RELATIONSHIP BETWEEN AWARENESS OF INFORMATION AND COMMUNICATION TECHNOLOGY AND MULTIPLE INTELLIGENCE OF STANDARD XI STUDENTS

Research Paper

ABSTRACT

The main objective of the study was to find out the significant relationship between awareness of information and communication technology and multiple intelligence of standard XI students. The survey method was adopted in this study. The sample consisted of 300 standard XI students in Tirunelveli District. Information and Communication Technology Awareness tool developed by Bobin Antony (2006) and Multiple Intelligence tool developed by Terry Armstrong were used for data collection. "t" test and Pearson Product Moment Correlation were used for analyzing the data. It was found that standard XI students differ in their awareness of Information and Communication Technology and Multiple Intelligence. The study revealed that there is significant difference among standard XI students in their awareness of information and communication technology and multiple intelligence with reference to certain background variables and a significant relationship between Awareness of Information and Communication Technology and Multiple Intelligence of standard XI students.

INTRODUCTION

"An intelligence is the ability to solve problems, or to create products, that are valued within one or more cultural settings." - Howard Gardner (1983)

Education is a character building process enhancing one's personality and making one rational, capable, responsive and intelligently independent. It generates the will to refashion one's heart, head and life. Till the 90's intelligence quotient was the measure of success of an individual. The greater the intelligence quotient, the more intelligent the individual was and the more successful one was considered to be.

Intelligence is often defined as the general mental ability to learn and apply knowledge, to manipulate our environment, as well as the ability to reason and have abstract thought. Communication is education and education is knowledge. This is an age of knowledge explosion and exploration. Rapid progress in computer technology has invaded the field of education. Technology has had a significant effect on the education system for many years. In the classrooms teachers have moved from the days of chalk and talk to the present time when they use overhead projectors and more recently multimedia presentation techniques. Howard Gardner's theory of Multiple Intelligences utilizes various aspects of cognitive and developmental psychology, anthropology, and sociology to explain the human intellect. The human intelligence or cognitive competence can be better described as a set of an individual's multiple abilities, talents and mental skills. These mental abilities are a combination of physical, biological and social domains. Hence multiple intelligence enhances the use of technology.

REVIEW OF RELATED LITERATURE

The investigators have reviewed a good quantum of research findings related to the present investigation. Antony Gracious (2014) studied on "Teaching Competency of Secondary Teacher Education Students in Relation to their Multiple Intelligence and ICT Awareness". Archana Ganesh Watkar (2014) conducted a study on "Effectiveness of ICT in Teacher Education: An Experimental Study". Ruchika Gunwal (2014) investigated on the attitude of school teachers towards the use of ICT or New

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Techonology in teaching". Selvakumar, A.P. and Sinduja, B. (2014) studied on "ICT Awareness among Teacher Educators in Colleges of Education – A Case Study". Vallabi J.E. and Mangai, K. (2014) conducted a study on "Multiple Intelligence of Prospective Teachers". Amalorpavam M. and Annaraja, P. (2013) conducted a study on "Multiple Intelligence of Prospective Teachers". Antony Gracious F.L. and Annaraja, P. (2011) investigated on "Multiple Intelligence and Computer Efficacy of Prospective Teachers".

SIGNIFICANCE OF THE STUDY

Quantitative expansion of education has to be accompanied by qualitative improvement if the purpose of education is to be realized. In order to improve the quality of education a number of measures are initiated in our country. One such is the use of computers in education which is the integration of ICT tools in the teaching and learning process. Information technology has played a great role in changing our everyday lives, thus providing new opportunities for learning. Old pedagogical tools and methodology are becoming increasingly less effective and are no longer suitable for the acquisition of knowledge. So a new learning environment is created, in which children are encouraged to discover by independent and group work the ways to prepare themselves for the information society. The implementation of ICT in education is unavoidable and valuable. The awareness of ICT helps the students to appreciate and adopt emerging communication technology and innovate practices. It provides guidance for the development of high quality strategies. It enables the student to learn new knowledge and skills to use the new digital tools and resources.

Howard Gardner's theory of multiple intelligence identifies that there are many forms of intelligences and that children have varying strength and combination of these. Every teacher and parent should assess their child's multiple intelligence to address their strengths and build upon their weakness. In this world of science and technology, only those with a high level of multiple intelligence can be successful. Application of multiple intelligence theory and awareness of ICT help the students to understand their level of intellectual functioning. Hence the investigator found it necessary to undertake the research to probe into the relationship between awareness of Information and Communication Technology and Multiple Intelligence of standard XI students.

