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AWARENESS AND APPLICATION OF INFORMATION AND COMMUNICATION TECHNOLOGY IN EDUCATION AMONG THE HIGHER SECONDARY STUDENTS

Tanmay Sarkar
Student, Department of Education, University of Kalyani, W.B., India
Email: tanmaysarkar133@gmail.com

Abstract:- The present research focus on awareness and application of ICT in Education. Classroom processes are mostly based on chalk and talk method, so there is an immediate need for orienting the teachers in information and communication-based teaching method. This investigation is a descriptive survey research and conducted in Nadia district of West Bengal. The researcher has taken 200 students in in different higher secondary school by using purposive sampling technique. To collect the data, five-point rating attitude scale developed by researcher followed by Likert scale was used. The self-constructed questionnaire concerning 30 questions was used for collect the data. To find out the attitude level of students, Mean, Standard Deviation and 't' test was applied for analysis and interpretation of data.

Keywords: *Education, Information and Communication Technology, Students.*

I INTRODUCTION

Education is the most element in the evolution of the nation. The present century is the age of information explosion where huge amount of information is being generated in every moment in various forms and content. Hence, the information has become an essential ingredient of our life and a basic input to education, research planning and development activities. The information professionals and general people are adopting technologies like computing, networks, and internet, digital data, etc. and getting adapted to the changing environment to the fulfilment information needs of the users as well as their self Now-a-days, ICT is needed because of following consideration-

1. Information explosion.
2. Rapid and constant technological developments.
3. Shrinking library budgets.
4. Escalating price of documents.
5. Multi-use machine-readable records.
6. Inadequate library collection.
7. Need to provide better service, on wider record scale by adopting online storage and retrieval techniques.

Use of ICT in Education-

a) ICT assists students in accessing digital information efficiently and effectively. It works as a tool for the students to discover learning topics and solutions to the problems in the learning process.

b) ICT supports student-centered and self-directed learning. It helps in the accumulation of new knowledge through accessing, selecting, organizing and interpreting of information.

c) ICT helps in generating a creative learning environment and develops among students' new understanding in their areas of learning. It provides more creative solutions to different types of learning inquiries and learners can access all types of texts from beginning to advanced levels with ease through computers-based gadgets (laptops, personal digital assistants or iPads).

d) Promotion of collaborative learning in distance-based environment through ICT has been seen to be significant.

e) ICT improves teaching and learning quality. These are autonomy, capability, and creativity. Autonomy means that learners take control their learning through the use of ICT. In this way, they become more capable to work with themselves as well as with others. With regard to capability, learners can develop the capability to apply and transfer knowledge with efficiency and effectiveness while using new technology. Creativity may help the learner to discover new multimedia tools and lead him to create materials in the styles readily

available in the form of simulations games CDs, and television. Thus, ICT is overpowering Traditional methods.

1.1 Need for the study:

Even though ICT adoption has grown, most schools never had broad institutional visions or strategies on ICT adoption. Schools should prepare the current generation of students for a workplace where ICT, particularly computers, the internet and related technologies are becoming more and more ubiquitous. Schools should explore not only how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning so that they obtain quality education like their peers in other countries.

1.2 Statement of the problem:

Information technology includes tools, software, contents, applications and products that possess, bring together, promote, expose and record message or knowledge that can be accessed and used at any time. The problem of the study identified as "**Awareness and Application of Information and Communication Technology in Education among the Higher Secondary Students**".

1.3 Objectives of the study:

- To find out the level of awareness of ICT among the higher secondary school students.
- To find out the level of application of ICT among higher secondary school students.
- To find out the level of Achievement in Education among the higher secondary school students.
- To find the difference in awareness and application of ICT among the students with respect to gender, medium of instruction and type of school.

1.4 Hypotheses of the study:

Ho1: There is moderate level of awareness of ICT found among the higher secondary school students.

