Role of ICT in Improving Quality of Education

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Abstract
This paper aims to investigate how schools and the significant stakeholders, namely, Principal, teachers and students use ICT (specifically delimited in the study as computers and Internet). It analyses the fieldwork conducted at one school to understand the processes, constraints, enablers, challenges, opportunities and the aspirations of these stakeholders related to ICT integration in school. Fieldwork was done for a year in the private schools of Moradabad. The study concludes that while ICT does contribute to enhancing the digital divide in the short run. In the long run, as access increases, the marginalized will come to be well connected, and mainstreamed. ICT will lead to educational transformation, and this could well be brought about the students' demands.
KEY WORDS: ICT; Teachers; Quality-Education; and Private School

I.   Introduction

The topic of discussion in this article is the implementation of information and communications technology, sometimes known as computers and the Internet, in Moradabad's private schools. It makes the case for a more open line of communication between pedagogy and technology; practise and research; policy, practise, and theory. It aims to get an understanding of the new epistemologies and pedagogies that come into play when educators have access to new forms of information and communication technology (ICT).

It is impossible for educational institutions to remain untouched by technological advancements as they grow more prevalent, user-friendly, and affordable; as a result, technological advances must be incorporated into classroom instruction. Experts such as Papert (1980) predict that it will eventually become an essential component of educational institutions and completely revolutionise the method by which students are educated. To get to that point, the piecemeal efforts of governments, multilateral agencies, and school authorities can be seen as innovations and experiments that will lead them to discover the good practises and avoid some of the challenges. Until then, these efforts can be viewed as innovations and experiments. In addition to this, it investigates the reasons, rationales, policies, plans, problems, tactics, and constraints behind the implementation of technology in educational settings.

Educational theories have moved from being behaviourist and instructionist to constructivist, and thereby lies the paradigm shift in education. Constructivism, derived mainly from the works of Saxena and Mahendroo(1993), Bryson and Castell (1994), Vygotsky (1962), and Papert (1980), is both a philosophical and psychological approach that is founded on social cognitivism and that argues that individuals, behaviours, and surroundings interact with one another in a reciprocal sense (Schunk, 2000). Learners create or form much of what they learn and understand as a function of their experiences in social circumstances, according to the constructivist school of thought, which asserts that learning occurs within contexts and that learners make or construct much of what they learn and comprehend (Schunk, 2000).

Vyogotsky, (1962) provides a new social constructivist paradigm for this new digital age of worldwide communication and information. She argues that learners must be provided with the available tools placed in rich problem-solving situations reflective of real-world contexts. Computer based digital technologies have the characteristics to fulfil this role. Learning, according to Vygotsky, is a social construction of knowledge, with language at its centre; that mediation, especially by a teacher, is key; that learning has a historical dimension, involving the use of cultural tools; and that learning has a central role in the use of cultural tools.

II.   Review of Literature

Ghavifekr, S. & Rosdy, W.A.W. (2015) explains that information and communication technology (ICT) is regarded as one of the primary factors in transforming the country into a model for future growth. The most recent version of the Education Blueprint (2013-2025) produced by the Ministry of Education highlights the significance of integrating technology-based teaching and learning into the standard curriculum followed by schools. The purpose of this research is to investigate the opinions of educators regarding the efficiency of incorporating ICT into the classroom to help the teaching and learning process. A survey questionnaire was sent out at random to a total of 101 teachers from 10 public secondary schools in the city of Kuala Lumpur in the

Malaysian state of Malaysia. Using SPSS (version 21), the researchers evaluated the data collected for this quantitative study in order to draw both descriptive and inferential conclusions about the data. According to the findings, integrating ICT into the classroom is very beneficial, not only for the instructors but also for the pupils. According to the findings, one of the most important aspects of successful technology-based teaching and learning is for educators to be well-prepared with information and communication technology (ICT) tools and facilities. It was also discovered that professional development training programmes for instructors had an important influence in the process of improving the level of learning experienced by students. In the future studies, there is a need to explore various aspects of ICT integration, particularly from a management point of view in reference to strategic planning and policy making. This is very important for future research in this area.

Hernandez, R. M. (2017) conducted research on the most significant difficulties and offers an overview of the future of information and communication technologies and their relationship to education. It begins with a description of the so-called knowledge-based society and how its evolution, which is a product of technology, has encompassed a variety of areas, thereby paving the way for innovation in education and prompting the generation of new knowledge. In addition, it discusses how technology has been the offspring of this evolution. In addition to this, it emphasises the significance of every educational agent, whether it be a teacher or a student, as well as the role that each plays in redefining the teaching and learning process.

A review of the pertinent studies on the implementation of information and communication technology (ICT) in educational settings was provided by Fu, J.S. (2013). In particular, it examines studies that have touched upon the benefits of integrating ICT in schools, obstacles or challenges encountered in the use of ICT, factors influencing successful ICT integration, in-service and pre-service teachers' attitudes, perceptions, and confidence in using ICT, as well as the significance of school culture in the use of ICT. Additionally, it discusses the importance of ICT in the context of the importance of school culture in the use of ICT. In this review, we highlight the gaps that exist in the existing research as well as the potential paths that more research could take to fill those gaps.

