AWARENESS OF COMPUTER KNOWLEDGE AMONG XI STANDARD STUDENTS IN COIMBATORE DISTRICT

By

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ABSTRACT

Education is a lifelong journey for every person. A person experiences most of his education through schools. After the invention of computers, the world has become a global village. Education system in India is facing increasing pressure to use innovative methodologies and integrate new Information and Communication Technologies in the teaching and learning process. Students, have the opportunity to learn lessons through e- portals offering education. The computer has a vital role to play in the field of education. It forms the base for learning other subjects also. Today, computers are used in houses, schools, offices, factories, companies and many other places. Every individual should know atleast the basics of computer. It is essential that, the awareness of computer skills should be promoted among the students, so that they can keep abreast with the time and gain proficiency in using computers for widening their knowledge. So it is essential that, the awareness levels should be assessed in order to give them proper training in using the computer for educational advancement. The main aim of the study was to measure the computer knowledge of higher secondary school students, to find out the level of computer knowledge among XI students and to impart the computer knowledge at lower level. The main objective of the study is to assess the computer knowledge of the higher secondary school students, to measure the level of computer knowledge of higher secondary school students in Coimbatore district, in Tamilnadu, India. So the study was conducted at 7 schools that follows Tamilnadu State Board syllabus (SamacheerKalvi) randomly selected for the study. The research was carried out with a survey method of questionnaire tool constructed based on the curriculum of the XI standard students.

Keywords: Education, Level of Computer knowledge, Technology, Government and Self- Financing Schools.

INTRODUCTION

Education system in the country is facing increasing pressure to use innovative methodologies and integrate new Information and Communication Technologies in the teaching and learning process. The computer plays a vital role in this context. After the invention of computers, the world has become a global village. The National Center for Educational Statistics (2003), USA, reveals that approximately one computer is available for every five students and 98% of the schools and 77% of the instructional classrooms have access to the Internet. This prompts us to think how extensively the computers are available in our schools and are accessible for the classroom instruction in our country (Gohel K., 2014). However, in several pockets of the country, it is obvious that, even now one computer for each school is a dream. In order to keep pace with the developing countries, we need to incorporate computers in our teaching/learning process. Owing to technological advances, increased sales, improved software, and interest of parents and teachers, we can make it possible for almost every teacher to use technology to improve teaching and learning (Mario's C. Angelides and Harry W. Agues, (2002)). In this study, an attempt is made to understand the use of computers for effective teaching and learning in classroom.

Need for the Study

Today, computers are used all over the world. We can find

computers in houses, schools, offices, factories, companies and many other places. They are very useful to us as and can be used for many purposes. They have come to play an important role in our daily lives. So, we can say that the 21st century is the age of computers and every student should have the knowledge in computers. Nowadays, students, have the opportunity to learn lessons through e- portals offering education. Organizations also demand 24x7 learning. It is essential that the awareness of computer skills should be promoted among students, so that they can keep abreast with the time and gain proficiency in using computers for widening their knowledge.

