

Impact of Computer Literacy on Teacher Effectiveness among Secondary School Teachers

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Abstract

The present study examined the impact of computer literacy on teacher effectiveness among secondary school teachers. In order to study the relationship between computer literacy and teacher effectiveness of government secondary school teachers, the descriptive survey method of investigation was employed. The sample of 100 teachers of secondary schools of Amritsar was selected, out of which 50 teachers was selected from private schools and 50 teachers was selected from government schools. For the purpose of data collection Self constructed questionnaire was employed and to check the computer literacy of teachers and Teachers' efficiency scale by Dr. N.S. Chauhan and Dr. Rashmi jain was also used. The results revealed that there exists significant difference among computer literate teachers and computer non-literate teachers of government secondary schools.

KEYWORDS: Computer literacy, teacher effectiveness, government schools, private schools.

INTRODUCTION

With scientific and technological development, it has become essential for the developing nation like India to keep pace with the modern age technology, which now dominates almost every field of our life. This serves as a timely war to our country to reorient our school education in the shortest possible time, so that we can attain a status of equality in the world and face the world with confidence and dignity. Use of computers makes our lives easy and comfortable. Computer acts as a "Social Reformer". Thus computers have really proved themselves to make our society a modern society in terms of physical as well as mental frame work.

Modern age can truly be regard as 'Computer age' because the computers are becoming indispensable these days. Apart from scientific and mathematical computations, a computer can be used for forecasting weather, control traffic signals operate machine, translate book from one language to another. The space fights would have been impossible in the absence of computers. The big Commercial organization are using computers for a member of varied functions such as correspondence, accounting, inventory controls in other fields.

The Computer can store, retrieve, analyses and synthesis data or raw information received from various sources to produce meaningful information's necessary in making. Decisions and solving problems. The internet and its subsequent application enables educators a powerful tool with a nearly limitless flexibility of resources available for their use. To get information, to communicate with other teachers and students education of pen-paper work are same of uses of computers. Towards education the goal of computer literacy is to create an education. the goal of computer literacy is to create an education system that is based on principles of helping teachers be effective in what they do, improving the quality and relevance of classroom instructions and making quantifiable

and measurable improvement towards teaching effectiveness. So computer literacy is necessary for present type of education . Only a computer literate teacher can able to follow computer base education. High quality computer base education requires a systematic approach to the instructional development process that includes:

Need of analysis of curricula of existing courses .

- Instructional designs to determine objectives tests, entry knowledge, scope and sequence of instructional events.
- Course implementation.
- Evaluation and revision.

In addition to the quality of instruction for learners, the flexibility and adaptability of instruction via, computer base education are attractive to students. Instructions can be scheduled at any time at any place where terminals are located, which saves time, energy and resources time 40% to 50% with equal or increased retention when compared with traditional instruction the flexibility provided through computer literacy is , it makes instruction possible to a wide variety of learners in a wide variety of learners in a wide variety of environment.

NEED OF COMPUTER LITERACY

The impact of computer is felt at every age level and in each economic level. Being able to deal with computers in a non-threatening manner is a necessary life skill. Hence to be a computer literate has become as important as being literate in the more traditional sense in addition to acquiring three basic skills in reading, writing and arithmetic , one should have proficiency in the forth R, namely computer. Without this, one may be excluded from many experiences and events. Hence, familiarity with both the theory and potential applications of computer is absolutely essential.

COMPUTER LITERACY IN INDIA

The computer literacy in schools was introduced in our country through a pilot project called class (Computer Literacy and studies in Schools) 1984,by the government of India as a joint development and the department of electronics. The main objectives of the project are (**NCERT, 1984**):

- To produce students with a broad understanding of computers and their uses.
- To provide hands on experience.
- To familiarizes the student with the range of computer application in all walks of human activity and computer's potential as a controlling and information processing tool.
- To demystify computers and to develop degree of ease and familiarity with computers which would be conducive to develop individual creativity in identifying and developing application relevant to their immediate environment.

Effective teaching is that which leads to engaged and intelligent learning, effective learning involves a desire on the part of the learner involves a desire on the part of the learner to grapple with and understand material in order to be able to carry out the higher cognitive functions like application extrapolation, integration or problem solving. Effective teaching is also depends on the use of technology in the classroom, technology can only be used in the classroom, if teacher in a computer literate teacher.The range of technology used in a classroom may extend from the overhead projector which is cheap, easy to use and accessible to all to an exclusive fully immersive virtual reality where students interact with each other and objects in cyberspace.

