Study the challenges in integration of educational technology for students' learning outcomes at secondary schools of Sindh, Pakistan

Syed Muhammad Ahsan Bukhari *, Gulzar Ali Kaka, Mehboob Ali Dehraj, Ashique Hussain Jamali, Rafique Nawaz Bhutto, Muneer Nazeer Memon

Faculty of Education, Shaheed Benazir Bhutto University, Shaheed Benazirabad, Pakistan

Abstract: The research escalates the impacts of educational technology at high schools of District Matyari. The survey method was used, the teachers of secondary schools of District Matyari were population of current research study and target population was secondary school teachers of Taluka Saeedabad. For sampling, simple random sampling method was applied. 250 teachers were selected as sample of this research study. From the research, it is summarized that both the teachers and students were interested in using educational technology in high schools and they preferred technology in their pedagogy. After the final results many challenges were observed while integrating technology in education. Teachers and students are not provided such technology at secondary school level. Higher authorities and headmasters are not interested in using educational technology in class rooms. This resulted the students became unable in getting such benefits from technology. It was recommended that concerned authorities in the education department should organize awareness seminars and sessions for the students, teachers and head teachers to inculcate the use of educational technology in secondary schools.

Key words: *Educational technology; Communication; Challenges; Teaching-learning*

1. Introduction

Nowadays technology is considered as the 6th sense of human beings. Acknowledging this fact the use of technology in education results a mode of communication and learning among the students. Teaching and learning can be more strategized in elementary schools by the effective and positive use of technology. The practice of technology enhances the mode of learning in classrooms. The computer in the classroom, class websites, class blogs and wikis, wireless classroom microphones, mobile devices (clickers or smartphones), smart boards (Interactive whiteboard providing touch control of computer applications) and online media. Hynds, (2016) argued that formal method of chalk and board technology of the teachers still practicing in the mainstream education of Sindh but nowadays new technological and pedagogical techniques inculcated through technology has opened the new chapters for the teachers and students in the classrooms. Alexander,(2015) in his publication suggested that technology in educations at high school level escalates the students learning and decreases the gaps between teachers to teachers, students to students and teachers to students. Different learning theories like pragmatism. Ribeiro,(2018) opine that constructivism, progressivism, John Dewey emphasizes on the students centered learning in which the teachers role is just to facilitate and guide the child and it initiated the use of the technology on urgent bases in order to fill the gap between teachers and students. As in period system teachers hardly get 45 to 50 minutes for a class and it will be mandatory for the teachers to find an alternate solution to overcome this issue in order to communicate their students and technology has resolved this issue. This study intends to explore the challenges faced by the teachers and students of secondary schools in integrating ICT in classroom that enhance their capabilities and also evaluate the impacts on teaching-learning process due to lack of interest of schools' management and administration.

2. Objectives

- To identify the challenges in using educational technology at high schools.
- To explore the difficulties faced by the teachers using technology in class rooms at secondary school level. To evaluate the lack of interest of educational administration and management in integrating ICT.
- To estimate the impacts of lack of interest of educational management and administration on teachers and students.

3. Research questions

1. How the teachers face the challenges in integrating educational technology at secondary level?
2. What are the major challenges faced by the teachers from administration and management

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* Corresponding Author.

side while implementing educational technology in secondary schools?

3. How the challenges faced by the teachers impacts on students' learning and achievement.

4. Related literature

High school level education plays a key role in mainstream education. It builds the base of formal education. Baran (2019) discussed that educational technology was the applied version of the technology in education and its effectiveness in education is increasing day by day. Kumar (2019) argued that teachers use different methods like lecture method, discovery method, cooperative method and technology plays a key role in this regard. Educational institutions should use different technical devices like 3D projectors smart boards, LCD screens (Uskov, 2015).In order to inculcate new technologies in educational institutions, the governments didn't take effective initiatives for deploying these devices so that the learning process should be strategized. McKnig (2016) evaluated that Engineering schools were most important in the engineering sector side, making technical minds of youth who are interested in the engineering side and they need to be more creative and for these schools needs to advance in technology. Albugami (2015) opined that there was a direct link between technology and learning and it identifies a stronger relationship. In the areas of education, the UK has a prominent role in using technology, especially in schools. Implemented teaching methodologies at schools as Tarus (2015).proved about the effects of integration of technology impacts of integrated smart boards, use of communicated devices like mobile phones, iPods, tablets, laptops etc. Spring (2017) emphasized on the importance of technology in education and said that society has been drastically changed by the use of technology and over the last decades the interaction of the people and the work in schools has been completely changed and this all has become possible after the technology. Turkle (2017) further elaborates the use of technology that From the ways it looks today and the schools we see today not only impacts the learning of the students but it has also changed the way of living styles in society, people are so connected by the use of technology that they even know within few seconds whatever happens at long distances. Technology has prepared the students for the future world, technology functions as to mould today's child and it is the demand of the 21st century.

5. Methodology

This research study was quantitative by method and descriptive by purpose. The population of current research study was the teachers of secondary schools of Taluka Saeedabad. 250 teachers were selected as sample of this research study. Simple random sampling was applied for selection of sample. For data collection a self-designed questionnaire on five point Likert scale was used. The collected data was analyzed in frequency and percent in Table 1.

