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"A Study on Levels of Technology Integration and difficulties faced in Primary, Middle and Secondary Schools in North Goa."

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ABSTRACT

A Teacher plays a big role in making students capable of using Computer and Technology skills to learning and problem solving thereby creating and motivated and responsible digital citizens. Responsible use of technology starts in the classroom. This study was conducted with the objective to find out access and usage of ICT by the secondary school teachers and the factors affecting ICT access and usage by the school teachers in North Goa. This study was conducted at government and private schools of North Goa District in the state of Goa. Significance of the findings in relation to the wider inclusive educational ideology is discussed and recommendations are made on the basis of the findings of the investigation.

Introduction

Technology adoption has reached a new level in the last two decades and is taking over everywhere, including the classroom. High-school, college and university students need to develop Computer and Internet skills without which their job market worthiness is greatly diminished.

To meet these recent trends on use of technology at school level, Interactive whiteboards, tablets, and laptops have replaced the chalkboards, textbooks, and clunky desktop computers of the traditional classroom. Today's teachers and students have access to hundreds of thousands of apps, videos, and online courses designed to enhance the learning experience.

Teachers worldwide are using new and innovative approaches based on individual needs of the students. These approaches aim at nurturing the students to become creative and knowledge producers. Government schemes are also created in view to use technology to replace old models of standardized, rote learning and create more personalized, self-directed experiences for students.

A Teacher plays a big role in making students capable of using Computer and Technology skills to learning and problem solving thereby creating and motivated and responsible digital citizens. Responsible use of technology starts in the classroom.

Review of the Related Literature:

a) The National Policy on Information and Communication Technology in school Education (2012) stressed on employing educational technology to improve the quality of education in the country. This policy provided guidelines to assist the States in optimizing the use of ICT in school education within a national policy framework.

b) NITI Ayog (Policy Commission) instituted a research study to find out the access and usage of ICT by teachers and students in rural and urban schools in six states. The study was conducted between August 2011 and May 2012 to deepen the understanding of access and usage of ICT by teachers and students in rural and urban schools in the states of Gujarat, Delhi, Kerala, Maharashtra, Tamil Nadu and Puducherry.

c) ICT in Education Curriculum for teachers and students instituted by Ministry of Education, Government of India. Guided by the National Policy on ICT in School Education, the curriculum for students and teachers is designed to promote creativity, problem solving, and introduce students and teachers to the world of information and communication technologies with the specific purpose of widening their horizons and better informing them of choices in their career pursuits. In particular, the curriculum focuses on training the teachers and students to working with a variety of resources; learning to critically appraise information and resources; and making safe, productive, ethical and legal use of these resources a habit.

d) Ghavifekr,Simin;Kunjappan,Thanusha;Ramasamy,Logeswary;Anthony,Annreetha. *Teaching and Learning with ICT Tools: Issues and Challenges from Teachers' Perceptions.* Malaysian Online Journal of Educational Technology, v4 n2 p38-57 2016 Teachers form their own beliefs about the role of ICT as a teaching tool, the value of ICT for student learning outcomes and their own personal confidence and competency. Difficulties exist in integrating ICT in teaching and learning. The difficulties include lack of resources, time, access and technical support.

Need of the Study

When the teachers introduce Education Technology through proper methods, it keeps the students engaged. It improves their knowledge retention, improves collaboration. It makes the evaluation easier and thus It prepares the students for the future**.**

However, despite all the efforts and the heavy costs that the department of education incurs to provide hardware and infrastructure to schools, we are still witnessing traditional and teacher-cantered teaching.

For the successful Integration of technology in Education these and other challenges faced by the teachers and students have to be addressed. Technology is a continuously, and rapidly, evolving process and it demands continual learning. The willingness to embrace change is a major requirement for successful technology integration.

While many schools across the country implement technology in their classrooms, this study aims to understand the level of technology integration taking place in classrooms in the North Goa, and difficulties, if any, impacting the use of ICT. Through my study, I wish to attempt to encourage greater use of Information and Communication Technology in schools after studying the current situation.

Objectives of the Study

The objectives of this study are:

1. To study the access and usage of ICT by the school teachers in North Goa.
2. To study the factors affecting ICT access and usage by the school teachers in North Goa.

Methodology:

In order to obtain empirically dependable answers to the research questions focused group provided filling of the questionnaire was adopted. The questionnaires are developed for the teachers and students.

