

Integration of Technology in the Classrooms at University Level in Pakistan: Perception and Practices Analysis

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Abstract

Background/Objectives: The study examined the perception and practices of teachers about the integration of technology in the classrooms at university level in Pakistan. **Methods/Statistical analysis:** The Mix-method research approach was followed to seek the answer of research questions. A close ended Questionnaire on five-point Likert scale and classroom observation were used as research tools. The population of the study was comprised of teachers of Faculties of Education of four (04) public sector universities of Sindh, Pakistan. Sample for the study was selected through census and random sampling techniques. **Findings:** Teachers had very positive perceptions for technology integration in the classroom, majority of teachers were using lecture method, and only few teachers were using different teaching methods such as demonstration with multimedia projectors, Jigsaw, and project based learning. And the classroom environment was found conducive in most of the University for the Use of technology. **Applications:** The main recommendation of the study were; teachers may use technology frequently in the classroom for maximum academic benefits of students, the administration may provide all possible facilities to the teachers to use technology in classroom. And teachers must train to use technologies in the classrooms.

Keywords: Classroom, Perception, Practices, Teachers, Technology, Universities

1. Introduction

Modern Technology is new phenomenon in developing world. Modern technology includes internet, mobile networks, television, etc. The role of technology has become critical in different fields like health, education, media and entertainment. In the field of education, use of technology has brought drastic changes and advancements. In the higher educational institutions of the developing countries including Pakistan, the classrooms have become virtual classrooms due to use of modern technology. The use of modern technology helps in solving different problems like frequent interaction between teachers and students through WhatsApp, Facebook, Twitter, Emails, access to new knowledge and information, global link-

ages and sharing etc. Use of technology in education helps to find and develop new ways of teaching-learning and facilitates a lot to teachers and students at all levels of education especially at higher education level¹.

Modern technology has become very powerful and influential tool for bringing advancement, change and reforms in field of higher education. At universities, the usage of technology in classrooms making teaching and learning process energetic, attractive, delighted and very active. Introduction of technologies into classroom across the world during the past few year bringing too many benefits like pedagogy become very effective, readiness of institutions, increase in the teachers' competency, and advancement in the curriculum².

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For the progress and advancement of higher education in Pakistan, the government is taking many steps. Higher Education Commission (HEC) was established in last decade for same purpose which has been playing key role in the integration of modern technology in the field of higher education since its inception. However, being a developing country, Pakistan is still facing numerous problems and challenges in the effective integration of technology in higher education institutions especially in universities. In most of the public sector universities of Pakistan, teachers are using traditional teaching methods which have become obsolete in developed and advanced countries, technical support and necessary infrastructure is not available in rural areas universities, students are not motivated to use technology in learning process, financial constraints are there, universities have no IT policies, limited supply of electricity and poor telecommunication, capacity building and professional development of teachers, and content development are real challenges in Pakistan³ explored the perceptions about the technology integration in higher education and found that “It is very important for teachers that if they want to integrate technology, they should have positive perceptions about its use and they must be competent enough to use technology in their teaching because use of technology enhances teaching-learning process”.

2. Rationale of the Study

Computer technology is very important innovation of present time and it needed to be used effectively by our teachers and learners in classrooms at university level. Since effective usage of technology is still neglected area in higher education system in Pakistan. So, present study helped to highlight the real problems and challenges in the effective implementation of technology in the universities of Pakistan. The results of the study provided useful information to the teachers, students, institutional leaders, and national policy makers including Higher Education Commission HEC to facilitate technology supported environment in universities, for uplifting the educational standard.

3. Research Questions

The specific research questions for the study included the following:

1. What are the perceptions of teachers about the integration of technology in the classroom settings of the universities in Pakistan?
2. What are the teaching practices of teachers related to integration of technologies in the classrooms of universities?

4. Methodology

The research study was based on mixed method approach. For mix-method “explanatory sequential design” was used⁴. The population of the study was comprised of (n=55) teachers of faculties of education from (4) public sector universities of Sindh. For quantitative data collection the sample of the teachers was selected through census sampling. For qualitative data collection random sampling techniques was used to select (13) teachers for classroom observations. Five-point Likert’s scale questionnaire was used for quantitative data collection and classroom observations were used for qualitative data collection. The reliability of the questionnaire was calculated through Alpha Cronbach technique which came out to be (0.85) and the validity of the both tools was determined through panel of experts. The response rate through questionnaire remain n=(33).