Review of Related Literature

Judy M Parr and Irene Fung, (2000) conducted a research on the title "A Review of The Literature on Computer Assisted Learning, Particularly Integrated Learning Systems, and Outcomes with Respect to Literacy and Numeracy". Overall, the effectiveness of Computer-Assisted Learning (CAL) has not been conclusively demonstrated. To date, it has been shown to be less effective, on average, than other forms of intervention in education. In considering the results of evaluative research in computer assisted learning, one has to avoid confounding the medium with the method. Generally, computer-assisted learning software is under pinned by an older, neo-behaviourist theory of learning, one that has been displaced in the classroom by more social constructivist views of learning. Particularly in New Zealand primary classrooms, the approach of the software may differ considerably from widely accepted classroom pedagogy. Computer-assisted learning programs, especially integrated learning systems, are generally costly. Their efficacy and cost effectiveness relative to alternative programs, particularly with respect to reading, is questionable. While comparative research exists with respect to effectiveness, good comparative research in relation to cost effectiveness is lacking. Results from evaluations of integrated learning systems show highly variable results, with independent evaluations tending to be less favorable. The best results appear to be for basic maths skills; there is little evidence of gains in reading. Integrated learning systems, in their current form of neo-behaviourist, mastery learning, support the gaining of basic procedural knowledge. There is evidence that, students may not be able to apply such knowledge without teacher intervention and that such knowledge may not generalise to school or system curriculum assessment tasks. Part of the variability in outcome results stems from the different off-system assessment measures used to measure progress and part stems from the differing contexts of implementation. The latter includes characteristics of the student body and organisation for implementation including configuration of resources and deployment of personnel. Above all, this latter factor concerns integration, particularly the match between Computer Assisted Instruction (CAI) or the integrated learning system curriculum content and methods, and that of the school and classroom. Armstrong, Peter Elliott, Tim, Ronald, Julie & Paterson (2009) in their study says that didactic teaching remains a core component of undergraduate education, but developing Computer Assisted Learning (CAL) packages may provide useful alternatives. Lim Ai Kiaw, Mohd Arif Hj Ismail & Rosnaini Mahmud (2009) in their study developed and evaluated a CAI courseware 'G-Reflect' on students' achievement and motivation in learning Mathematics. Caraballo Jose Nal (2008) studied the development of certain education for the objectives like terminology, identification, and drawing & comprehension. No instruction group was treated as a control group. The development of identification proved to be higher. G. Siann, H. Macleod, P. Glissov and A. Durndell (1989) conducted a study on the effect of computer use on gender differences in attitudes to computers and found that the attitudinal consequences of a focused Logo programming experience which took place over the course of one term with 114 primary school children attending four Edinburgh schools is discussed, with particular reference to gender differences. Half of the pupils used list processing and the remaining students used graphic processing. In addition, half of the pupils worked in the same sex and the other half in mixed sex. Substantial differences between boys and girls were shown in their pre-experience attitudes towards

computer technology. In general, the boys appeared more confident of their personal ability in the field of computing. They also showed more interest in computing and were more likely to believe that computing required high ability. General attitudes to computer use were similarly positive for both sexes. After the computer experience, gender differences in attitudes to computing diminished. The exception to this general tendency was that girls' anxiety levels relative to boys increase. These results did not appear to be related to either the type of activity the pupils were exposed to or the composition of working dyads. Observations of the pupils at the console did indicate that in mixed sex, boys dominated. Interpretations of the gender differences are presented and important questions for future research and practice are raised (G. Siann, H. Macleod, P. Glissov and A. Durndell, 1989).

Ponraj P, Sivakumar R (2010) conducted a study to provide basic information about zoology with the help of computer application, to identify the ways computer may improve the teaching learning process, to introduce and build on the concept of integrating computer in classroom and to emphasize the idea of cooperative learning culture within the technological environment. This study found that, the effectiveness of CAI in teaching zoology has some relation to learner's personality. The sample consisted of 40 students in control group and 40 students in experiment group. The data were collected using appropriate tool and it was analyzed by t' and 'f' test. The finding was: achievement scores of experiment group students were higher than control group students. The study concluded that it is important that technology is used to help children think critically and creatively and to engender a cooperative learning environment. By teaching the zoology through computer application, students use technology wisely, it is hoped that future teachers will successfully incorporate technology into their classroom and add to definite push that the educational institutions are already experiencing. Malathy V.A. (2010) in her study said that, instructional technology is a growing field which uses technology as a means to solve teaching and learning challenges, both in the classroom and outside the classroom that is in distance learning environments. Multimedia is an interactive instructional technology used in the classroom for teaching learning process has a wide significance to the learners as well as teachers. Multimedia means the integration of continuous media (e.g., audio, video) and discrete media (e.g., text, graphics, and images) through which the digital information can be conveyed to the user in an appropriate way. In the present study, the investigators have developed and standardized the Multimedia Packages in non-linear way using Macromedia Flash MX software for learning volcanoes in Social Sciences for upper primary students. The ADDIE model was considered to develop and standardize the multimedia package. In this study, the experimental method was adopted by the investigator. The parallel group design was chosen in this study in which the control and experimental groups were the two groups of parallel group design. Fifty students studying VIII standard from Government Higher Secondary School at Vellalore panchayat in Coimbatore were randomly selected as the sample for the study. The fifty students were divided into two groups (i.e.) Control group and Experimental group. Each group comprised of 25 students. The pre-test and post-test were conducted for both groups. Finally, the study proves that, the learning outcome through multimedia package is higher than the traditional method. Hence, it concluded that, the multimedia package developed and standardized for learning volcanoes in social science is an effective tool and the same can be implemented to enhance the learning activities of the study.