Table 1: Collected data

Statement	SA	A	UD	DA	SD	Mean	SD
Learners are not provided educational technology in schools.	180	20	3	2	1	4.3	.103
Head of schools also taking an interest in educational technology.	50	25	45	35	95	3.4	.080
Teachers use technology in classrooms	122	30	35	18	45	3.66	.419
Training sessions of technology-related devices are not being conducted for the teachers.	185	25	18	22	0	4.49	.327
Teachers are not fully involved in educational technology.	10	20	20	55	145	4.22	.638
Higher authorities including School administration are interested in educational technology.	50	25	40	40	95	3.42	1.01
Student have full knowledge of educational technology	40	25	60	54	71	3.36	.950
Students are taking fully support from educational technology	85	30	45	48	42	3.27	1.02
Teacher and students consider educational technology useless.	20	10	5	25	190	4.4	.437
Student and teacher able to use different educational technology program for enhancing their capabilities	85	30	45	48	42	3.44	.715
Students get their subject material easily from internet.	75	55	45	30	45	3.34	.071
Students are not taking support from educational technology.	42	48	45	30	85	3.27	.160
Emergent technological tools have made possible to learn more standard and updated things for teachers and students.	120	40	23	44	23	3.76	.124
Teacher of secondary school use this technology delivering the lesson.	45	30	80	45	50	2.9	.976
Students' cognitive skills have been increased by using educational technology.	130	35	30	35	20	3.88	.013

	SA	A	UD	DA	SD	Mean	Sig.
Students use social media applications for group discussion.	120	30	33	44	23	3.72	.021
Students waste their time using social media application on useless gossips.	23	44	21	30	120	3.57	.354
Teachers share different tasks, assignments, quizzes using educational technology.	95	20	20	20	95	3	.012
Educational technology has ceased the intellectual abilities of the students.	25	30	15	25	155	4.02	.530
Technology has changed the teaching strategies at the secondary school level.	130	35	12	24	49	3.69	.701
Use of educational technology broadens students' knowledge paradigm.	130	25	24	40	31	3.73	.742
Traditional methods were better than technology oriented teaching strategies.	15	15	5	40	175	4.38	.062
Classrooms environment become conducive after use of educational technology.	145	55	5	20	25	3.7	.128
Students pay great attention when technology is used in teaching.	175	45	8	12	10	4.45	.342
Classroom discipline disturbs with technology use	10	12	8	45	175	4.45	.043
Proper budgets are fixed for institutions to be utilized in integration of technology in secondary schools.	10	12	22	35	173	4.42	.436

SA= Strongly Agree   A=Agree   UD=Undecided   DA=Disagree   SD=Strongly Disagree

6. Discussion

The population of Sindh is divided in rural and urban areas. Unfortunately, the rural areas always remain back from the updated technology. Taluka Saeedabad of district Matyari included in rural areas where the integration of technology in schools is still not communicated. A lot of researches are being conducted to technology enhancement for learning, teaching positive results are obtained but in rural areas is still lacking back. Bice-Urbach (2016) noted that due to existed challenges in integration of technology in the schools of rural areas, the learning and teaching can never be updated. This study uncovers the challenges of using technology integration in schools. Dhawan (2015) argued that rural areas were still away from technology use. Teachers of secondary schools at Taluka Saeedabad were given the questionnaire. Data was collected from 250 teachers which was further analyzed by the experts. Students and teachers have taken the advantage from technology. Recognizing this fact the government of Sindh included ICT in educational institutions of Sindh. But lots of challenges are being faced by the teachers and learners in using technological devices. Despite all this; students have also got advantages in their academic career. From the responses of teachers it was observed that technology is recommended as the important tool for education but due to some challenges; the use of technology didn't come on such fruitful expectations. Students tend their major concern to technology in many ways. Students and teachers' responses acknowledge the importance of technology like in bridging the gap between teachers and students and students to students; enhance their capabilities, their cognitive structures, conducive environment for the teaching-learning process. Online discussions on social applications like twitter, facebook, WhatsApp, LinkedIn etc. These discussions have increased the capacities of the students. Different pedagogical techniques are used by the teachers to bring out the inner potential of the students. From the results the challenges are filtered out that school management and administration is not interested in integration of technology in educational institutions. Proper trainings are not being conducted for the teachers to meet the upgrade technology as Gil-Flores,(2017) commented that proper trainings in technology can reshape the secondary schools . Special budgets are not fixed to make progress in this regard. Especially the rural areas are kept deprived of such developments.

7. Recommendations

From the findings following recommendations are delineated:

1. Technology-oriented devices should be provided to the schools.
2. A proper subject like other compulsory subjects should be included in the syllabus so that students consider technology as their major concerns.
3. Serious steps should be taken from the competent authorities and proper budgets should be fixed for purchasing advance technologies that enhance students', teachers, and capabilities.
4. Training for teachers should be organized twice in a years so that updated technology would integrate with educational institutions.

8. Conclusion

In all stages of education, the secondary level is the most important. Students' needs proper guidance to make dimensions of their study. This is the base of the entire process of education. Integration of technology in this stage brings fruitful effects but there are some challenges face by the teachers and students. Due to such challenges, the

fruitful results are a distant dream. From the above-mentioned data, it can be concluded that teachers and students prefer technology to enhance their teaching-learning process. It proves a milestone in the process of education. It is better for the future that students and teachers should well be acquainted with technology so that they keep updated with the world in education.

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