

## PERCEPTION OF TEACHERS' TOWARDS EXTENSIVE UTILIZATION OF INFORMATION AND COMMUNICATION TECHNOLOGY

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### ABSTRACT

The study aims to study the perception of Sr. Sec. School Teachers' towards extensive utilization of Information and Communication Technology (ICT). The Objectives of the study were:

- to study the perception of Sr. Sec. School Teachers towards utilization of Information and Communication Technology (ICT);
- to compare the perception of Sr. Sec. School Teachers towards utilization of Information and Communication Technology (ICT) in relation to gender;
- to compare the perception of Sr. Sec. School Teachers of different age groups towards utilization of Information and Communication Technology (ICT);
- to compare the perception of urban and rural Sr. Sec. School Teachers towards utilization of Information and Communication Technology (ICT);
- to compare the perception of Sr. Sec. School Teachers to different level of qualification towards utilization of Information and Communication Technology (ICT); (vi) to suggest guidance for effective utilization of Information and Communication Technology (ICT) in Sr. Sec. Schools.

It was decided to select the sample from Sr. Sec. School teachers of Faridabad District of Haryana. In the present study 100 Sr. Sec. school teachers of Faridabad district of Haryana were selected through simple random sampling technique. Tools: Questionnaire for Teachers' Perception towards Information and Communication Technology (ICT). This questionnaire was developed by investigator and finalized with its face validity. As findings can be declare that:

- There is no significant difference between the urban Sr. Sec. School teachers' perception and their counter part i.e. rural Sr. Sec. School teachers towards utilization of ICT.
- There is no significant difference between the urban male and rural male Sr. Sec. School teachers perception did not differ significant on utilization of ICT.
- There is no significant difference between urban and rural female Sr. Sec. School teachers perception towards utilization of ICT. It reflected that urban and rural female teachers were not differs in view on utilization of ICT.

**Keywords:** Perception; utilization, Information and Communication Technology (ICT)

## **INTRODUCTION**

The 21<sup>st</sup> Century has clearly shown that information technology provides unforeseen opportunities that enable multifaceted growth and development. Nobody can deny that the deployment of information technology have profoundly altered not only the way we live and work but also our reading and learning experience. Technological advances is fundamentally altering and redefining our outlook about information and its modes of dissemination. It is pertinent to underscore that learning is not merely information transmission. Experience, the world over, have indicated the positive changes that information technology can have in providing services that ameliorate the conditions of the under privileged. It is increasingly felt that deploying the right technologies can go a long way in creating, nurturing human and social capital.

Expanding knowledge and adding to the repository of collective knowledge has positive cascading effect by improving productivity, competitiveness, wealth and prosperity apart from improving the quality of services and their delivery systems.

Advances in computing, advent of the Internet and Wireless Fidelity (Wi-Fi) means that information can be disturbed and accessed almost instantaneously. Peculiarly, however, the adoption of these technologies to the sphere of education and classroom teaching- learning methodologies has been slow (and in some cases almost non-existent) in India. This dichotomy seems flabbergasting as most of these new technologies were often incubated in various centers of higher education in different parts of the world. The most famous such Internet based technology incubated in the University System in USA is Google, which was incubated at Stanford University.

Information and Communication Technology ICT refers to a range of technologies. Which includes computers, computer work station, display facilities, hardware, software, recording and processing systems for sound, still and moving pictures, graphic calculators and a wide range of communication facilities? In India, over the past few years ICT has come to permeate nearly all aspects of human life and are becoming part of our daily experience at an increasing pace. The educational administrators and teacher educators have realized these rapid advancements in ICT and its tremendous potential to revolutionize education, particularly school education. Since our society heavily depends on ICT in many aspects of work and personal life. It will expect our schools to familiarize pupils with computers and their application during their schooling. Hence, the National Curriculum Framework for School Education (2000) rightly states that "the new technology has a tremendous potential to revolutionize education and transform school dramatically..... integration of ICT into schooling would demand that the educational planners look beyond the current urban classroom devising updated plans for education in an electronic even in the far flung rural areas and expanding their design so that the computer becomes more than a subject of study. It is not merely integrated into an exiting curriculum- it becomes instead. An integral part of the schooling process resulting in universal computer literacy, computer aided learning and finally.