Sample:

The sample of 60 teachers for the survey in the breakup as follows: 20 primary teachers, 20 middle school teachers and 20 secondary school teachers in order to draw a study across the entire range of classes

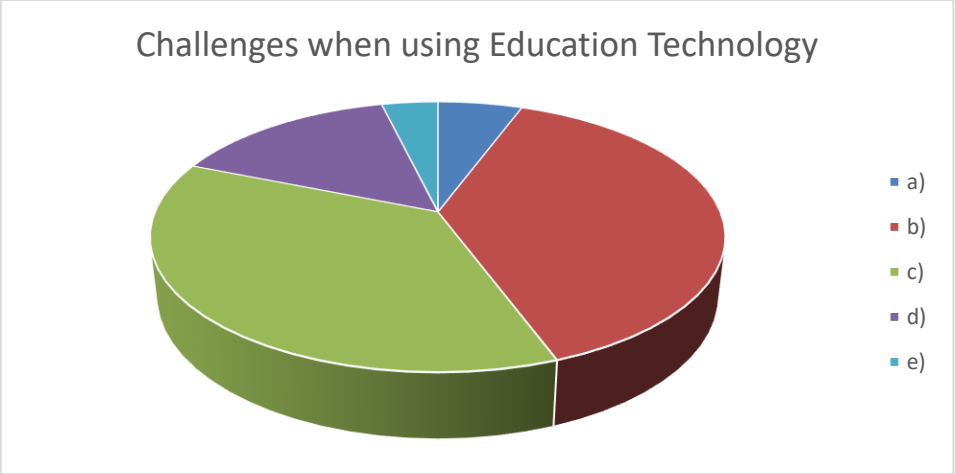
It is also proposed to draw 120 students form the entire range of classes in the following breakup: 40 primary students, 40 middle school students and 40 secondary school students.

Tools and Techniques:

- A questionnaire was developed to collect teacher's feedback on the access of technology, the frequency of usage of technology in classroom. Identifying difficulties that affects their implementation and changing trends during the Covid 19 pandemic. The Questionnaire consists of 17 questions.
- A questionnaire was developed to have student's opinions on whether Technology use in classrooms helped in arousing interest and knowledge retention, their access to technology, the Usage of technology. Factors that affected the usage and changing trends during the Covid 19 pandemic. The Questionnaire consisted of 16 questions.
- These questionnaires were administered through google forms since reaching out to the teachers was not feasible owing to the pandemic. A few students took the survey on printed forms.

What challenges do you face when using Education technology in classroom?

Challenges	Samples	Percentage
a) I am not adequately trained to use technology in education.	6	9.2
b) Teaching with technology require a lot of preparation	41	63.1
c) Systems are slow	39	60
d) Software / Hardware outdated and not compatible with new devices	16	24.6
e) Others: Not enough computer systems, Internet connectivity issues	4	6



Findings:

- Teachers are aware of the benefits of technology in education and have a positive perception towards using it.
- Teachers Look up digital material by themselves and there is no digital material provided by the Directorate of Education.
- Most schools have the access to technology required while only a few schools don't have the required technology.
- About three-quarters of the schools in North Goa have the access to a good internet connectivity, while a quarter of the schools still do not.
- School management is aware of the advantages of using Technology in Education and thus support the use of Technology in the classroom.
- Teaching with technology requires lot of background preparation and most schools do not allot time adequate for preparation during their school schedule.
- Most teachers have attended a training, however there still remain more than a quarter teacher who have not received any training on the same.
- Most schools have technical support in terms or Computer Lab assistant or IT personnel to assist should the need arise, in utilizing different technologies
- Most of the teachers are technologically knowledgeable. Except for using Internet Banking and Installing/Uninstalling or troubleshooting computer hardware/software, it is noted that teachers are competent with all other tasks.
- Some of the challenges faced by teachers when using technology in education is that teaching with technology requires lot of preparation and Computers are outdated thus Systems are slow.
- Most teachers in had an easy transition from Classroom to Online teaching during the ongoing covid pandemic, but about a quarter found it challenging.

Discussions:

- Teachers should be encouraged to use Technology as a teaching Aid in classrooms
- Technology resources like Hardware/ Software /digital material/ network connectivity should be made available to all schools
- Teachers need to be allotted additional time for preparation of teaching aid with the help of technology.
- Training on effective usage of Digital technology must be given to all teachers.
- Timely upgradation of Hardware / Software needs to be undertaken.
- Shortage of computer systems in some schools need to be addressed in order to have effective learning.

Conclusions:

- Most of the teachers in North Goa are highly Tech Savvy. Many have attended trainings on Effective teaching with Digital media, a few however have not had the opportunity to receive any such training.
- Students Technology competence is just about Average. Most students can type, almost half of them know to use the internet to look up information, however most are unaware about Internet/Cyber Security and risks involved on sharing important information on the Internet.
- With regard to Online teaching during the Ongoing Covid-19 pandemic, while most of the parents and students and all management were supportive to online teaching/learning, a less than a half of the teachers faced challenges of technical difficulty.
- Teachers feel that online teaching is not as effective as classroom teaching as Students are unresponsive and lack motivation. It is difficult to gauge students understanding. Students feel isolated which erodes their desire to learn.

Recommendations:

- Digital Study Material should be made accessible from one source through the directorate of Education. Material could be pooled so that all schools have access to quality study material.
- Provision for teaching with technology could be made in the timetable so that every class has opportunity to learning with technology
- Teachers should be given an additional time slot for preparation of digital study material.
- A database to be maintained at School and Department level to monitor the number of working and outdated computers so that additional hardware requirements can be fulfilled.

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