Objectives

- To assess the computer knowledge of the Higher Secondary School Students.
- To find if there is any significant difference in the level of computer knowledge among the higher secondary students with the reference to the background variables such as (a) Sex, (b) Type of institution, (c) Residential area, (d) Educational qualification of the father and mother, (e) Occupation of the father and mother and (f) Family's

monthly income availability of computer.

- To measure the level of computer knowledge of higher secondary school.

Hypothesis of the Study

1. There is no significant difference with regard to gender in gaining the level of computer knowledge.
2. There is no significant difference between self-financed and Government school students with regard to the level of computer knowledge.
3. There is no significant difference between the level of computer knowledge of students who have computers at home and those who don't have.
4. There is no significant difference in the level of computer knowledge with regard to the locale.
5. There is no significant difference between the level of computer knowledge of the students whose parents are employed in Government or Private sectors.
6. There is no significant difference among the level of computer knowledge of the students' parents' qualifications.
7. There is no significant difference among the students level of computer knowledge with regard to parents monthly income.

Methodology

Method Selected for the Present Study – "Survey Method"

The word "Survey' indicates the gathering of the data regarding the current conditions. Surveys are made for the purpose of ascertaining which the normal of typical conditions or practice is. The survey method gathers the data from a relatively large number of cases at a particular time. It is not concerned with the characteristics of individuals as individuals. It is concerned with the generalized statistics that result when data are abstracted from a number of individual cases. Survey method is essentially cross sectional.

Key steps in the survey process include.

- Planning and Designing.
- Testing (pilot study) and Modifying.
- Obtaining feedback from respondents and/or interviewers.
- Conducting the survey.
- Processing and analyzing.
- Preparing the technical report.

Research Tool

A questionnaire was used; because, it offers a researcher an opportunity to sample the views of larger population. Additionally, the use of the questionnaire helps to ensure that, one gets a high proportion that is usable. Also, the use of the questionnaire saves time and money since many respondents can be attended to at the same time.

Population and Sampling

The population of the study includes students of self-financed and Government schools in Coimbatore district of Tamil Nadu state, in India. Two hundred and forty nine (249) students were selected by simple random sampling method. They were drawn from various schools in Coimbatore districts of Tamil Nadu state. The sample was classified on the basis of gender, name of the institution, nature of the institution, type of the institution, residential area, Educational qualifications of parents, occupation of parents, financial background, and availability of computers.

Findings of the Study

The school students of Coimbatore were selected for the research. The research was carried out with a survey of two hundred and forty nine students as samples on random basis. The tool was constructed based on the curriculum of the students. The tool was administered and after collecting data, analysis was done with statistical tool such as 't' test and 'f' test.

Hypothesis Verification

Value obtained from Table 1 is 0.191, which is less than the

Gender	Mean	S.D	N	Df	Value	Significant Status
Male	43.14	6.32	144			1.96 at 5% S
Female	43.29	5.45	105	247	0.191	

Table1. There is no Significant Difference in Gender with regard to gaining the Level of Computer knowledge

table value 1.96 at 5% level of significance proves that there is no significant difference in gender with regard to gaining the level of computer knowledge. Mean scores of 43 indicates that gender does not play any role in level of computer knowledge as both the genders are equally exposed to the technology equally. Thus, the hypothesis 1 is accepted.

Table 2 shows the calculated t value among the students who learn at different institutions (Government or Self-financed) and it clearly proves that the calculated value 5.794 is higher than the table level of significance value-1.96 at 5%, so the hypothesis 2 is rejected and also shows that, there is a difference among students who learn in self- financed and government schools for their level of computer knowledge. Government school students have the level of computer knowledge higher than that of self-financed schools.