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OBJECTIVES OF THE STUDY

1. To find out whether there is any significant difference between standard XI students' awareness of Information and Communication Technology with reference to the following background variables (i) Gender (ii) Locality of school (iii) Medium of instruction (iv) Subject of study.
2. To find out whether there is any significant difference between standard XI students' Multiple Intelligence with reference to the following background variables (i) Gender (ii) Locality of School (iii) Medium of instruction (iv) Subject of study.
3. To find out the relationship between awareness of Information and Communication Technology and Multiple Intelligence of standard XI students.

HYPOTHESES OF THE STUDY

1. There is no significant difference between standard XI students' awareness of Information and Communication Technology with reference to the following background variables: (i) Gender (ii) Locality of school (iii) Medium of instruction (iv) Subject of study.
2. There is no significant difference between standard XI students' Multiple Intelligence with reference to the following background variables: (i) Gender (ii) Locality of school (iii) Medium of instruction (iv) Subject of study.
3. There is no significant relationship between Awareness of Information and Communication Technology and Multiple Intelligence of standard XI students.

POPULATION OF THE STUDY

The population includes standard XI students of Tirunelveli District.

SAMPLE

The investigator used the simple random sampling technique and randomly selected 300 standard XI students from various schools of Tirunelveli District.

TOOLS

1. Information and Communication Technology Awareness tool developed by Bobin Antony (2006)
2. Multiple Intelligence tool developed by Terry Armstrong.

STATISTICAL TECHNIQUES USED

Mean, standard deviation 't' test and Pearson Product Moment Correlation were used to analyze the data.

ANALYSIS OF DATA

Table 1

DIFFERENCE IN AWARENESS OF INFORMATION AND COMMUNICATION TECHNOLOGY OF STANDARD XI STUDENTS IN TERMS OF BACKGROUND VARIABLES

Variables	Categories	N	Mean	SD	Calculated 't' value	Table value	Remark
Gender	Male	159	12.64	3.22	2.77	1.96	S
	Female	141	11.59	3.30			
Locality of school	Rural	105	11.60	3.08	2.10		S
	Urban	195	12.44	3.37			
Medium of instruction	Tamil	165	11.51	2.99	3.76		S
	English	135	12.92	3.47			
Subject of study	Arts	157	12.00	2.77	0.78		NS
	Science	143	12.30	3.78			

It is inferred from Table-1 that there is significant difference between male and female, rural and urban, Tamil and English medium standard XI students in their awareness of Information and Communication Technology. There is no significant difference between arts and science standard XI students in their awareness of Information and Communication Technology.

It is inferred from Table-2 that there is a significant difference between rural and urban, Tamil and English medium standard XI students in their Multiple Intelligence. There is no significant difference between male and female, arts and science standard XI students in their Multiple Intelligence.

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Table 2

DIFFERENCE IN MULTIPLE INTELLIGENCE OF STANDARD XI STUDENTS IN TERMS OF BACKGROUND VARIABLES

Variables	Categories	N	Mean	SD	Calculated 't' value	Table value	Remark
Gender	Male	159	118.59	17.65	0.88	1.96	NS
	Female	141	120.35	16.64			
Locality of School	Rural	105	113.45	15.78	4.56	1.96	S
	Urban	195	122.63	17.07			
Medium of Instruction	Tamil	165	115.71	14.83	4.25	1.96	S
	English	135	123.95	18.741			
Subject of Study	Arts	157	120.52	19.71	1.16	1.96	NS
	Science	143	118.21	13.83			

Table 3

RELATIONSHIP BETWEEN AWARENESS OF INFORMATION AND COMMUNICATION TECHNOLOGY AND MULTIPLE INTELLIGENCE OF STANDARD XI STUDENTS

N	Calculated 'γ' value	Table Value	Remark
300	0.379	0.113	S

It is inferred from Table – 3 that there is a significant relationship between awareness of Information and Communication Technology and Multiple Intelligence of standard XI students.

FINDINGS AND DISCUSSION

1) There is significant difference between male and female standard XI students in their awareness of information and communication technology.

In this study, the 't' test result reveals that the mean of Information and Communication Technology awareness scale value of male students (12.64) is higher than that of female students (11.59). This may be due to the fact that male students have more positive attitude, towards the use of computers and they are always ready to update their knowledge regarding software and hardware technologies. They have a favourable perception regarding the role

of ICT and they are ready to spend more time in technology related awareness programmes. Frequently they use e–resources and e–library. They are more likely to use the internet to watch online education classes and blog more frequently. They use e-books for their assignment works and projects more often than female students. This may be the reason for the significant difference between male and female standard XI students in their awareness of information and communication technology.