Ho2: There is moderate level of application of ICT found among the higher secondary school students.

Ho3: There is moderate level of academic achievement of higher secondary school students.

Ho4: There is no significant difference in awareness of ICT among the higher secondary school students with respect to gender.

Ho5: There is no significant difference in awareness of ICT among the higher secondary school students with respect to Medium of Instruction.

Ho6: There is no significant difference in awareness of ICT among the higher secondary school students with respect to type of school.

1.5 Delimitation of the study:

1. The researcher has limited the sample to 200.

2. The investigation has restricted his study only to Nadia district.

3. The investigation was restricted only to higher secondary school students.

II METHODOLOGY:

The success of any research depends on the suitable method, the tools and techniques used for the collection of data. Researchers use different methods in their research activities. Methodology is essential in systematic research. The selection of such method is on the nature, objectives and population of the study.

2.1 Research Design:

The present study has used Descriptive Survey research method. The researcher attempted to study the awareness and application of ICT in relation to the Education achievement of the higher secondary students under the present conditions. Thus, keeping in view the objectives of the study, Descriptive Survey Method was used for the study.

2.3 Variables:

The variables of the present study are-

Independent Variables: Awareness of ICT and Application of ICT

Dependent variable: Achievement in Science.

2.4 Sample:

All the students who are studying at higher secondary level in government, government aided and private schools constituted population for the study. Among these students 300 students were selected purposively and the questionnaires were distributed to them. The complete filled in questionnaires were received from 200 higher secondary students. Finally, the actual samples taken for data analysis were 200 higher secondary students.

2.5 Tools:

Awareness and application towards ICT Scale developed by research and followed by P. Pachiyappan (2015). In the present study, the higher secondary students' marks of IX in Education is considered as Achievement in Education.

2.6 Description of tools:

This scale is developed and standardized by research followed by P. Pachaiyappan (2015). It consists of 30 statements with five-point scale such as strongly agree, agree, undecided, disagree and strongly disagree. The higher secondary students' marks of IX were obtained from the schools and it was considered as achievement score in Education of higher secondary students.

2.7 Statistical Techniques:

To achieve objectives of the study, the data collected was statistically analyzed by –

i. Descriptive analysis- Mean, Standard Deviation
ii. Differential analysis- 't' test and critical ratio.

III DATA ANALYSIS AND INTERPRETATION:

The obtained data were then scored and tabulated for the statistical treatments like Mean, Standard deviation and 't' test.

Hypothesis-1: There is moderate level of awareness of ICT found among the higher secondary school students.

Table-1: Level of awareness of ICT found among the higher secondary school students

Level of Awareness of ICT	No of students	Percentage
Low	9	4.50
Average	36	18.00
High	155	77.50

The above table reveals that there exists high level (77.50%) of awareness of ICT found among the higher secondary school students. Hence the formulated hypothesis (1) is rejected.

Hypothesis-2: There is moderate level of application of ICT found among the higher secondary school students.

Table-2: Level of usage of ICT among higher secondary school students

Level of Awareness of ICT	No of students	Percentage
Low	12	6.00
Average	56	28.00
High	132	66.00

The above table reveals that there exists high level (66%) of level of ICT usage found among the higher secondary school students. Only 28% of respondents fall under moderate level and only 6% of respondents fall under low level. So, the formulated hypothesis (2) is rejected.

Hypothesis-3: There is moderate level of academic achievement of higher secondary school students.

Table-3: Level of achievement of higher secondary school students

Level of Awareness of ICT	No of students	Percentage
Low	23	11.50
Average	110	55.00
High	67	33.50

The above table reveals that there exists 33.50% high level of level of achievement found among the higher secondary school students. Only 11.50% of respondents fall under low level. But majority (55%) of students falls under moderate level and hence the formulated hypothesis is accepted.

Hypothesis-4: There is no significant difference in awareness of ICT among the higher secondary school students with respect to gender.

