TRANSFORMATIVE APPLICATIONS OF INFORMATION COMMUNICATION TECHNOLOGY ICT IN SECONDARY EDUCATION

Smt. D. Asha Latha[1], Sanjeeb Kumar Suna[2]

[1]Assistant Professor, St. Paul's college of Education Giddualur, India.

[2]M. Ed Student Department of Education, St. Paul's college of Education Giddualur, India.

ABSTRACT

The present study has been designed to study the Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district. Various Indian and foreign studies were reviewed. Descriptive Survey method has been used in this study. The sample consists of 100 students studying in secondary schools of Prakasam district. The investigator used stratified random sampling technique for selecting the sample. Questionnaire was constructed for the Students to find out the opinions on the Uses of Information Communication Technology (ICT) In Secondary Schools. The data were analyzed using various statistical methods like mean, SD, 't' test and F-test were the statistical techniques used. The score obtained by different groups are compared across the variables like gender, medium, class, management and locality. The results are discussed in light of previous research studied; suggestions and Recommendations for further research were also suggested.

Key Words: ICT, Secondary Schools.

1. INTRODUCTION

The Information and Communication Technology in education is in a nascent stage. The general notion of technology in education is reflected in the design, preparation and Production of textbooks and other instructional materials for schools. The National Council of Educational Research and Training (NCERT), New Delhi has taken up a major Role in the gigantic task. Much of the on-screen and written documentation is beyond the reading capability of the poor learners. Some simulation programmes depict events in simplistic and unnatural ways. Unless the simulation represents the real-world event, learners may develop inappropriate understanding of the event. There are many benefits of using Information and Communication Technology in the teaching-learning process:-

- There are no longer geographical boundaries for learning any concept. Full independence is given to the learner to select desirable education.

- It links learners to the multimedia resource doing away with over dependence on textbooks. Learners will have access to online education.

- It promotes independent, flexible according to one's own level and pace, a type of learning where learners take projects that relate to application of curriculum in practical aspects.

- It allows an individual to use his/her multiple cognitive abilities to the fullest extent. It assures lifelong learning.

With the advent of Information and Communication Technology the learner is not just dependent on the teacher for formal interaction. A learner living anywhere in the world can pay fees through draft and get access to any course of interest through e-mail and Internet. Any learner can have access to any course. One can refer to library resource in virtual system. Virtual classrooms are soon becoming a reality. The learners can chat among themselves and can also talk with the expert or resource person through the network. The effect of multimedia computer changes the present teacher oriented system to a learner-oriented one. Here, more emphasis is laid on creating individualized leaning environment. Multimedia is not a product but a combination of technologies. When a teacher is teaching, a variety of information can be added with graphics, text, video etc. In this way, the teacher can help the learner to understand the difficult concepts clearly. Trainees can study at home using multimedia software. Through this process of learning, the trainee can work at his own pace and determine when and what to study. Multimedia encyclopedias can be used to give detailed information about the subjects. The use of sound, colour, video, rapid references in the form of glossaries and background details can be used to enhance this valuable teaching reference tool. In addition, multimedia computer has the special capacity of interactivity. The control of the programme is with the user by pressing a key or clicking a button or touching a screen.

Need and significance of the study:

Computers have become the most important components of assimilating and disseminating information across the globe. Due to the development of Internet and World Wide Web enormous amount of knowledge and information is available at hand. It has become an effective and creative medium and source of information for every citizen of the world. This trend even though late but more rapidly entered the Indian educational scenario. Every school and

institution is offering and encouraging computer education to their students. Students are naturally being attracted and motivated towards using the computers. This trend has quickly reached from professional and higher education to school education right up to primary stage. Many schools have started computer education for their students. Initially, their main focus was on teaching the fundamentals of computers and some languages to the students. Due to the efforts of some organizations like Intel®, Wipro, Infosys, Satyam, etc. and the large scale programmes of Governments in both Private and Public Sector Participation, Computer Education has been imparted in the real sense of integrating it with other school subjects and disciplines.

