.63 respectively. The t- ratio was calculated as 5.60 which is significant at 0.05 and 0.01 level of confidence. The higher mean of Private school teachers shows that these teachers are more ICT literate than Govt. school teachers.

The reason for the above results may be that in Private schools, teachers are getting more opportunities regarding the use of ICT which give them chance to learn the latest technology. Moreover

training is given to private school teachers for the

effective use of technology in education.

Table 9: Significance of the difference between the means of ICT Literacy of Urban and Rural School Teachers

S.No	Group	N	Mean	S.D	r	t-value	Level of significance
1	Urban	100	48.40	11.32	1.6	5.21	Significant
2	Rural	100	40.05	11.33			

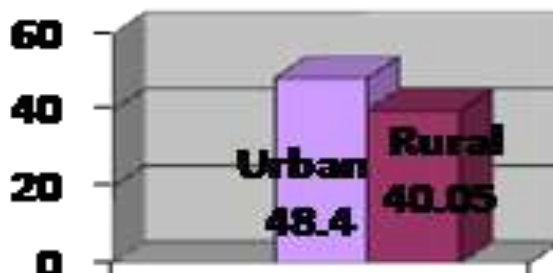


Table 9 revealed that the mean scores of ICT Literacy of Urban School and Rural school teachers come out to be 48.40 and 40.05 respectively. The t- ratio was calculated as 5.21 which are significant at 0.05 and 0.01 level of confidence. The higher mean of Urban school teachers shows that these teachers are more ICT literate than Rural school teachers.

The reason for the above results may be that in Urban schools, teachers are getting more opportunities regarding the use of ICT which give them chance to learn the latest technology.

Conclusions

1. The attitude of private school teachers is more favorable towards the use of ICT than the government school teachers.
2. The attitude of urban school teachers is more favorable towards the use of ICT than the rural school teachers.
3. The private school teachers are more ICT literate than government school teachers.
4. The urban school teachers are more ICT literate than the rural school teachers.

Educational Implications and Suggestions

Educational Implications

As it is apparent from the study that private school teachers have more favorable attitude than govt. school teachers towards the use of ICT in Education and at the same moment they are more ICT literate than the govt. counterparts. So we can say that the facilities of ICT in govt. schools should be like private schools, so that teachers can use the equipments. Moreover govt. school teachers should get the same opportunities to learn more about use of ICT. The opportunities to learn more about ICT and its use must be at par in urban and rural areas. So that teachers in rural settings can learn these new things.

Suggestions

1. The study may be extended to state level or national level or international level.
2. Study may be conducted on college teachers.
3. The study may also use some other aspects variables like access to ICT.

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