



A STUDY ON IMPACT OF ICT BASED TEACHING AND LEARNING

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ABSTRACT:

Technology has seen a recent widespread integration into daily life, where access to vast amounts of information is now available with ease. Today's generation of students has grown up with technology all around them in an ever-increasing manner. To create an effective 21st century classroom that meets the needs of the students, a modern teacher must factor a student's motivation to learn and the effects technology has on inclusionary education.

A technology implementation was devised to address this rising need. Research was completed at an urban charter school on a population of 348 at the time of technology intervention through data analysis. Student surveys were administered to gauge student perception and motivation, student individualized education plans were reviewed, and classroom observations were made.

The results showed that students feel motivated through the specific use of technology in the classroom, whether it be for pedagogical purposes or for accommodations as required by an Individual Education Plan (IEP) or 504 plan. Further study can aid in updating teaching techniques to better support inclusionary education as well as enhancing student motivation.

KEYWORDS:

TECHNOLOGY, SYSTEM, EDUCATION , ICT, KNOWLEDGE.

1.1 INTRODUCTION

India has one of the biggest systems of education with a total enrolment of 189.2 million, with 81.1 million girl students and 5.45 million teachers in schools, nearly 10 million students in 350 universities and 15,000 colleges and 420,000 teachers. This includes 11 open universities and 104 distance education institutions of dual mode; and the Open University system has an enrolment of about 20 percent of the total. The rate of growth since Independence is quite high, coverage has increased, dropout rate has reduced, and the percentage of girl students in education is increasing. Information Communication Technology (ICT) is potentially a powerful tool for extending educational opportunities and can provide remote learning resources. ICT encourage students to take responsibility for their own learning and offers problem centered and inquiry based learning which provides easy access and information based resources. It is necessary to acquire the ability to use technology as a tool to research, organize, evaluate and communicate information and the possession of the fundamental understanding of the ethical or legal issues and use of information. Today knowledge of networking, communication and retrieval technologies has become core to the profession. 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. The presence of IT has actually transformed the teaching, learning and administrative environment in post-secondary education worldwide and in order to keep pace with the rapidly changing landscapes it has become inevitable to implement technology integration. In the modern information era, the wealth of the world's information can be accessed through a variety of devices. Technology that was once expensive and limited to only the privileged few has now advanced and become far cheaper. Students have grown up with technology all around them, and teachers must adapt to this new lifestyle. In today's emerging technological society, it stands to reason that the modern day classroom should reflect what is seen in society. By showing real world technological applications, intrinsic value can be brought to the learning process, increasing interest and motivation (Usher & Center on Education, 2012).

This study aims to explore the impact of ICT based Learning and Teaching in Madurai, through a comprehensive analysis of the experiences and challenges ICT Based Training, this study seeks to provide insights that can inform policy interventions, programmatic strategies, and community- led initiatives aimed at promoting ICT Changes in Madurai and other Districts.

1.2 STATEMENT OF THE PROBLEM

Basic Technology as a subject has been affected by ICTs,

which have undoubtedly affected the teaching and learning of the subject. A great deal of research has proven the benefits to the quality of teaching and learning. ICTs have the potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change. However, this research will examine the effectiveness of ICT on teaching and learning Basic Technology.

1.3 OBJECTIVES OF THE STUDY

1. To find out students' perceptions of the use of technology in their classroom-based instruction.
2. To describe current use of general technology and assistive technology in classrooms that includes identified students (those with documented learning disabilities).
3. The purpose of this study is to not only understand the need and importance for technology in the classrooms on its relation to motivation and inclusion, but to encourage the creation of a ground up curriculum design at NECS based on observations of instruction using technology.

1.4 RESEARCH METHODOLOGY:

The researcher adopted descriptive design for this study. The Universe for this study constitutes the final year students of all disciplines of Arts and Science in Madurai district as these are the group that dealt with ICT in their areas of operation and studies.

PRIMARY SOURCES:

Primary data refers to information that is collected first hand for the purpose of investigation. This data is original and has not been previously collected or analyzed. Primary data can be collected through various methods such as surveys, interviews, observations, experiments, and questionnaires. In this study questionnaires are used to collect data from the respondents

SECONDARY DATA:

Secondary data are those which have been already collected by someone else and which already had been passed through the statistical process. The secondary data was collected through web sites, books and magazines.

SAMPLE SIZE: 100 Questionnaires were collected from various schools.

SAMPLING METHOD:

- Convenience Sampling technique
- Simple random sampling

TOOLS USED FOR THE STUDY:

- Percentage Analysis
- Pie chart
- Mann Whitney Test

DATA ANALYSIS

The data collected were categorized and tabulated. Various aspects of the themes under study and the observations made from the data were discussed in detail. Simple Percentage Analysis: Simple Percentage Analysis is used to indicate more clearly the relative size of two or more numbers. In the present study this analysis was made to determine the percentage of respondents falling under each category and to calculate the usage of various recruitment and selection methods.

No of respondent

$$\text{Simple percentage} = \frac{\text{No of respondent}}{\text{Total no of respondent}} \times 100$$

Total no of respondent

Likert scaling is a widely used technique in survey research to measure attitudes, opinions, and perceptions of respondents. Named after its creator, Rensis Likert, who developed it in 1932, score values of 5,4,3,2,1 are given to categories scores obtained by the respondents is divided by the maximum possible scores secured and multiplied by 100.