Studies conducted in many countries (Becta, Manitoba. ICT in African schools 2000) in the use of ICT resources across prove that students exhibit substantial improvement in learning.

Further, it is found that students who have acquired ICT skills are able to support higher order skills within subjects and to support independent learning; thus improving their academic performance.

Our initial experiences in the CLASS project (Computer Literacy And Studies in Schools) did indicate that instructions with computer assisted learning has helped students to understand the concepts better and improve their academic achievements in Science and Mathematics (Raghavan, 1987 - 1988). Hence, it is necessary to introduce ICT in schools, not as a subject of study, but to integrate it to support teaching, learning and assessment.

### **JUSTIFICATION OF THE STUDY**

On the above discussion the investigator found that various studies conducted on utilization of Information and Communication Technology (ICT) system show positive gain in achievement in all curricular areas. ICT saves time and efforts and increases efficiency.

The advent of Internet has opened the facilities for web-based training and hence, necessitates a fundamental change in the mode of education and training. The study may add to the knowledge of the teachers and students how to improving their academic performance. It facilitates better management of classroom and students thereby improving the productivity of the tutor as well as the taught. It facilitates the teacher to concentrate on other tasks such as research and consultancy. Information and Communication Technology (ICT) systems thus help the teachers and learners to achieve information and make it instantly available when needed.

People learn best when they need information. So educators need to take lead in the design, development and effective use of Information and Communication Technology (ICT) to convey specific content to any learner, no matter the location or goal of study. Studies conducted in many countries (Becta, Manitoba, ICT in African schools 2000) in the use of Information and Communication Technological (ICT) resources across curricular areas prove that students exhibit substantial improvement in learning. Further, it is found that students who have acquired ICT skills are able to support higher order skills within subjects and to support independent learning, thus improving their project did indicate that instructions with computer assisted learning has helped students to understand the concepts better and improve their academic achievements in Science and Mathematics (Raghavan, 1987).

Hence it is necessary to introduce Information and Communication Technological (ICT) in schools, not as a subject of study, but to integrate it support teaching, learning and assessment. Therefore, the investigator planed to study the perception of Sr. Sec. School teachers towards extensive utilization of Information and Communication Technological (ICT).

### **OBJECTIVES OF THE STUDY**

- To study the perception of Sr. Sec. School Teachers towards utilization of Information and Communication Technology (ICT).
- To compare the perception of Sr. Sec. School Teachers towards utilization of Information and Communication Technology (ICT) in relation to gender.
- To compare the perception of Sr. Sec. School Teachers of different age groups towards utilization of Information and Communication Technology (ICT).
- To compare the perception of urban and rural Sr. Sec. School Teachers towards utilization of Information and Communication Technology (ICT).

- To compare the perception of Sr. Sec. School Teachers to different level of qualification towards utilization of Information and Communication Technology (ICT).
- To suggest guidance for effective utilization of Information and Communication Technology (ICT) in Sr. Sec. School.

#### **HYPOTHESIS OF THE STUDY**

- There will be no significant difference between the perception of male and female Sr. Sec. School Teachers towards utilization of Information and Communication Technology (ICT).
- There will be no significant difference between perceptions of Sr. Sec. School Teachers belonging different age group towards utilization of Information and Communication Technology (ICT).
- There will be no significant difference between perception of urban and rural Sr. Sec. School Teachers towards utilization of Information and Communication Technology (ICT).
- There will be no significant difference between perception of Sr. Sec. School Teacher's different level of qualification towards utilization of Information and Communication Technology (ICT).