Phutela and Dwivedi (2019) explained that information and communications technology caused waves of industry transformations, one of which may be seen in the education business. Students' attitudes toward education are rapidly evolving in response to both the shifting nature of the surrounding environment and the evolving demands of the business world. The days when lecturers would simply instruct their students using blackboards in a large lecture hall are long gone. The scenario is not conceivable at this point in time. The use of information and communications technology (ICT) in education is currently being used to promote student learning as well as creativity, interaction, and the sharing of knowledge. However, the question that needs to be answered is whether or not an online learning environment can accomplish these goals. The purpose of this article is to investigate the ways in which e-learning is reshaping the educational services sector. In addition to this, it will incorporate the views and experiences of the students regarding e-learning. The findings indicate that numerous steps are being taken by the government in order to grow and improve upon this platform. Students are still not fully convinced of the potential benefits of e-Learning, despite the efforts made by the government. In addition, the various options provided by these platforms have left the pupils unsure of which one they should choose. The authors have created management implications for both educators and students, as well as educational institutions, based on these findings.

Objectives of the Research:

The purpose of this research is to investigate the possible scope, application, and limitations of technology integration in the overall education environment, in successful practise, in the growth of educational institutions, and on the learning and general development of students.

III.   Methodology

A questionnaire with predetermined questions served as the basis for the design of the study. An ethnographic approach is well suited to practice-oriented theories of cultural activity (1984), which have a concern for understanding culture as constituted in and through the everyday practises of members of a social group. Such theories seek to understand culture as constituted in and through the everyday practises of members of a social group. The fieldwork for this research was conducted in private schools of Moradabad. In 2019-20, more than a thousand teachers were teaching around fifty thousand enrolled in 35 schools.

IV.   Data Analysis

Teachers globally are using ICT increasingly as a productivity tool and as a teaching aid. They use computers to maintain student records, create time tables, annual calendars, results, assessment records, worksheets, question papers, notices, etc. They use it for academic purposes develop projects, do online research on curricular topics, download new software and resources, and even create digital resources in their subjects.

Out of the total eighty-two teachers of privateschools, 62 were interviewed using semi-structured interview guides. Teachers dealing with drawing, craft, dance and music were not interviewed. Duration of interviews ranged from 10 to 15 minutes. A survey was also conducted with all the teachers in the school. More than 60 teachers were observed in classrooms, across grades and subjects. Interactions among teachers in all settings were also observed, as were their interactions with students. The researcher attended some of the staff meetings, and informal conversations with many of these teachers proved a vital source of information.

Out of the 82 teachers of the private schools, there are only five male teachers. The age of the teachers varies from 25 – 60 years, with the average age being 38 years. The survey of teachers revealed that most of the teachers had a homogenous socio-economic profile. Most of the teachers' spouses are government officers (48), and a few are in the defense services (12). Twelve teachers belong to business families. Spouses of five teachers are teachers too. The spouses of two of the male teachers are also working as teachers, and three are homemakers. Seventy per cent of the teachers (56) have a monthly family income between Rs. 25,000 and 50,000. Sixty-eight teachers have a monthly family income above Rs. 51,000. Almost 80 per cent of them (65) have computer and internet access at home. The reasons for owning a computer are never found to be the teacher's own interest or work. Most of the time, teachers had access to the husband's laptop or children's PC.

More than 90 per cent teachers (74) have e-mail accounts (almost all of these are created in school during teacher training), but only 60 per cent (50) use them regularly.

Thus, teachers seem to be largely conservative in their approach towards technology. They do not use it even when they need to, or when they easily can do so – delegating the work to the young people around them.

V.   Suggestions

In terms of policy, this thesis recommends that a detailed framework be drawn up to implement the policy, as has been done by countries like Singapore, Hong Kong and Philippines (Kozma, 2008). The policy should spell out clearly and provide time frames for phased provision of infrastructure in schools, teacher training, developing model schools, taking the teachers step by step towards the integration of technology, making educational resources available in regional languages, developing strategies to increase communication and collaboration between schools, and more. While many of these aspects are covered in the policy, this study suggests that time bound strategies be worked out, which will help schools and teachers implement it effectively. Suitable monitoring and evaluation mechanisms should be set in place to ensure that the policy is effectively implemented, and if there are any problems, these can be rectified at the earliest. It would also be useful if the government could invest in human resources in each school for the maintenance and upkeep of these resources. It would also be helpful if the policies clearly and effectively articulate the policy rationale and strategies. It is important that a review of the policy takes place every two years keeping in mind the rapid changes in the technology sector, and the education sector, It is further recommended that the government find ways and means to make teacher resources relevant to Indian education, and in regional languages, be made available online in one network. Teachers should be encouraged to share their work online. In a vast country like India, work is being done in small pockets and often does not gain limelight. If all of this work could be networked and made available to the teachers, perhaps their usage of online material would increase, thereby increasing the value of online research for them. In terms of policy recommendations, this thesis, most importantly, suggests that policy should take note of the gendered nature of ICT usage (at school and at home) and offer ways and means to reduce this gender disparity.

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