Research Paper Education

# Ict Literacy: A Study Among Higher Secondary School Students

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**ABSTRACT**

ICT is becoming a ubiquitous component of the physical and social world in which we live. Education should enable the pupils to adapt technology means, especially Information and Communication Technology, as an integral means of their learning process. In order to thrive in this digital society, students should be prepared to respond to the enormous challenges of tech-driven knowledge era. They should have ICT literacy to be successful in their future life. The present study focuses on the higher secondary students' ICT literacy. Results of the paper indicate that higher secondary students are having low ICT literacy with hardly any difference found between the ICT literacy among higher secondary students studying Science and Humanities, but differed between the ICT literacy of higher secondary boys and girls.

**KEYWORDS** Higher secondary students; ICT literacy.

## INTRODUCTION

Today we are living in a world of technology. Technology is becoming an increasingly important factor in everyday life. The current wave of technological trends made ICT a necessity and cross-cutting in all walks-of-life. The practices and procedures in the field of education have also been influenced by Information and Communication Technology. Technology provides an enormous spectrum of possibilities for new approaches to teaching and hence for learning across the curriculum. Teaching people how to be competent basic users of ICT technologies is an important role of ICT education, so they will be successful in their academic and work careers, and so they can efficiently participate in modern technical society.

Education forms the corner stone of development in any civilized society. As the society is rapidly changing from the industrial economy to knowledge economy, there is a need for redefining education to enable the pupils to adapt technology means, especially Information and Communication Technology, as an integral means of their learning process. ICT can help in enhancing the quality of education through blended learning by supplementing the traditional talk and chalk method of teaching. Addition of virtual learning environments could reshape learning relations between teachers and students. By reducing lectures, emphasizing web supported materials and activities and using more social and collaborative activities and assessment, students will be more interested in learning, they will be more active and they could acquire the skills that are needed to be successful in a technology – rich world.

### Need and Significance of the Study

Societies of today have been recognized as information societies due to the impact of Information and Communication Technologies in all aspects of human life. It is a matter of fact that all professions such as medical doctors, nurses, pilots, engineers, accountants, actuarial, teachers, media, business men, etc., require basic ICT skills for them to fit in with the current and future technological trends. So the aim of education in this technology- rich society is to prepare students for the world beyond compulsory schooling. 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.

Realizing this Department of General Education, Govt. of Kerala has invested heavily in information and communication technologies. As a result the number of computers in schools is increased and most schools are now "connected". But use of ICT and digital skill levels are very uneven. Teachers still utilize technology only sporadically and under a sense of compulsion rather than because they are persuaded of its merit as an educational means. They use technology as just another tool to provide information to students. Students remain the passive consumers of their learning and fact gatherers rather than active participants in the discovery of information and producers of meaningful learning experiences. This is what happening in primary level to higher secondary level in Kerala schools. Thus a study to check whether the students are getting basic digital skills that are essential for them to become successful in their future life is conducted.

### Objectives of the Study

- To analyse the ICT literacy among higher secondary students.
- To compare the extent of ICT literacy among higher secondary students based on

a) Gender (Boys/Girls)
b) Subject of study (Science/Humanities)

## HYPOTHESIS

- There is no significant difference in the ICT literacy among higher secondary students based on

a) Gender (Boys/Girls)

b) Subject of study (Science/Humanities)

## METHODOLOGY

Survey method was adopted to collect necessary data. Keeping the objectives in view, a total of 228 higher secondary students from various higher secondary schools of Alappuzha district in Kerala were selected using stratified random sampling technique. The tool used for the collection of data was a test to measure the ICT literacy of higher secondary students, developed by the investigators. The test contained 30 multiple choice test items.

## ANALYSIS AND FINDINGS

In order to analyze and interpret data, the statistical techniques used for the present study were Mean, Standard Deviation and Critical Ratio to test the significance of difference between two means. The data gathered were presented in tabular form and analysis was done as per the objectives of the study. The higher secondary students' ICT literacy has been discussed with the relevant tables in the following section of the study.

**Higher Secondary Students' ICT literacy**

As a first step of analysis mean, median, standard deviation and skewness were calculated for the total sample and sub samples. The results are presented in Table 1.

