

ANALYZING CHALLENGES AND FAMILIARITY OF ICT IN EDUCATION: INSIGHTS OF SECONDARY SCHOOL TEACHERS LARKANA DISTRICT

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Abstract

This study aimed to analyze the secondary teachers' level of familiarity of ICT and challenges they face when they integrate ICT in classroom. Quantitative research design was adopted in this study to study the challenges of ICT in classroom settings. The targeted population was all the secondary school teachers of district Larkana. While sample of 40 teachers was taken into consideration by utilizing the stratified randomly sampling technique. Out of 40 teachers 20 were male and 20 were female. The data was gathering using already validated questionnaire of likert type. In addition, the data was analyzed by having utilized the MS Excel because the sample was limited to MS Excel was best fit for it. The results uncovered that secondary teachers are aware about the ICT tools with a condition that their familiarity does not guarantee that they will use ICT it in their teaching. Moreover, it also disclosed that there are various challenges that hinder the process of implementation. The challenges like shortage of class time, little access to ICT, less technical support, negative view of society, school, and colleagues towards ICT, time needed for teachers to learn themselves first, and requirements of qualifications. However, it was recommended that authorities should take timely precautionary measures so that educators could successfully integrate ICT in classrooms.

Keywords: *Information and Communication Technology, Secondary school teachers, Integration of ICT.*

1.Introduction

ICT stands for information communication and technology (Martinovic& Zhang, 2012). ICTs are fundamental tools that can be either hardware i.e. computer, printer, projector, etc. or software i.e. Power point, MS excel, etc (AbuJarour et al., 2018). Information and communication technology is developing very rapidly day by day (Aypay, 2010). ICT involves both internet-based and mobile one powered by remote system or wireless system (Savec, 2020). It also incorporates antiquated technologies, i.e. radio, TV, broadcast and so on, all of which are broadly utilized nowadays nearby cutting edges ICT tools like robotics and artificial intelligence (Aldridge, 2008). Even though ICT in most of the cases utilized synonymously with IT (for data innovation); be that as it may (Hills, 1987), Whereas, it is generally utilized to address a more extensive, more simpler list of all parts related to computer and its advancement than IT (Askar& Olkun, 2005).

Indeed, ICT has achieved a greater importance indifferent fields, i.e. business, commerce, and particularly in Education. Literature has shown that there are evidences of utilization of ICT in education i.e. teaching and learning process, still a lot more is needed to do for effective teaching and learning process (Muslem& Juliana, 2017). ICT is like a milestone in the field of education, because it boosts up learning of students and the pedagogical skills of teachers (Mulkeen, 1998). Technology provides the learners the ease of use to knowledge (Alev et al., 2009). The day to day revolution in ICT is becoming very easy but a hard process because updated technology demands the new skills known as 21st century skills(Butt et al., 2020).Whereas, Wood, Mueller, Willoughby, Specht, & Deyoung, (2005) mentioned about integration of ICT that in daily learning classrooms it is not a problem free, due to its hindering challenges. Most of professional development programs do not provide opportunities for teachers to utilize technology during class in same manner as they use other tools like black board, chalk, marker etc (Raby et al., 2010).

However, ICT is one of the most influencing tools to upgrade instructing and learning measures. It is also used for understanding the rich context (Ghavifekr et al., 2016).The different studies show that there are various challenges of implementing technology (Mathevula& Uwizeyimana, 2014). The study mentions that in some schools there are facilities of technology, but teachers

are using technology only for their personal use. Moreover, they have not fully expertise in using technology and they have fear to use the technology (Cox, 2008). Despite this Raby & Meunier, (2011) showed in her study that there are challenges which hinder educators to implement ICT in their teaching, while students also face the same problem in their learning. Ihmeideh & Al-Maadadi (2018) used teachers' perception to conclude this study. Jeileen (2007) showed the challenges i.e. human resources, lack of material resources, training and professional development, administrative and parental support.

While, human resources include the people like technician (Reinen & Plomp, 1993). ICT tools are of no use ones they got out of order, so lack of technical support is rising challenges in schools to overcome the ICT concerned issue (Hinostrroza, 2018). Thus it hinders to implement the ICT in classroom (Fullan, 1992). The study found that there were no ICT equipment to use in the schools, so if there are no material then what to implement. The equipment i.e. computers, multimedia, etc. (Jones, 2004). Additionally, Mutisya, Mulwa, & Mwanja, (2017) in their study described that the teachers are not given proper training about using ICT. So if teacher don't know themselves then how they will implement it in classrooms. This is also an interrupting challenge when ICT is integrated in classroom (Kong & Li, 2009). Furthermore the support from the school authorities and also the support from other concerned authorities created hindrance in using ICT in classroom (Puncreobutr, 2016).