In a high-tech class room, a teacher may continue to provide a constant supply of information , in various media, to an essentially passive audience in the belief the variety will provide stimulation, interest and learning . But more than a didactic form of information delivery is required to promote effective learning. Whatever the range of software media utilized in the classroom, its purpose should be to promote active knowledge acquisition through communication, the consideration of different view point and reflection.

REVIEW OF RELATED LITERATURE

(Foss & DeRidder, 1988; Booth, 1989; Sein & Bostrom, 1990; Weller, Repman, Lan, & Rooze, 1995). Within the context of computer literacy training, we would therefore expect students to form useful mental models of a computer system based on their conceptual knowledge of the system, and to be able to transfer that knowledge to tasks in an unfamiliar hardware/software environment.

Winter, Chudoba, and Gutek (1997) use the notion of "functional computer literacy" to argue that a user needs both the conceptual and operational knowledge to perform effectively and productively in various white-collar work settings. A truly "computer fluent" user, they contend, does not simply memorize the correct sequence of keystrokes or mouse clicks. Rather, the user must form an internal representation of the system's structure and functions. Indeed, there is consistent research evidence that links a user's valid mental models of a system to better task performance

Oviawe and Oshio (2011) and Mike (2003), in their findings of their studies revealed that ICT facilities serve as a major contributor to effective teaching and learning.

Mbaeze, Ukwandu and Anugu (2010), posited that there is influence of information and communication technology (ICT) on students' academic performance. Students ought to have been exposed to technology in the class room daily to have computer knowledge. It is the job of all educators to facilitate computer literacy for no society can grow to its fullest without computer literacy in the whole world today.

SIGNIFICANCE OF THE PROBLEM

Education plays a major role in keeping young aspirants of the society aware and upto date with new developments. Introducing micro computers in the educational setting is a major endeavor in this direction . As computers are very helpful to educate students at all levels, especially at secondary level of education. Computer enhances learning capacity of the school children .Computer as a tool of learning develops the skill and knowledge that helps the young in finding good jobs in the society. Multidimensionality of a computer as an interactive individualized tutor helps the children to change their thought structure. Due to this , competencies of the teachers increases. Computer literacy goals for teachers like operating computers, using computer application, integrating application into curriculum, evaluating applications, designing new applications, programming computers etc . Some teachers are very competent to fulfill these competencies but some have lack of these qualities . This position of computer literacy among secondary school teachers motivates the researcher to take the present study for further investigation

STATEMENT OF THE PROBLEM

IMPACT OF COMPUTER LITERACY ON TEACHER EFFECTIVENESS
AMONG SECONDARY SCHOOL TEACHERS

DEFINITION OF THE KEY TERMS

COMPUTER

“Computer is a machine for manipulating data according to a list of instructions.”

Computer is an electronic machine which can be used to process raw data into meaningful information”.

LITERACY

Literacy is the ability to make and communicate meaning from and by the use of socially contextual symbols .Within various level of developmental ability, literate person can derive and convey meaning and use their knowledge to achieve a desired purpose or goal that requires the use of language skills, be they written or spoken

COMPUTER LITERACY

Computer Literacy is an awareness and understanding of the computer, its role in society and its impact on education”.

SECONDARY SCHOOL

Secondary school is a school that is intermediate in level between elementary school and college and that usually offers general, technical, and vocational or college preparatory curricula. It is a school of young people, and grades 9th to 12th.

OBJECTIVES OF THE STUDY

1. To study and compare level of computer literacy among teachers of government secondary schools.
2. To study and compare level of computer literacy among teachers of private secondary schools.
3. To study and compare teacher effectiveness among computer literate teachers of government secondary schools.
4. To study and compare teacher effectiveness among computer non-literate teachers of government secondary schools.
5. To study and compare teacher effectiveness among computer literate teachers of private secondary schools.
6. To study and compare teacher effectiveness among computer non-literate teachers of private secondary schools.
7. To study the impact of computer literacy on teacher effectiveness among Secondary school teachers.

HYPOTHESES OF THE STUDY

1. There exists no significant difference among computer literate teachers and computer non-literate teachers of government secondary schools.
2. There exists no significant difference among computer literate teachers and computer non-literate teachers of private secondary schools.
3. There exists no significant difference in teacher effectiveness among computer literate teachers of government secondary schools.
4. There exists no significant difference in teacher effectiveness among computer non-literate teachers of government secondary schools.
5. There exists no statistically significant impact of computer literacy on teacher effectiveness among secondary school teachers.