So, there is a felt need to know how this integration is going on in the schools so that the results can pave way for the future actions. This can be done at these initial years by finding out from teachers and students so that after another span of five years the students performance may give the desired feed back to the system. The main purpose of this study was to find out the role of ICT on the academic achievement of 9th and 10th grade students of Andhra Pradesh. This study focuses whether ICT has any direct effect on student's academic achievement, whether ICT is acting as a tool for learning and students' academic achievement and whether ICT is acting as a tool for teaching for students' academic achievement. The outcome of this study aims at determining whether or not the use of ICT has any significant influence on the academic achievement of students. India as a developing nation needs a standard secondary school system that has available learning resources, that teachers can improvise learning resources easily and more often also where teachers and students utilize learning resources on a regular basis. It could be a guideline for the students and be educative to them when studying in school. This study is going to explore the role of ICT usage on the academic achievements of students. Hence, a study on "Use of Information and Communication Technology in Secondary Schools of Prakasam District" has been initiated.

2. OBJECTIVES OF THE STUDY

- To study the Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
- To study the significant difference among the perceptions of students based on their demographic variables i.e., gender, medium, class, management and locality towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.

Hypotheses of the present study

1. There is no significant difference between the perceptions of male and female category students towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
2. There is no significant difference among the perceptions of students based on their class towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
3. There is no significant difference among the perceptions of students based on their medium of instruction towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
4. There is no significant difference among the perceptions of students based on their school management towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
5. There is no significant difference among the perceptions of students based on their locality towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.

3. REVIEW OF RELATED LITERATURE

P M Mohitkar (2015) studied on ICT supported Teaching Learning Strategies. The computers are used as educational tools, much useful for testing the skills and knowledge. Lecture can easily be delivered with the help of computers. This covers can easily be delivered on computer, either online or on a local network, and those that are evaluated with the aid of computers, such as those using optical Mark Reading(OMR). The computers are playing increasingly important role in teaching & learning, with the increased use of supporting devises like CD-Rom, Pen Drives, and Hard disk. The major advantage of e-learning is that it is self-paced. The content & methodology can be repeated until the trainee understands it. It will also be interactive too. For strengthening the course there is a need of upgrading the course curricula with ICT and E-Learning.

P Aravindan (2017) studied on ICT in higher education : opportunities and challenges. As move into the 21st century, many factors are bringing strong forces to bear on the adoption of ICTs in education and contemporary trends suggest will soon see large scale changes in the way education is planned and delivered as a consequence of the opportunities and affordances of ICT. It is believed that the use of ICT in education can increase access to learning opportunities. It can help to enhance the quality of education with advanced teaching methods, improve learning outcomes and enable reform or better management of education systems. Extrapolating current activities and practices, the continued use and development of ICTs within education will have a strong impact on: what is learned,

how it is learned, when and where learning takes place, & who is learning and who is teaching. The continued and increased use of ICTs in education in years to come, will serve to increase the temporal and geographical opportunities that are currently experienced.

Design of the Study

The researcher followed the survey method of the descriptive research. For this investigation the questionnaire had been considered as a suitable tool for the collection of data. The questionnaire consisted of 45 statements as perceived by the Students.

Reliability and Validity:

For the purpose of the present study the split- half method was adopted. The split-half reliability co-efficient for the Uses of Information Communication Technology (ICT) In Secondary Schools as perceived by students was 0.86 and for the validity of the scale it is based on the content and construct validity.

Administration of Tool:

The tool was administered among students, necessary instructions were given in filling the tool. All the respondents followed the instructions and filled the tool by reading the all the items carefully.

Data Collection:

The investigator personally visited the sampled schools and administered the tool among the sampled respondents. The data collected through questionnaire and Interview schedule were used for analytical purposes.

