Original Research Article

Impact of ICT on the School and Learning Environment

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Abstract

The present study is an attempt to know the effect of ICT on the environment of school and learning. The objectives of this study were to study the impact of ICT on the school environment and to study the impact of ICT on the learning environment. Cross-sectional research design has been used in this study. Survey method of descriptive research has been used in this study. Multistage sampling technique has been employed at different phases. At the first phase four districts of Himachal Pradesh were selected randomly by lottery method. At second stage fifteen blocks were selected. At third stage forty two senior secondary schools were selected. At fourth stage the researcher selected 42 Heads/Principals for the present research work. Findings showed that the first and foremost impact of ICT on the school environment is that it has increased contact with education office, which is followed by increased use of ICT to generate MIS, increased presence among peer schools-SMART school, increased use of ICT for administration, child tracking, database, library and school activities, increased collaboration with other schools and increased online sharing and collaboration through academic portals. It has also been found that computer education is helpful in attracting the children towards government schools and there is improvement in students learning environment due to computer.

Key Words: *ICT, School Environment and Learning Environment.*

Introduction:

ICT stands for Information and Communication Technology and is defined as a diverse set of technological tools and resources used to communicate, to create, disseminate, store and manage information. These technologies include computers, internet, broadcasting technologies (radio and television) and telephony. The main aim of the ICT policy in school education is preparing youth to participate creatively in the establishment, sustenance and growth of the knowledge of the society to lead to all round socio-economic development of the nation and enhance global competitiveness. ICT is important in schools and educational institutions as it assists in carrying out their activities and functions such as record keeping, research work, instructional uses, presentations, financial analysis, examination results management, communication, supervision, MIS, teaching-learning activities, and general school management functions.

The use of ICT has improved the school environment as well as learning environment of the school, which is evident through many research studies. **Tinio (2002)** found that ICT has great potential to increase the quality of education. **Koc (2005)** mentioned that using ICT enables students to communicate, share, and work collaboratively anywhere,

any time. ICT helps students focus on higher-level concepts rather than less meaningful tasks (**Levin &Wadmany, 2006**). An appropriate use of ICT can raise educational quality and connect learning to real-life situations (**Weert&Tatnall, 2005, Lowther, Inan, Strahl, & Ross, 2008**). **Brush, Glazewski& Hew (2008)** stated that ICT is used as a tool for students to discover learning topics, solve problems and provide solutions to the problems in the learning process. **McMahon (2009)** showed that there were statistically significant correlations between studying with ICT and the acquisition of critical thinking skills.ICT assists in transforming a teaching environment into a learner-centered one (**Castro Sánchez &Alemán 2011**). **Mohite (2020)** revealed that ICT play vital roles in facilitating teaching and learning. They have transformed classroom communication methods and modified instruction strategies. It is clear that ICT has influenced each and every aspect of the education. In the present study, the researcher wants to know the views of principals of the Schools of Himachal Pradesh regarding the impact of ICT on the school environment as well as learning environment.

Statement of the Problem:

"Impact of ICT on the School and Learning Environment"

Objectives of the Study:

1. To study the impact of ICT on the school environment.
2. To study the impact of ICT on the learning environment.

Research Design:

In the present study, cross-sectional research design has been adopted by the researcher.

Research Method:

Survey method of descriptive research has been used in this study.

Sample and Sample Procedure:

In the present study, multistage sampling technique has been employed at different phases. The sampling procedure of the study has been given below:

❖ **Stage – First : Selection of the Four Districts out of Twelve Districts of Himachal Pradesh**

   Himachal Pradesh has twelve districts. The researcher selected four districts of Himachal Pradesh randomly by lottery method. Through randomization, Hamirpur, Kinnaur, Shimla and Solan were selected for the study.

❖ **Stage – Second : Selection of the Blocks**

   The target of the researcher at the second stage was to select the blocks of selected four districts. Firstly, the researcher obtained the list of blocks of the selected four districts. The researcher made the list of all the blocks of these four districts and selected fifteen blocks from this list randomly through lottery method.

❖ **Stage – Third : Selection of the Senior Secondary Schools**

   For the selection of the senior secondary schools, the researcher procured the list of senior secondary schools of all the fifteen blocks of four districts. Afterwards, the researcher made the slips of the names of all the senior secondary schools of selected fifteen blocks and then selected twelve senior secondary schools from each district randomly through lottery technique.

❖ **Stage – Four: Selection of The Principals**

   After the selection of the senior secondary schools, the researcher attempted to select the sample i.e. Heads/Principals for the present research work. As the present study has involved forty two senior secondary

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schools, the researcher included each Head/Principal of all the forty two senior secondary schools and in this way, forty two Heads/Principals were taken as the sample of the present study.

Analysis and Interpretation:

Table No. 1(a)

Responses of the Principals on the Impact of ICT on the School Environment

(Frequency = 42)

Impact of ICT	Responses in Percentage		
	Yes	**No**	**Don't know**
Increased use of ICT to generate MIS	88.1	4.76	7.143
Increased use of ICT for Administration, child tracking, database, library and school activities	80.95	11.9	7.143
Increased Presence among Peer Schools-SMART School	88.1	7.14	4.762

The table no 1(a) shows the responses of the principals on the impact of ICT on theschool environment. It is clear from the above table that 88.1% principals are of the view that there has been increased use of ICT to generate MIS, while 4.76% principals are of the view that there has not been increased use of ICT to generate MIS. On the other hand, 7.143% principals do not know whether there has been increased use of ICT to generate MIS.