#### **POPULATION**

All the Elementary school teachers of Faridabad district of Haryana constituted the population for the purpose of the present study. The study was confined to both Urban and Rural Elementary school teachers.

#### **SAMPLE**

Sample is an essential part of the scientific procedure. A sample is a small proportion of a population selected for observation and analysis by observing the characteristics of the sample. One can make certain inferences about the population from which it is drawn, contrary to some popular opinion. Sample is not selected haphazardly. They are chosen in a systematically random way. So that chance or the operation of the probability can be utilized. According Good, (1952) "A sample is a miniature population" To be true, sample must be representative of a population and must be adequate in number. It was decided to select the sample from Sr. Sec. School teachers of Faridabad District of Haryana. In the present study 100 Sr. Sec. School teachers of Faridabad district of Haryana were selected through simple random sampling technique. 50 Sr. Sec. School teachers were from urban area and 50 Sr. Sec. School teachers were from rural area. 25 male teachers were from urban area and 25 male from rural areas. Similarly out of 50 female teachers 25 teachers belong to urban area and 25 teachers are from rural area.

#### **TOOLS USED**

Having selected the samples, the next step is to select, the suitable techniques or tools for the collection of data, we need certain instrument to gather new facts or to explore new fields. The selection of the tools for a particular study depends upon various considerations such as the objectives of the study, availability of suitable tests, personal competence of the investigator, to administrator, score and interprets the results of the questionnaire. Taking all these factors into consideration the investigator used the following tool.

- Questionnaire for Teachers' Perceptions towards Information and Communication Technology (ICT). This questionnaire was developed by investigator and finalized with its face validity.

## STATISTICAL TECHNIQUES USED

Statistics has become an indispensable tool for research. It is fundamental to the proper analysis of data and investigation of a complex phenomenon.

In order to fulfill the above objectives, the main statistical techniques i.e. Mean, SD and 't' test were used for the data analysis.

## ANALYSIS AND DISCUSSION

**Table: 1**  
Significance difference between the mean score of Urban and Rural Sr. Sec. School Teachers' Perception towards utilization of ICT

Locality	N	Mean	S.D	SE D	t-value	Significant Level
<b>Significance difference between the mean score of Urban and Rural Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Urban	50	119.08	19.71	3.56	1.01	≤ 0.05*
Rural	50	122.68	15.67			
<b>Significance difference between the mean score of Urban Male and Rural Male Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Urban Male	25	121.68	13.66	3.86	0.17	≤ 0.05*
Rural Male	25	122.04				
<b>Significance difference between the mean score of Urban Female and Rural Female Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Urban Female	25	116.2	15.31	4.33	1.72	≤ 0.05*
Rural Female	25	123.64				

\*Not significant

### Significance difference between the mean score of Urban and Rural Sr. Sec. School Teachers' Perception towards utilization of ICT

The table indicates that the mean score of Urban Sr. Sec school Teachers' Perception towards utilization of ICT was 119.08 and that of the Rural Sr. Sec School teachers was 122.68 with SD 19.71 respectively the obtain t value was 1.01 and that was found to be not significant at .01 and 0.5 level of significance. Hence, it can be concluded that, there was no significant differences between the Urban Sr. Sec. School Teachers' Perception and their counterpart i.e. Rural Sr. Sec. School Teachers towards Utilization of ICT.

### Significance difference between the mean score of Urban Male and Rural Male Sr. Sec. School Teachers' Perception towards utilization of ICT

The table indicates that the mean score of Urban Male Sr. Sec school Teachers' Perception towards utilization of ICT was 121.68 and that of the Rural Male Sr. Sec School Teachers was 122.04 with SD 13.66 respectively the obtain t value was 0.17 and that was found to be not significant at .01 and 0.5 level of significance.

Hence, it can be concluded that, there was no significant differences between the Urban Male Sr. Sec. School Teachers' Perception and their counterpart i.e. Rural Male Sr. Sec. School Teachers towards Utilization of ICT.