Table-4: Significant difference in awareness and application of ICT among the higher secondary school students with respect to gender

Gender	N	Mean	S. D	SEd	df	t-value	Table value	Remarks
Male	100	114.02	6.23	0.97	198	3.09	2.60	Significance at 0.01 level
Female	100	111.01	7.41					

From the above table, it is found that the calculated t-value (3.09) is more than the table value (2.60) for 198 degrees of freedom at 0.01 level of significance. Hence the stated the null hypothesis that there is no significant difference in awareness and application of ICT among the higher secondary school students with respect to gender is rejected.

Hypothesis-5: There is no significant difference in awareness of ICT among the higher secondary school students with respect to Medium of Instruction.

Table-5: Significant difference in awareness and application of ICT among the higher secondary school students with respect to medium of instruction

Gender	N	Mean	S. D	SEd	df	t-value	Table value	Remarks
Bengali	145	103.47	5.23	1.11	198	0.83	1.97	No Significance
English	55	104.30	7.12					

From the above table, it is found that the calculated t- value (0.83) is less than the table value (1.97) for 198 degrees of freedom at 0.05 level of significance. Hence the stated the null hypothesis that there is no significant difference in awareness and application of ICT among the higher secondary school students with respect to medium of instruction is accepted.

Hypothesis-6: There is no significant difference in awareness of ICT among the higher secondary school students with respect to type of school.

Table-6: Significant difference in awareness of ICT among the secondary school students with respect to type of school

Type of School	N	Mean	S. D	SEd	df	t-value	Table value	Remarks
Govt	163	108.16	6.23	1.41	198	2.00	1.97	Significance at 0.05 level

From the above table, it is found that the calculated t-value (2.00) is greater than the table value (1.97) for 198 degrees of freedom at 0.05 level of significance. Hence the stated the null hypothesis that there is no significant difference in awareness and application of ICT among the higher secondary school students with respect to type of school is rejected.

IV MAJOR FINDINGS:

This chapter deals with the consolidation of the various findings presented in the previous chapters. Findings are statements of factual information based upon the data analysis. The major findings were-

- There is high level of awareness of ICT found among the higher secondary school students.
- There is high level of application of ICT found among the higher secondary school students.
- There is moderate level of academic achievement of higher secondary school students.
- There is significant difference in awareness and application of ICT among the higher secondary school students with respect to gender.
- There is no significant difference in awareness and application of ICT among the higher secondary school students with respect to medium of instruction.
- There is significant difference in awareness and application of ICT among the higher secondary school students with respect to type of school.

V CONCLUSION:

The present investigation was undertaken to find out the awareness and application of ICT in enhancing education among the students of higher secondary schools. It was found that there exists moderate to high level of awareness and application of ICT among secondary school students. With the help of information and Communication Technology, learners can now browse through e-books, e-materials, sample examination papers, previous year papers etc. and can also have an easy access to resource persons, mentors, experts, researchers, professionals, and peers-all over the world. Information and communication technologies (ICT) have become common place entities in all aspects of life. Within education, ICT has begun to have a presence but the impact has not been as extensive as in other fields. Education is a very socially oriented activity and quality education has traditionally been associated with strong and qualified teachers having high degrees of personal contact with learners. The use of ICT in education lends itself to more student-centered learning settings and often this creates some tensions for some teachers and students. In the given perspective, the present study has been a rewarding experience in unraveling the enigmatic effects of the ICT. It is realized that these are useful and purposeful. The study has clearly confirmed the potential role of the ICT in providing the quality of secondary education and improving better learning on the part of students and stimulating greater learning among them. Present study found that all the principals appear to have average opinion about ICT. However, principals of private unaided schools expressed better opinion than principals of private aided schools followed by government schools. Also, principals who had computer availability at home expressed better opinion than who did not have computer at home. Moreover, principals who had Internet connection at home had better opinion than who did not have Internet connection at home.

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