Additionally, the study identified that ICTs are influential tools for educators to improve teaching (Drury, 1995). However, It is also found in the study that the ICTs are important factors that not only improve learning of students but also polishes the pedagogical skills of the teachers (Fraij et al., 2010). On the contrary, the school leadership is considered as backbone of school management so school leaders need to utilize the available resource for ICT integration (Lynch, 2006). If it is not so school leaders can sponsor and collaborate other authorities i.e. higher authorities etc., to integrate ICT in classrooms (AbuJarour et al., 2018). However, It is found that in some schools there are material resources but teacher lack of self-efficacy (Butt et al., 2020). Self-efficacy is defined as one's confidence or belief in his/her ability to do a task (Siti Hajar Halili, 2019). Therefore, It regulates and alters human behavior (Ali, 2017). So for improving teachers' self-efficacy school management should arrange the proper training (Khanghah & Halili, 2015). Importantly, with rapid increase of the technology the school

management need to update teachers concerned skills i.e. twenty first century skills (Hennessy et al., 2010).

Literature Review

Challenges while using ICT in their classrooms

Literature finds that both Educators and students see that e-learning assist students with taking the responsibility for own Learning, gives broadening of exercises, encourages natural force of learning, empowers contemplative person students to interface better, licenses obtaining significant investigation and time the board abilities, permits Educators to have more students' focused type of learning, and so forth (Muslem& Juliana, 2017). Apart from this, the review of previous studies also showed some of the main challenges that educators face while implementing the ICT in their teaching and learning process (Ekberg & Gao, 2018). Further challenges i.e. technical challenges, pedagogical challenges, and administrative challenges. These are further explained as;

Technical challenges:

These are various hindrances like lack of technical skills, speed of internet and connection problems (Smerdon et al., 2000). While the previous studies shows that lack of technical skills of both teachers as well as students jointly make up this challenge (Amuko et al., 2015). On the other hand, internet speed is another challenge that educators face while using the ICT in education i.e. teaching and learning process (Sivakumar, n.d.). Studies have also concluded that network connection problem also hinder the educators as it is very difficult to be connected to a network for a long time, so it also hinder them (Ghavifekr et al., 2016).

Administrative and Pedagogical challenges

Administrating an activity or an appraisal which requires innovative foundation and it is another critical test recognized by the subjects. "Absence of e-learning assets for all classrooms" and "absence of full-time staff to screen the electronic types of gear" are the fundamental difficulties referred to by the members in such manner (Fraij et al., 2009).It is mentioned that there are limited technology resources that's why it is unfair to implement it in curriculum.

Furthermore, some teachers have lack of knowledge so that's why they cannot monitor the devices in the class thus it became a big challenge. Meanwhile, some teachers do not feel comfort while using technology in the class, that's why they avoid to use and to teach the students through technology in the class (Unal& Ozturk, 2012). Whereas, the pedagogical skills are very important for teachers while utilizing ICT in classrooms. The self-willingness of teachers' persist them to get mastery on ICT knowledge. Thus, teachers couldn't feel comfort to implement ICT in teaching (Peeraer& Van Petegem, 2010).

Challenges associated with technology implementation when it is utilized in classroom

Review paper shows various challenges for example external and internal challenges. To integrate ICT in classroom can change many things to increase the learning and development of students (Fraij et al., 2009). Additionally, it can change the classroom into multiple modes i.e. visual, audio learning or other modes. To find out the challenges is not the solo goal of this article but there are also the solutions of these challenges (Player-Koro, 2012).