TABLE: 1 DISTRIBUTION OF THE STUDENTS TO THE SCHOOLS

	School A	School B	School C	TOTAL
Grade 6	29	30	56	115
Grade 7	87	72	100	259
Grade 8	46	28	70	144
TOTAL	162	130	226	518

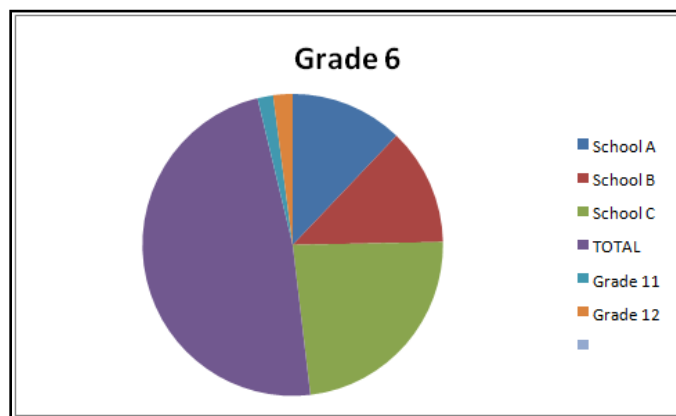


TABLE 2

NUMBER OF IDENTIFIED STUDENTS WHO HAVE ACCOMMODATIONS (IEP OR 504)

	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
IEP Students	9	7	8	6	4	5
504						

Students	2	0	3	1	2	2
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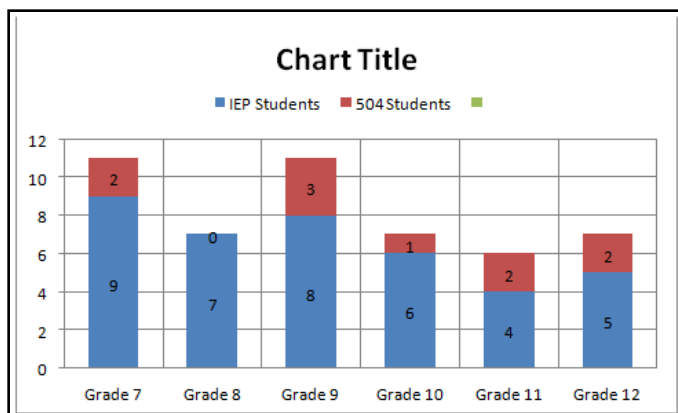


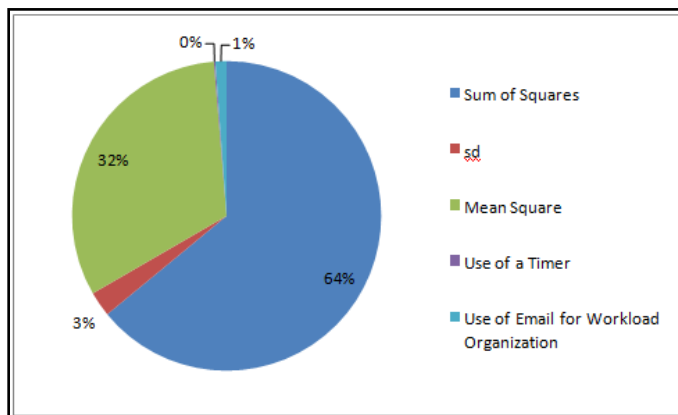
TABLE 3

SPECIFIC ACCOMMODATIONS AS USED ON IEPs

H0: There is a significant use of technology for Students.

H1: There is a no significant use of technology for Students.

Variance Source	Sum of Squares	sd	Mean Square	Use of a Timer	Use of Email for Workload Organization
Mother	48.905	2	24.452	0.119	0.888
Father	657.657	2	328.828	1.601	0.203
Technology	1408.766	4	352.191	1.715	0.145
Error	104535.751	509	205.375		
Total	9217769.000	518			

**MANN WHITNEY TEST ON MOTIVATION LEVEL**

SEC	N	Mean Rank	Sum of Ranks	U	P
Yes	401	270.24	108367.50	19150.50	.002*
No	117	222.68	26053.50		

INTERPRETATION:

The above table Pearson correlation gives us the Detailed explanation or hint that students are using technology

which helps students to get motivated and find more on the things they needed.

FINDINGS

- The findings from the three research questions suggest some emerging patterns. Nearly all students had technology in the home, be it a cell phone, desktop computer, or similar computing device
- These devices were not fully utilized for school work
- It was also found that most students felt that technology usage in the classroom was motivating, as well as having the added benefit of allowing students of all levels (learning impaired to gifted and talented) access to education at NECS.
- Some educators also find that to motivate gifted and talented students, additional opportunities to complete coursework at an accelerated pace can be provided through the use of technology.

RECOMMENDATIONS:

Subsidy may be given to the educational institutions that implement government projects through their ICT infrastructure to improve their students' skills. The Internet Service Providers (ISP) must provide free internet connections to the students' community to make them digitally skilled professionals. The colleges should have Wi-fi enabled campus for the benefit of the students and teachers. Web based teaching and learning softwares should be developed in coordination with government ICT projects. Institution must take initiatives on promoting educational forum and on linking the student and teacher community through Social Network Sites for educational purposes.

CONCLUSION:

The effective use of ICTs in teaching-learning process can help in bridging the gaps. The study has observed that effective implementation of ICT can allow students more flexible access to study materials, reducing barriers of time and place of study. Investment on ICT infrastructure alone is not enough; capacity building for the teachers and students is must. Students' interest in learning has increased due to ICT intervention. ICT has democratized learning in many ways.

Students' extended interaction with peers and teachers enhance the learning outcomes. With the society becoming increasingly dependent on ICT, it is important for the future technology creators to be skilled in ICT based technologies.

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