**Significance difference between the mean score of Urban Female and Rural Female Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Urban Female Sr. Sec School Teachers' Perception towards utilization of ICT was 116.2 and that of the Rural Female Sr. Sec School Teachers was 123.64 with SD 15.3 respectively the obtain t- value was 1.72 and that was found to be not significant at .01 and 0.5 level of significance. Hence, it can be concluded that, there was no significant differences between the urban female Sr. Sec. School Teachers' Perception and their counterpart i.e. rural female Sr. Sec. School Teachers towards Utilization of ICT.

**Table: 2**  
**Significance differences between the mean scores**  
**of Urban (Art/Com. and Science) and Rural (Art/Com. and Science)**  
**Sr. Sec. School Teachers' Perception towards utilization of ICT**

Qualification	N	Mean	S.D	SE D	t-value	Significant Level
<b>Significance difference between the mean score of Urban (Art/Com.) and Rural (Art/Com.) Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Urban (Arts/Com.)	30	119.93	16.50	3.95	0.73	≤ 0.05*
Rural (Arts/Com.)	30	122.83	13.98			
<b>Significance difference between the mean score of Urban (Sc) and Rural (Sc) Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Urban (Science)	20	117.8	13.20	4.17	1.12	≤ 0.05*
Rural (Science)	20	122.45				
<b>Significance difference between the mean score of Urban (Art/Com.) and Rural (Science) Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Urban (Art/Com.)	30	119.93	16.50	3.82	0.56	≤ 0.05*
Rural (Science)	20	117.8	10.50			
<b>Significance difference between the mean score of Rural (Art/Com.) and Rural (Science) Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Rural (Art/com)	30	122.83	13.98	4.19	0.09	≤ 0.05*
Rural (Science)	20	122.45	14.86			

\*Not significant

**Significance difference between the mean score of Urban (Art/Com.) and Rural (Art/Com.) Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Urban (Arts / Com) Sr. Sec school Teachers' Perception towards utilization of ICT was 119.93 and that of the Rural Sr. Sec School Teachers was 122.83 with SD's 13.98 respectively the obtain t- value was 0.73 and that was found to be not significant at .01 and 0.5 level of significance.Hence, it can be concluded that, there was no significant differences between the urban (Arts/Com.) Sr. Sec. School Teachers' Perception and their counterpart i.e. rural (Arts/com.) Sr. Sec. School Teachers towards Utilization of ICT.

**Significance difference between the mean score of Urban (Sc) and Rural (Sc) Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Urban(Science) Sr. Sec school Teachers' Perception towards utilization of ICT was 117.8 and that of the Rural (Science) Sr. Sec School teachers was 122.45 with SD 13.20 respectively the obtain t- value 1.12 and was found not to be significant at 0.05 and 0.01 level of significance.

Hence, it can be concluded that, there was no significant differences between the urban (Science) Sr. Sec. School Teachers' Perception and their counterpart i.e. rural (Science) Sr. Sec. School Teachers towards Utilization of ICT.

**Significance difference between the mean score of Urban (Art/Com.) and Rural (Science) Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Urban (Art/Com) Sr. Sec school Teachers' Perception towards utilization of ICT was 119.93 and that of the Rural (Science) Sr. Sec School Teachers was 117.8 with SD's 16.50 and 10.50 respectively the obtain t- value was 0.56 and that was found to be not significant at .05 and 0.01 level of significance.

Hence, it can be concluded that, there was no significant differences between the urban (Arts/Com.) Sr. Sec. School Teachers' Perception and their counterpart i.e. rural (Science) Sr. Sec. School Teachers towards Utilization of ICT.