Calculated value of 2.405 which is obtained from Table 3 is greater than the table value 1.96 at 5% level of significance proves that there is a sure difference in the student's computer knowledge on owning a computer at home and those who don't. As the presence of computer attracts the student to know more about it and it obviously increases the level of computer knowledge. The mean score of presence of computer at home indicates that the presence of computer will improve the level of computer knowledge. Thus the hypothesis 3 is rejected.

The value of 10.45 obtained from Table 4 is greater than the table value 1.96 at 5% level of significance spectacles that there is an excessive difference in the

School Category	Mean	S.D	N	t value	Df	Significant status
Self-financed	41.66	6.20	160	5.794	247	1.96 at 5% NS
Government	45.97	4.29	89			

Table 2. There is no Significant Difference Between the Level of Computer Knowledge of the Students whose Parents are Employed in Government or Private Sector

Computer in Home	Mean	S.D	N	t value	Df	Significant status
Yes	44.28	4.61	102	2.405	247	1.96 at 5% NS
No	42.45	6.65	147			

Table 3. There is no Significant Difference Between the Level of Computer Knowledge of Students who have Computer at home and those who don't

Locale	Mean	S.D	N	t value	Df	Significant status
Rural	45.29	3.90	178	10.45	247	1.96 at 5% NS
Urban	37.97	6.95	71			

Table 4. There is no Significant Difference in the Level of Computer Knowledge with Regard to Locale

level of computer knowledge among students who are from rural and urban areas. The mean score of rural students indicate that the rural students have more level of computer knowledge than that of urban students. Thus the hypothesis 4 is rejected.

The calculated values obtained from Table 5 clearly indicates that parents employment i.e. Government or private sectors father's occupation t value is 1.369, which is lesser than the table value 1.96 at 5% level of significance and mother's occupation's t value is 1.918 and less than that of f-table level of significance value: 3.03 at 5% evidently states that the parents occupation are no way related to the level of computer knowledge of the students of XI. Thus, the hypothesis 5 is accepted.

The calculated values obtained from Table 6 indicates that parents qualification of illiterate, school level and degree level of father 0.631 is less than the f-table value:

Father's Occupation

Father's Occupation	Mean	S.D	N	t value	DF	Significant status
Government	44.90	3.87	21	1.369	247	1.96 at 5% S
Private	43.04	6.09	228			

(a)

Mother's Occupation

Mother's Occupation	Mean	SD	No	Significant status
Home Maker	42.76	6.23	179	
Government	43.67	1.75	6	
Private	44.39	5.25	64	
		Total	249	

	Sum of Squares	Df	Mean Square	F	3.03 at 5% S
Between Groups	1318.100	2	162.085	1.918	
Within Groups	321.267	247	115.237		
Total	1637.367	249			

(b)

Table 5(a, b). There is no Significant Difference Between the Level of Computer Knowledge of the Students whose Parents are Employed in Government and Private Sector

Father's Qualification	Mean		SD	No.	Significant status
Illiterate	44.17		7.68	30	
School Level	42.64		6.09	161	3.03 at 5% S
Degree	44.26		4.19	58	
		Total		249	

	Sum of Squares	Df	Mean Square	F
Between Groups	2302.883	2	1733.947	0.631
Within Groups	8346.667	247	1917.333	
Total	40649.550	249		

(a)

Mother's Qualification	Mean		SD	No.	Significant status
Illiterate	43.67		5.74	39	
School Level	42.69		6.48	153	
Degree	44.26		4.33	57	
		Total		249	

	Sum of Squares	Df	Mean Square	F	3.03 at 5% S
Between Groups	1682.933	2	128.918	1.620	
Within Groups	194.267	247	117.848		
Total	1777.200	249			

(b)

Table 6(a, b). There is no Significant Difference among the Level of Computer knowledge of the Students with regard to Parents' Qualifications

3.03 at 5% level of significance and mother 1.620 is less than the f-table value: 3.03 at 5% level of significance.