DELIMITATION OF THE PROBLEM

This study is delimited to certain and specific samples and area where study has to be conducted:

-The study will be delimited to Amritsar city only.

-The study will be delimited to 100 teachers only.

-Computer literate and computer non-literate secondary school teachers of all streams will be chosen for the present study.

METHOD AND PROCEDURE

In order to study the relationship between computer literacy and teacher effectiveness of government secondary school teachers, the descriptive survey method of investigation was employed. The descriptive survey method involves interpretation, comparison, measurement, classification, evaluation and generalization, all of which are directed towards a proper understanding and solution of the significant educational problems

SAMPLE

The sample of 100 teachers of secondary schools of Amritsar was selected, out of which 50 teachers was selected from private schools and 50 teachers was selected from government schools.

TOOLS USED

The instruments developed for the exploration of new fields are called tools, the selection of a suitable for certain kind of data yielding information of the kind and in the form that would be most effectively used and should be reliable and valid. In a descriptive survey method different tool like questionnaire, observations are used. In a present study two questionnaire have been selected as the tools of study.

- Self made questionnaire to check the computer literacy of teachers.
- Teachers' efficiency scale constructed and standardized by Dr. N.S. Chauhan and Dr. Rashmi jain.

ANALYSIS AND INTERPRETATION

Hypothesis 1: There exists no significant difference in computer literacy among computer literate teachers and computer non literate teachers of government secondary schools.

Table 4.1

category	sample	M	S.D	SE _D	T	Significance level at .01/05
Computer literate teachers	25	64.026	6.95	6.28	7.05	Significant
Computer non literate teachers	25	16.012	0.07			

Table 4.1 shows that calculated t ratio of computer literate teachers and computer non literate teachers belonging to government secondary schools is 7.05 which is significant at both levels of significance. So the hypothesis stating there exists no significant difference in computer literacy among computer literate teachers and computer non literate teachers of government secondary schools stands rejected.

Hypothesis 2: There exists no significant difference in computer literacy among computer literate teachers and computer non literate teachers of private secondary schools.

category	sample	M	SD	SE _D	T	Significance level at .01/05
Computer	25	80.04	9.62			

literate teachers				5.45	9.17	significant
Computer non literate teachers	25	29.94	6.94			

Table 4.2 shows that calculated t ratio of computer literate teachers and computer non literate teachers belonging to private secondary schools is 9.17 which is significant at both levels of significance. So the hypothesis stating there exists no significant difference in computer literacy among computer literate teachers and computer non literate teachers of private secondary schools stands rejected.

Hypothesis 3: There exist no significant difference in teacher effectiveness among computer literate teachers and computer non literate teachers of government secondary schools.

category	sample	M	SD	SE _D	T	Significance level at .01/05
Teacher efficiency of Computer literate teachers	25	8.02	1.06	0.70	2.1	significant
Teacher efficiency of Computer non literate teachers	25	6.55	0.89			

Table 4.3 shows that calculated t ratio of teacher efficiency of computer literate teachers and computer non literate teachers belonging to government secondary schools is 0.70 which is significant at both levels of significance. So the hypothesis stating there exists no significant difference in teacher efficiency of computer literacy among computer literate teachers and computer non literate teachers of government secondary schools stands rejected.

Hypothesis 4: There exist no significant difference in teacher effectiveness among computer literate teachers and computer non literate teachers of private secondary schools

category	sample	M	SD	SE _D	T	Significance level at .01/05
Teacher efficiency of computer literate teachers	25	8.02	0.72			

Teacher efficiency of computer non literate teachers	25	7.06	0.93	1.059	3.07	significant
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Table 4.4 shows that calculated t ratio of teacher efficiency of computer literate teachers and computer non literate teachers belonging to private secondary schools is 0.70 which is significant at both levels of significance. So the hypothesis stating there exists no significant difference in teacher efficiency of computer literacy among computer literate teachers and computer non literate teachers of private secondary schools stands rejected.

Hypothesis 5: There exists no statistically significant impact of computer literacy on teacher effectiveness among secondary school teachers.

Category	N	Df	Value of r
Computer literacy	100	98	0.271
Teacher efficiency			

It is evident from table 4.5 that the value of 'r' between the variables of computer literacy and teacher efficiency of secondary school teachers is 0.271 which is significant. So the hypothesis stated there exists no statistically significant impact of computer literacy on teacher effectiveness among secondary school teachers stands rejected.

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