**Significance difference between the mean score of Rural (Art/Com.) and Rural (Science) Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Rural(Art/com) Sr. Sec school Teachers' Perception towards utilization of ICT was 122.83 and that of the Rural (Science) Sr. Sec School Teachers was 122.45 with SD's 13.98 and 14.86 respectively the obtain t- value was and that was 0.09 found to be not significant at .01 and 0.05level of significance.

Hence, it can be concluded that, there was no significant differences between the Rural (Arts/Com.) Sr. Sec. School Teachers' Perception and their counterpart i.e. Rural (Science) Sr. Sec. School Teachers towards Utilization of ICT.

**Table: 3**  
**Significance difference between the mean score of Urban (different Age groups) and Rural (different Age groups) Sr. Sec. School Teachers' Perception towards utilization of ICT**

Age Group	N	Mean	S.D	SED	t-value	Significant Level
<b>Significance difference between the mean score of Urban (25-40years) and Rural (25-40 years) Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Urban (25-40)	35	118.34	15.01	4.29	0.58	≤ 0.05*
Rural (25-40)	35	120.31	13.39			
<b>Significance difference between the mean score of Urban (41-55 years) and Rural (41-55 years) Sr. Sec. School Teachers' Perception towards utilization of ICT</b>						
Urban (41-55)	15	120.33	14.30	5.22	1.51	≤ 0.05*

Rural (41-55)	15	128.20				
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Significance difference between the mean score of Urban (25-40 years) and Urban (41-55 years) Sr. Sec. School Teachers' Perception towards utilization of ICT						
Urban (25-40)	3	118.3	15.01	4.12	0.48	≤ 0.05*
	5	4				
Rural (41-55)	1	120.3	12.56			
	5	3				
Significance difference between the mean score of Rural (25-40 years) and Rural (41-55 years) Sr. Sec. School Teachers' Perception towards utilization of ICT						
Urban (41-50)	3	120.3	13.39	4.48	1.76	≤ 0.05*
	5	1				
Rural (41-50)	1	128.2	14.97			
	5					

\*Not significant

**Significance difference between the mean score of Urban (25-40 years) and Rural (25-40 years) Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Urban (20-40 years) Sr. Sec School Teachers' Perception towards utilization of ICT was 118.34 and that of the Rural (25-40 years) Sr. Sec School teachers was 120.31 with SD's 15.01 and 13.39 respectively the obtain t-value was 0.58 and that was found to be not significant at .01 and 0.05 level of significance. Hence, it can be concluded that, there was no significant differences between the Urban (25-40 years) sr. sec. school teachers' perception and their counterpart i.e. Rural (25-40 years) sr. sec. school teachers towards utilization of ICT.

**Significance difference between the mean score of Urban (41-55 years) and Rural (41-55 years) Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Urban (41-55 years) Sr. Sec School Teachers' Perception towards utilization of ICT was 120.33 and that of the Rural (41-55 years) Sr. Sec School Teachers was 128.33 with SD 14.30 respectively the obtain t- value was 1.51 and that was found to be not significant at .01 and .05 level of significance. Hence, it can be concluded that, there was no significant differences between the Urban (41-55 years) Sr. Sec. School Teachers' Perception and their counterpart i.e. Rural (41-55 years) Sr. Sec. School Teachers towards Utilization of ICT.

**Significance difference between the mean score of Urban (25-40 years) and Urban (41-55 years) Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Urban (25-40 years) Sr. Sec School Teachers' perception towards utilization of ICT was 118.34 and that of the urban (41-55 years) Sr. Sec School Teachers was 120.33 with SD's 15.01 and 12.56 respectively the obtain t-value was 0.48 and that was found to be not significant at .01 and .05 level of significance. Hence, it can be concluded that, there was no significant differences between the Urban (25-40 years) Sr. Sec. School Teachers' Perception and their counterpart i.e. Rural (41-55 years) Sr. Sec. School Teachers towards Utilization of ICT.