Monthly Income	Mean		S.D	No.	Significant Status
Below Rs. 5000	43.89		6.43	65	
Rs. 5000-10000	42.10		7.03	93	
Rs. 10000-30000	43.41		3.90	63	3.03 at 5% S
Above Rs. 30000	44.79		4.04	28	
Total				249	

	Sum of Squares	Df	Mean Square	F
Between Groups	836.578	3	55.772	1.310
Within Groups	2085.975	246	42.571	
Total	2922.554	249		

Table 7. There is no Difference in Computer Knowledge of the Students Based on Parents' Monthly Income

The mean scores of illiterate parents are equal to the mean score of degree qualified parents. Yet it did not affect the level of computer knowledge of their children. Therefore, the qualification of parents will not affect the level of computer knowledgeof the students of XI. Thus, the hypothesis 6 is accepted.

The calculated f test value of parent's income evidently shows (1.310 obtained from Table 7) that it is less than the f-table value: 3.03 at 5% level of significance, which implies that the monthly income of parents does not affect the level of computer knowledge among the students of XI. Thus, the hypothesis 7 is accepted.

Discussion

The following are found from the analysis.

- Gender: Both the gender of present generation are equally exposed to the technology and usage of computer. The result also proved the same that there is no significant difference on the level of computer knowledge.
- Parents' educational qualification, income and employment have not influenced the level of computer knowledge among the students of government and private institutions. At first, when the terms are said it may give an assumption that it would affect the student's level of computer knowledge, but after the survey it clearly proved that the student's level of computer knowledge is no way related with the parents' educational qualification, income and employment.

Even though the major factors are not affecting the level of computer knowledge, there are certain factors which affects the level of computer knowledge. They are:

- Locale: The urban students are more exposed to computer than that of rural students.
- Type of institution plays a major role in the level of computer knowledge, as students in private institution starts to learn computer at their lower age itself. So the curriculum of XI is not a big deal for them.
- Presence of computer at home has affected the level of computer knowledge among students. As the students who have computer have more time for trial

and error, whereas the students who don't owe them have only the lab hours provided by the school time-table. So, it is inferred that, actions should be taken by the teachers and the institution to overcome the digital divide.

- The percentage of overall computer usage proves that computer has reached half- way through the present generation of all students with different locale, institution. Yet, certain steps should be taken to reach the full success. As in many countries CAI, CML have successfully achieved in education where it is still a Dream for our Country School.

Suggestion to Overcome the Problem

- Awareness of the level of computer knowledge plays a vital role in school level. The teacher should bring a balanced growth and development among students.
- The teachers and parents must provide opportunities and give necessary assistance to the students.
- Teacher must make the students realize the vitality of computers in education.
- Students should be guided to use the free laptops provided by the Government in useful manner.
- Teacher with proper competence must handle the subject in schools.
- Computer's importance should be instilled at students at a lower age itself.
- Parents should have positive eye on using computer and should encourage their child to use computer in the presence of elders.

Conclusion

School is the nucleus of learning and epi-centre for development of any Society or Nation. Functioning and performance of the school depends on the administrative and managerial skills of headmaster, competence, attitudes, creativity and enthusiasm of teachers, classroom transaction, materials and resource management; competence and commitment of personnel and the administrative nature of organization (Swaroop Saxena, 2002). With the changing world of today, the role of the teacher has also changed with the developmental factors around. Every teacher should encourage his/her students to become more curious and explorative, critical and innovative rather than passive recipients of facts and information. With cognitive domain and training of important skills, affective domain, values, and character should also be considered with equal importance (Shaw Donna Gail, 1984).

The students should develop an inquiring mind, discover knowledge and arrive at attitudes and outlooks according to their own perceptions. What is required on the part of the teacher is to create the environment through resources and situations provided for the purpose. As we know in most of the schools, much of the life of students is spent only in rote memorizing and their success is measured only by testing their ability to reproduce irrelevant facts blindly. Computers can be used as enabling tools for all students including students with special needs (Rahlf, P. 1984). Students who have difficulty with writing, spelling, mathematics, organization, and sequencing find that computers make these tasks easier. We can use applications such as word processing programs, database programs, spreadsheets, and graphics programs as instructional tools. Such applications may help students overcome problems that interfere with computer knowledge (Popham, W. J. 1999). Computer-Assisted Instruction is most effective when it is a carefully planned and an integrated part of instruction (Manson Marguerite M., 1984).

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