It is clear from the above table that 80.95% principals are of the view that there has been increased use of ICT for administration, child tracking, database, library and school activities, while 11.9% principals are of the view that there has not been increased use of ICT for administration, child tracking, database, library and school activities. On the other hand, 7.143% principals do not know whether there has been increased use of ICT for administration, child tracking, database, library and school activities.

It is clear from the above table that 88.1% principals are of the view that there has been increased presence among peer schools-SMART school, while 7.14% principals are of the view that there has not been increased presence among peer schools-SMART school. On the other hand, 4.762% principals do not know whether there has been increased presence among peer schools-SMART school.

Table No. 1(b)

Responses of the Principals on the Impact of ICT on the School Environment

(Frequency = 42)

Impact of ICT	Responses in Percentage		
	Yes	**No**	**Don't know**
Increased Collaboration with Other Schools	80.95	14.3	4.762
Increased Contact with Education Office	92.86	2.38	4.762
Increased Online Sharing and Collaboration through Academic Portals	80.95	14.3	4.762

The table no 1(b) shows the responses of the principals on the impact of ICT on theschool environment.It is clear from the above table that 80.95% principals are of the view that there has been increased collaboration with other schools,

while 14.3% principals are of the view that there has not been increased collaboration with other schools. On the other hand, 4.762% principals do not know whether there has been increased collaboration with other schools.

It is clear from the above table that 92.86% principals are of the view that there has been increased contact with education office, while 2.38% principals are of the view that there has not been increased contact with education office. On the other hand, 4.762% principals do not know whether there has been increased contact with education office.

It is clear from the above table that 80.95% principals are of the view that there has been increased online sharing and collaboration through academic portals, while 14.3% principals are of the view that there has not been increased online sharing and collaboration through academic portals. On the other hand, 4.762% principals do not know whether there has been increased online sharing and collaboration through academic portals.

Table No. 2

Responses of the Principals on the Impact of ICT on Learning Environment

Description	Number and Percentage of Principals			
	Frequency		Percentage	
	Yes	No	Yes	No
Computer education is helpful in attracting the children towards government schools	39	3	92.9	7.14
There is improvement in students learning environment due to computer	40	02	95.2	4.76
Emphasis is given on developing computer operating skills among the students	40	02	95.2	4.76
Helpful in improving enrolment rate/reducing drop out of students, increasing retention and improving learning level of the students	39	03	92.9	7.14

The table no 2 shows the responses of the principals on the impact of ICT on learning environment. It is clear from the above table that 92.9% principals are of the view that computer education is helpful in attracting the children towards government schools, while 7.14% principals are of the view that computer education is not helpful in attracting the children towards government schools.

It is clear from the above table that 95.2% principals are of the view that there is improvement in students learning environment due to computer, while 4.76% principals are of the view that there is no improvement in students learning environment due to computer.

It is clear from the above table that 95.2% principals are of the view that emphasis is given on developing computer operating skills among the students, while 4.76% principals are of the view that emphasis is not given on developing computer operating skills among the students.

It is clear from the above table that 92.9% principals are of the view that ICT is helpful in improving enrolment rate/reducing drop out of students, increasing retention and improving learning level of the students, while 7.14%

principals are of the view that ICT is not helpful in improving enrolment rate/reducing drop out of students, increasing retention and improving learning level of the students.

Findings:

The researcher has drawn the following findings from the above interpretation and analysis of the data:

1. Majority of the principals are of the view that there has been increased use of ICT to generate MIS.

2. Majority of the principals are of the view that there has been increased use of ICT for administration, child tracking, database, library and school activities.

3. Majority of the principals are of the view that there has been increased presence among peer schools-SMART school.

4. Most of the principals are of the view that there has been increased collaboration with other schools by the use of ICT.

5. Majority of the principals are of the view that there has been increased contact with education office by the use of ICT.

6. Most of the principals are of the view that there has been increased online sharing and collaboration through academic portals.

7. In the view of most of the principals the first and foremost impact of ICT on the school environment is that it has increased contact with education office, which is followed by increased use of ICT to generate MIS, increased presence among peer schools-SMART school, increased use of ICT for administration, child tracking, database, library and school activities, increased collaboration with other schools and increased online sharing and collaboration through academic portals.

8. Majority of the principals indicated that computer education is helpful in attracting the children towards government schools.

9. Most of the principals revealed that there is improvement in students learning environment due to computer.

10. Most of the principals revealed that emphasis in their schools is given on developing computer operating skills among the students.

11. Majority of the principals stated that ICT is helpful in improving enrolment rate/reducing drop out of students.

Educational Implications:

In this study it has been observed that ICT has improved the school as well as learning environment. It shows the importance of ICT in learning and the success of schools. For this it is necessary that education should be imparted to ICT. It is needed that ICT scheme should be implemented effectively in every school of India. Teachers should be properly trained to use ICT during their teaching. The number of participants in the training should be less so that each participant can have access to the ICT tools and can know the use of different ICT tools. As the principal is the head of the school and he is responsible for the implementation of the scheme in the school, it is also needed that he is very well familiar with the vision and objectives of the scheme, he should know the requirements to implement the policy in his school, he should be familiar with the stake holders and mechanism of the scheme. For this to be implemented, awareness program should also be organized which can remove the hurdles in the path of effective implementation of the scheme. If the head of the school is aware and motivated towards the use of ICT facilities, it would be rather easy to inspire the teachers and students in the direction of using technology.

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