**Significance difference between the mean score of Rural (25-40 years) and Rural (41-55 years) Sr. Sec. School Teachers' Perception towards utilization of ICT**

The table indicates that the mean score of Rural (25-40 years) Sr. Sec School Teachers' Perception towards utilization of ICT was 120.31 and that of the Rural (41-55 years) Sr. Sec School Teachers was 128.2 with SD's 13.39 and 14.97 respectively the obtain t-value value was 1.76 and that was found to be not significant at .01 and .05 level of significance. Hence, it can be concluded that, there was no significant differences between the rural (25-40 years) Sr. Sec. School Teachers' Perception and their counterpart i.e. rural (41-55 years) Sr. Sec. School teachers towards utilization of ICT.

## **MAJOR FINDINGS**

**In the light of the interpretation the result of the present investigation as already, the following major findings are given.**

- **There is no significant difference between the urban Sr. Sec. School teachers' perception and their counter part i.e. rural Sr. Sec. School teachers towards utilization of ICT.**
- **There is no significant difference between the urban male and rural male Sr. Sec. School teachers perception did not differ significantly on utilization of ICT.**
- **There is no significant difference between urban and rural female Sr. Sec. School teachers perception towards utilization of ICT. It reflected that urban and rural female teachers were not differs in view on utilization of ICT.**
- **There is no significant difference between urban (Arts and Com.) Elementary School teachers perception and their counter part i.e. rural (Arts and Com.) Sr. Sec. School Teachers towards utilization of ICT.**
- **There is no significant difference between urban and rural science teachers were not differs in view on utilization of ICT.**
- **There is no significant difference between urban (Arts / Com.) and rural (Science) Sr. Sec. School teachers perception towards utilization of ICT.**
- **There is no significant difference between urban (Arts / Com.) and rural (Science) Sr. Sec. School teachers' perception towards utilization of ICT. It stated that, rural (Science) teachers do not differ in perception on utilization of ICT.**
- **There is no significant difference between urban (25 – 40 years) rural (25 –40 years) Sr. Sec. School teachers perception towards utilization of ICT. It showed that, urban (25-40 years) and rural (25-40 years) teachers were not differ in perception on utilization of ICT.**
- **There is no significant difference between urban (41-55 years) and rural (41-55 years) Sr. Sec. School teacher's perception towards utilization of ICT.**
- **There is no significant difference between urban (25-40 years) and urban (41-55years) Sr. Sec. School teachers' perception towards utilization of ICT. It reflected that urban (25-40 years) and (41-55 years) teachers were not differs in perception on utilization of ICT.**
- **There is no significant difference between rural (25-40 years) and rural (41-55 years) Sr. Sec. School teachers' perception towards utilization of ICT. It showed that rural (25-40 years) and (41-55 years) teacher were not differing in perception on utilization of ICT.**

## **EDUCATION IMPLICATIONS**

**Any research effort must have some bearing on the theory or practice of the discipline to which it belongs. The results of the present study have, therefore to be viewed from this angle as to how much do they contribute to the existing knowledge. It should be admitted at the very outset that being limited in scope and with some natural limitations a humble effort like the present one; one cannot have for reaching generalizations to recommend any revolutionary changes in its subject field. But at the same time this effort has to be examined for its bit in this direction.**

**Every research activity has its own implications with its relevant field. The piece of research is not an exception from this.**

This research has its wider implications particularly in educational field, for students, teachers, principals and educational administrators and planners. As we find almost all the variables under study show no significant difference between urban and rural teachers perception. So educators need to take lead in the design, development and effective use of Information and Communication Technology (ICT) to convey specific content to any learner no matter the location or goal of study. It has its implications for educational administrator, educational planner and concerned policies making bodies.

The result of the study leads support to above mentioned functionaries of educational field to draw a demarcation line between urban and rural Sr. Sec. School and to frame policies and programmes to improve teacher effectiveness and add to the knowledge of the teacher and students how to improving their academic performance. The study also helps the teachers and learners to achieve information and make it instantly available when needed.

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