Previous studies have mentioned that there are various things external issues when teachers operate technology in class for example lack of resources in class room, access of computers and etc. A good internet access is necessary for utilizing technology in classroom efficiently. Many school face limited access of internet even they have transition time in using the computer. On the other side, numerous schools the nation over are making the progress to coordinated figuring (Rahim Sajid, 2013), numerous students don't have customary and dependable admittance to a PC. Initially, it was very difficult to have internet access to all but recent reports shows an improvement in the access of computers in schools (Ratheeswari, 2018). While training is other important hindering factor, which creates disturbance for teachers to implement ICT in their teaching. For teachers, training of technology is very necessary before teaching the students through technology. The National Education Association (NEA) assimilates growing proficient enhancement in technology as a suggestion in policy (Van Roekel, 2008). Similarly, it is reported that initially teachers have no any confidence to utilize technology but with time they feel confidence while using it. With the time technology is growing, teachers are not ready for every up to date versions. In addition to that studies shows that teachers have adequate support of

technology and because of that support they are more confident now to use the technology but still they need more support for every up to date changing in technology (Van Roekel, 2008).

Internal challenges

There are various internal challenges are mentioned. The one is belief of teacher if teacher do not consider the technology as useful tool then it is not possible to make technology as useful tool in class. While the other challenge is the skill and confidence to use technology in classroom (Ratheeswari, 2018). Many teachers grew in such an environment where they did not learn how to use technology so it creates an issue for ICT integration in classroom. Above all there is also another challenge is to shift from traditional mode to use of technology in classroom for teachers so it will create a big problem for teacher (Qaddumi et al., 2021).

However it is also identified that teachers' negative towards the technology hindering them to integrate it in the classroom, while attitude of teachers towards the technology is a dire need of current society. In contrast, positive and negative attitudes are two sides of same coin (Hernandez, 2017). On the other hand, the negative attitude of educators towards the technology impacts the integration of technology in classrooms. Whereas, the positive attitude helps them to implement technology in classroom (Sife et al., 2007). One of the empirical study of seven hundred and sixty four teachers shows that lack of teachers' confidence create technophobia in teachers to use technology. The technophobia is inability/ fear to use technology. The school management need to arrange the awareness session for teachers to overcome their phobia (Reid, 2002).

Utilization of technology in classroom: challenges and highlights

Utilization of technology in classroom is major factor in teaching. English being a global language, is utilized as a secondary source of communication in any country like India or Malaysia (Dutta et al., 2015). English has been utilized as medium of instruction there. As quantity of English student's increased, new instructing strategies are actualized to test the viability of showing cycle (Shyamlee & Phil, 2012). Technology is used in classroom in teaching and learning the language.

Methodology

Quantitative research design was employed in this study. The very reason is that it provides research with a clear answer in straight forward reality. Moreover, the aim of present study is to measure the familiarity level of secondary school teachers of Larkana District and challenges they encounter while adopting ICT in classroom. Creswell (2013) has also mentioned that quantitative method is best fit when one want to study attitude or behavior and collect data in numeric form. The population is all the secondary school teachers of District Larkana. Additionally, the stratified randomly sampling. The sample for present study was 40 teachers from secondary side involving 20 female and 20 male teachers.

The data was gathered using a survey questionnaire of likert type adopted from (Salehi & Salehi, 2012). The questionnaire is consist of two parts with first part covering the questions related to the familiarity of teachers having four options i.e. never used, limited user, frequent user, and confident user and the other having questions related to challenges of ICT with options strongly agree, agree, undecided, disagree, and strongly disagree. While, the data was analyzed using MS excel as there were limited number of sample so MS Excel was best fit. The frequency and percent of data was measured. The whole process of data collection and analysis was done following the ethical considerations of educational research. Some of the ethical considerations are; the personal details of participants should be kept confidential, and participants are allowed to withdraw at any stage etc..

Results

The analyzed data has been presented in two tables. Table no. 1 shows that level of familiarity of secondary teachers regarding ICT. The other table shows barriers that educators encounter while adopting ICT in classrooms.

Table 1 Level of secondary teachers' familiarity of ICT

Items	Variable	Frequency	Percent
How is your personal experience with ICT?	Never used	4	10
	Limited user	8	20
	Frequent user	12	30
	Confident user	16	40
How do you judge yourself in using ICT in classroom?	Never used	6	15
	Limited user	2	5
	Frequent user	10	25
	Confident user	22	55
How do you think of other teachers' familiarity with ICT?	Never used	8	20
	Limited user	12	30
	Frequent user	12	30
	Confident user	8	20

The above table is about how much teachers are familiar with ICT tools. It is clear from the given data that 70 percent of total respondents are familiar with ICT tools with 30 percent of frequent and 40 percent of confident users. While, 20 percent have less familiarity with ICT and 10 percent has never used it. However, the data shows only percent of familiarity with ICT and does not prove that they would adopt ICT in their teaching. In addition, it is also disclosed in this study that 55% of respondents are confident users of ICT and 25% use it frequently. On other

hand, 5% are limited users and 15% have never utilized it. Furthermore, it can be observed in the table that 50% of participants showed that their colleagues are familiar with ICT tools and 30% are limited user and 20% have never used it. In conclusion, the results uncover that more than half of the teachers are aware about the ICT gadgets.