2) There is significant difference between rural and urban standard XI students in their awareness of information and communication technology.

In this study, the 't' test result reveals that the mean of Information and Communication Technology awareness scale value of urban students (12.44) is higher than that of rural students (11.60). This may be due to the fact that in the present digital era, net café has mushroomed in every nook and corner of towns and cities, and so internet facility can be easily accessed in the urban area. At present one of the important methods of teaching is activity centered. Students also motivated to learn by themselves. So they can use e-resources for their self–learning. Each student may access lessons, video clips and audio libraries from anywhere and anytime. The parents of urban students encourage their children to update their knowledge related to e-mail, e-resources and e-libraries with help of the internet. Moreover urban colleges have well trained and qualified computer staff and well equipped computer laboratories. So they can use their technological knowledge in operating electronic equipments. On the other hand in rural areas students do not show much interest in using computers for their studies. They are very much interested in physical activities. They hardly use the net and they are very much dependent on their teacher, books and library for their assignment work rather than on the net when compared to their counterpart. This may be the reason for the significant difference between rural and urban standard XI students in their awareness of information and communication technology.

3) There is significant difference between Tamil and English medium standard XI students in their awareness of information and communication technology.

In this study, the 't' test result reveals that the mean of information and communication technology awareness scale value of English medium students (12.92) is higher than that of rural students (11.51). This may be due to the fact that, English medium students have many opportunities. Many resources like e–Learning, e–Books are available only in English. Many online websites are available to improve their skill. Self-learning can be done through internet mainly in English. By playing online puzzles, riddles, quizzes, their brains get sharpened. So they automatically start thinking intelligently. English medium students can use these facilities and develop their intelligence. This may be the reason that English medium students are better than Tamil medium students in their awareness of information and communication technology.

4) There is no significant difference between Arts and science standard XI students in their awareness of Information and Communication Technology.

5) There is no significant difference between male and female standard XI students in their Multiple Intelligence.

6) There is significant difference between rural and urban standard XI students in their multiple intelligence.

In this study, the 't' test result reveals that the mean of multiple intelligence scale value of urban students (122.63) is higher than that of rural students (113.45). This may be due to the fact that urban students get more chance to participate in inter school competitions which help them to express their talents. City students are very much interested in carrying out mathematical operations and they have the capacity to analyze problems logically and investigate issues scientifically. They easily interact with others and have more self-confidence. Moreover urban students have internal imaginary skill that makes them very creative. They have ability to perceive the visual world accurately and to perform transformations and applications upon their own initial perceptions. This may be the reason for the significant difference between rural and urban standard XI students in their multiple intelligence.

7) There is significant difference between Tamil and English medium standard XI students in their multiple intelligence.

In this study, the 't' test result reveals that the mean of multiple intelligence scale value of English medium students (123.95) is higher than that of Tamil medium students (115.71). This may be due to the fact that English medium students have many opportunities. To improve their

quality various activities like quiz, talent exam are conducted. Coaching is also given do develop their higher order thinking skills. Other than subject knowledge, brain teasers are also provided for them to kindle their intelligence. This may be the reason that English medium students are better than Tamil medium students in their multiple intelligence.

8) There is no significant difference between Arts and science standard XI students in their Multiple Intelligence.

9) There is significant relationship between awareness of information and communication technology and multiple intelligence of standard XI students.

In this study, the '?' test result reveals that, there is significant relationship between Awareness of information and communication technology and multiple intelligence of standard XI students. This may be due to the fact that information and communication technology is a valuable tool for developing multiple skills among students. ICT facilities support teaching, learning, and evaluation and a range of other activities in education. Students who have mastered ICT skills are better problem solvers, become more self–directed and assume greater control over learning than students who are not ICT literates. Hence there is a significant relationship between awareness of information and communication technology and multiple intelligence of standard XI students.

CONCLUSION

ICT has created a new and open learning environment and has played an instrumental role in shifting the emphasis from a teacher-centered to a learner-centered environment; where teachers move from being the key source of information and transmitter of knowledge to becoming a collaborator and co-learner; and where the role of students changes from one of passively receiving information to being actively involved in their own learning. Evidence over the past years has clearly indicated that efforts to ensure equal access to educational opportunities and quality education for all must be accompanied by wide-ranging educational reforms. Such reforms are not likely to succeed without addressing the new roles played by teachers in preparing students for an emerging knowledge-based and technology-driven society to foster multiple intelligence.

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