Statistical Techniques Used:

The statistical techniques used mainly for analytical purposes were means, standard deviations were used To study the significant differences in between the socio-economic variables, 't'-test and 'F-test (ANOVA) have been used by the investigator with the help of Statistical Package for Social Sciences (SPSS).

Table 2. Significant difference among the perceptions of students based on their demographic variables towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district

Variable	Category	N	Mean	Std. Dev.	t/F-value	p-value
Gender	Boy	50	271.49	21.26	1.98*	0.05
	Girl	50	273.63	19.04		
Class	9th	50	270.20	21.91	2.94**	0.00
	10th	50	274.41	18.60		
Medium	English	50	273.52	20.15	3.20**	0.00
	Telugu	50	267.62	20.29		
Management	Government	50	268.21	21.44	3.25**	0.00
	Private	50	273.72	19.79		
Locality	Urban	50	273.96	20.05	2.39*	0.02
	Rural	50	270.52	20.46		

There is a significant difference among the perceptions of Students based on their gender towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and girl category Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their class towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and 10th class Students perceived high than that of the rest. There is a significant difference among the perceptions of Students based on their medium of instruction towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and English medium Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their School Management towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and Private school Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their locality towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and urban area Students perceived high than that of the rest.

4. CONCLUSION

1. There is a significant difference among the perceptions of Students based on their gender towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and girl category Students perceived high than that of the rest.

2. There is a significant difference among the perceptions of Students based on their class towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and 10th class Students perceived high than that of the rest.

3. There is a significant difference among the perceptions of Students based on their medium of instruction towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and English medium Students perceived high than that of the rest.

4. There is a significant difference among the perceptions of Students based on their School Management towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and Private school Students perceived high than that of the rest.

5. There is a significant difference among the perceptions of Students based on their locality towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and urban area Students perceived high than that of the rest.

5. RECOMMENDATIONS

In-service programmes should be conducted for the teachers on the usage of ICT in teaching learning process.

1. Awareness programmes on ICT should be conducted for teachers in the form of workshops, seminars etc.

2. ICT enhancement programmes in teaching learning process should be conducted for teachers.

3. In evaluation process how the ICT can be used should be aware to teachers.

4. Irrespective of their subject in Degree and Post graduation, teachers should possess proper knowledge on ICT.

6. SUGGESTIONS FOR FURTHER RESEARCH

1. Research can be conducted on the process and methodology of instruction of computers at various levels in school education and the curriculum for each stage.

2. Qualitative Research can be conducted on the Information and Communication Technology in School Education and the overall effectiveness on Students' Academic Achievement.

3. Research should be conducted on the influence and effectiveness of Project Based Learning in developing higher levels of Instructional Objectives in various school subjects and the overall development of students' capacities and capabilities.

4. Research should be taken up on the Self Learning Styles and Overall Perception Abilities of Teachers and Students who use computes as a tool at home and school.

7. REFERENCES

[1] Agarwal, S.P. (1989). Development of Education in India. New Delhi, concept publishing Company.

[2] Baruah, M.C. (1997). The problems of teaching computer applications: A case study. University News, vol.35, No.16.

[3] Bauder, D. (1993). Computer integration in K-12 schools: Conditions related to adoption and implementation. Ph.D. Thesis, (ed.) in Dissertation, abstracts International, Vol.54, No.8.

[4] Baumeister, Roy F.,Vohs, Kathleen d.,Tice, Dianne M. (2007). "The strength Model of Self- control". Current Directions in Psychological Science 16(6):351-355.

[5] Chaudhry, A. H. (2006). Effect of Guidance Services on Study Attitudes, Study Habits and Academic Achievement of Secondary School Students. Bulletin of Education & Research 28, (1), 35-45.

[6] Howard P. Tuchman and Tevfik F. Nas. (1987). Educational Technology In Developing Countries. Chugh Publication, Allahabad.

[7] Mahajan, S.L., Arun S. & Rajiv. (1997). Importance of computer education at secondary school level. In Educational Review, Madras, Vol.111, No.9.