**Table 1**
**Mean, Median, Standard Deviation and Skewness of Higher Secondary Students' ICT Literacy Scores**

| Group | N | Mean | Median | S D | Skewness |
|---|---|---|---|---|---|
| Total | 228 | 14.53 | 14 | 4.187 | 0.137 |
| Boys | 118 | 15.55 | 16 | 4.172 | -0.041 |
| Girls | 110 | 13.45 | 13 | 3.938 | 0.298 |
| Science | 113 | 14.32 | 14 | 4.322 | 0.137 |
| Humanities | 115 | 14.75 | 14 | 4.058 | 0.161 |

The maximum possible score on the test is 30 and minimum is 0. It can be inferred from the Table -1 that higher secondary students are having low ICT literacy. Their mean score on the test is 14.53 which is below 50% of the maximum possible score. The mean scores of awareness of the sub The The maximum possible score on the test is 30 and minimum is 0. It can be inferred from Table 1 that higher secondary students are having low ICT literacy. Their mean score on the test is 14.53 which is below 50% of the maximum possible score. The mean scores of awareness of the sub samples based on gender and subject are not high values indicating the sub samples are also having low ICT literacy. Median scores also indicate that higher secondary students are having low ICT literacy. The distribution is positively skewed indicating that most of the students have scored less than the mean score.

**Comparison of the ICT literacy among higher secondary students based on**
**a) Gender**

This section of analysis is based on the objective to compare the extent of ICT literacy among higher secondary students based on gender. To study whether significant difference exist in mean scores of awareness between two categories, the data were analyzed by test of significance for difference between mean scores. The results obtained are presented in Table 2.

**Table 2**
**Data and Results of the Test of Significance of Difference between Mean ICT Literacy Scores of Higher Secondary Students Based on Gender**

| Group | N | Mean | S D | C R |
|---|---|---|---|---|
| Boys | 118 | 15.55 | 4.172 | 3.916** |
| Girls | 110 | 13.45 | 3.938 | |

**P<0.01

The critical ratio for the sub samples urban and rural is 3.916 which is greater than the table value 2.58 at 0.01 level. This reveals that there is a significant difference in the ICT literacy mean scores of higher secondary school boys and girls. This means that even though both boys and girls have low ICT literacy, higher secondary school boys possess relatively high ICT literacy than higher secondary school girls. The hypothesis, there is no significant difference in the ICT literacy among higher secondary students based on gender is therefore rejected.

**b) Subject of study**

To check whether significant difference exist in the mean scores of ICT literacy between Science group higher secondary students and Humanities group higher secondary students test of significance of difference between mean scores is used. The results obtained are presented in Table 3.

**Table 3**
**Data and Results of the Test of Significance of Difference between Mean ICT Literacy Scores of Higher Secondary Students Based on Subject of Study**

| Group | N | Mean | S D | C R |
|---|---|---|---|---|
| Science | 113 | 14.32 | 4.322 | 0.773 |
| Humanities | 115 | 14.75 | 4.058 | |

The critical ratio for the sub samples Science group students and Humanities group students is 0.773 which is not significant at 0.05 level since it is less than the table value 1.96 at 0.05 level. This means that both science group students and humanities group students are having the same level of ICT literacy. Therefore the hypothesis there is no significant difference in the ICT literacy among higher secondary students based on their subject of study is accepted.

**EDUCATIONAL IMPLICATIONS**

The present study reveals that higher secondary students are having low ICT literacy. Efforts geared towards integration of ICT into the school system, have not had much impact. There are some problems such as diversity of the student population, time constraints, poor maintenance culture etc that militate against these efforts. The educational authorities should take efforts to annihilate these problems so that the students get trained to improve their ICT knowledge in order to participate actively in the knowledge based society and teachers should be more committed to teaching with the help of ICT and should give more importance to the practical knowledge in it. Student teachers also should have knowledge of ICT use and integration in order to bridge the digital divide in today's technological age. The use and integration of ICT should be implemented across the curriculum in order to ensure the full integration and use of ICT in teacher education. Efforts should be made by government to post and provide teachers skilled in ICT to each school to impact ICT skills to the students. Awareness programs should be conducted to the parents about the importance of ICT skills so that they also motivate and help their children to get ICT literacy.

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