Table 2 Challenges of ICT encountered by secondary teachers

	Frequency	Percent	Frequency	Percent	Frequency	Percent
Shortage of class time hinders me to use ICT	8	20	6	15	26	65
Little access to ICT prevents me to use ICT	6	15	4	10	30	75
Few ICT technical supports at schools discourage me to use ICT in classroom	4	10	8	20	28	70
Society views about ICT hinder me to use ICT	10	25	6	15	24	60
Colleague's negative views about ICT hinder me to use ICT in classroom	6	15	12	30	22	55
School views about ICT discourage me to use ICT	12	30	4	10	24	60
Time needed to learn	6		2		32	80

using ICT prevents me to use ICT						
Requirements of qualifications discourage me to use ICT	4	10	6	15	30	75

The data in table no. 2 shows challenges that create hindrance in successful integration of ICT in classrooms. According to this table one of the most hinder factor is time needed to learn using ICT with 80% of agreement of respondents. This shows that teachers need more time to learn the use of ICT. Little access to ICT and requirements of qualification are another disturbing challenge of ICT implementation for which 75% of respondents' endorsement. In addition, 70% of teachers showed that they have less technical support and 65% endorsed that class time is too short to deliver the lesson with the help of ICT.

Moreover, 60% showed that negative perception of school and society towards ICT remained unattended barrier. However, 55% of total respondents showed that negative views of their colleagues about ICT is also a hindering challenge for them to use ICT in classroom. In conclusion, though ICT is advantageous but not a problem free process.

Discussion

The present aimed to analyze the level of familiarity of secondary school teachers' regarding ICT and the challenges they have during the implementation process. The results are similar to it. As majority of responses endorsed that teachers and their colleagues are aware about ICT tools while Yunus (2007) in his study showed that teachers are aware about the ICT tool because they using technology in their everyday life but as far as ICT in education is concerned they have less knowledge about the exact names of ICT tools. In addition, it was also disclosed in this study that half of the teachers utilize ICT in their teaching but due to the short period of time lesson could not be completely delivered. In this regards Bansa & Asrini (2020) have added that

teachers use ICT gadgets in their teaching and found it effective and interactive for students but the time period for a single period is very short to deliver the lesson fully.

The results of study unveiled that teachers are familiar with ICTs and also adopt in their teaching-learning process but found it challenging because of the various barriers hindering the process. The most hindering barrier is that teachers need time to learn how to use ICTs effectively. As Underwood and Dillon (2011) has showed that teachers need professional training to learn how to effectively use ICTs in teaching. Moreover, little access to ICTs, requirements of qualifications, and less technical support remained other disturbing challenges. Elia et al. (2026) in their study have recently added that strong access to technology and connectivity is needed for integrating technology in education. The technical staff is also required to solve technical issues.

Furthermore, study showed that views of school administration, colleagues, and society is negative towards the ICT. Donmez, Laherto, and Kesler (2026) have found that due to the negative attitude of teachers, administration, and people of society educators are facing disturbance. However, the ICT is effective for enhancing student-engagement and making classrooms lively but challenges should be considered before initiating it.

Conclusion

ICT is recognized as a medium through which teacher can utilize many pedagogical and philosophical approaches to deliver the lesson. However, considering it as a teaching tool makes it trickier and requires some specific skills. Educators face numerous challenges that preclude them in executing ICT in teaching. The present study concluded that secondary school teachers are familiar with ICT tools but their familiarity does not guarantee that they are utilizing it in teaching.

Additionally, problems such as less technical support and little access to ICTs create disturbance for them to integrate it in classroom. Teachers need some time to learn its usages first but they are not given. Class time is too short to deliver the content using ICT thus study recommends that the class time should be increased enough to deliver the lesson with the help of ICT. Moreover, the negative views of school, society, and colleagues at workplace towards ICT is

also a triggering factor that affects the integration of ICT in classroom. However, the study recommends that authorities should provide different training programs related to technology so that the skills of teachers should build well and their perceptions could be changed.

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