5. Analysis and Discussion of Research Question No.: 01

5.1 Perceptions of Teachers about the Technology Integration

Perception about the use of technology makes learning in classroom more interesting was highly positive (SA=61%, A=33%). The result indicates that technology acceptance trend is high among the teachers⁵.

Perception about the use of technology helps students to acquire new knowledge effectively was highly positive (SA=42%, A=52%). The result indicates that technology acceptance trend is high among the teachers⁶ found that use of technology fostering students for acquiring new knowledge.

Perception about the use of technology increases motivation among students for learning in classrooms was highly positive (SA=30%, A=58%). The result indicates that technology acceptance trend is high among

the teachers⁷ studied the impact of internet on studying English, and found that students' remain more motivated in the English class with the use of technology.

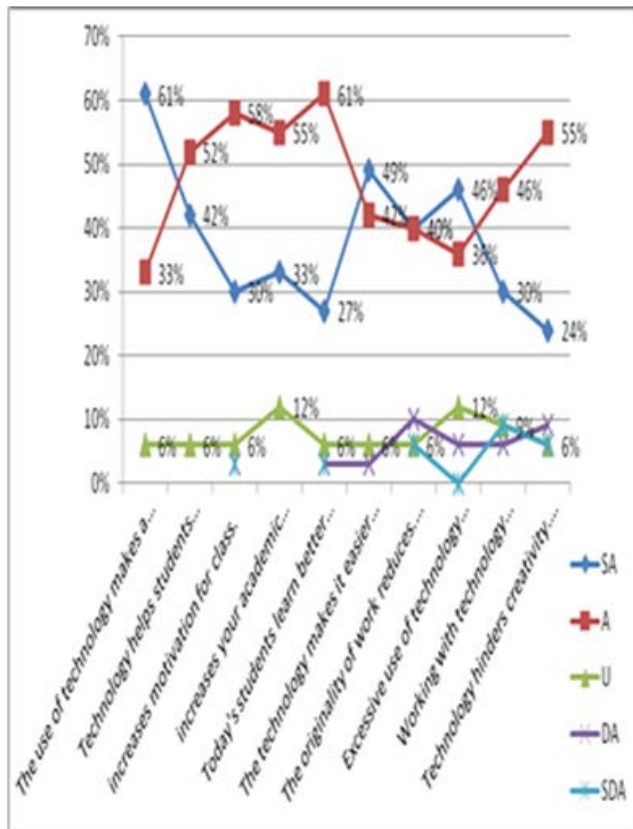


Figure: 1. Perceptions of Teachers about Technology Integration .

Perception about the use of technology increases academic performance of students was highly positive (SA=33, A=55%). The result indicates that technology acceptance trend is high among the teachers. Many researchers conducting studies on impact of using technology on student's achievements^{8,9} use technology in teaching and found that with the simulation, students secured high score.

Perception about the use of technology for better learning of students was highly positive (SA=27%, A=61%). The result indicates that technology acceptance trend is high among the teachers¹⁻⁷ in his research found that use of technology in teaching-learning enhances creativity and students' acquire new knowledge effectively.

Perception about the use of technology makes it easier to develop assignments and notes was highly positive (SA=49%, A=42%). The result indicates that technology acceptance trend is high among the teachers¹⁰ found that

technology helps students to obtain learning materials, e.g. books, easily at low cost.

1. Perception about the decline in originality of work and mostly students use copy-paste tactics was highly positive (SA=40%, A=40%) the result indicates that technology acceptance trend is high among the teachers¹¹ found that majority of students were using internet for copy paste techniques; they must know the copy-right law and plagiarism issues.
2. Perception about excessive use of technology creates health problems was highly positive (SA=46%, A=36%). The result indicates that technology acceptance trend is high among the teachers.
3. Perception about the working with technology makes people feel isolated from each other was highly positive (SA=30%, A= 46%). The result indicates that technology acceptance trend is high among the teachers. The result was aligned with Deloatch¹² found that excess use of social media causes anxiety, social isolation and depression.

Perception about technology hinders creativity and increase dependence on Internet was highly positive (SA=24%, A=55%). The result indicates that technology acceptance trend is high among the teachers¹³ found that excessive use of technology makes students dependent on technology.

6. Analysis and Discussion of Research Question No.: 02

6.1 Teaching Practices of Teacher Educators

Non participatory observations were carried out in the classrooms of all public sector general universities and it was found that in two universities, most of the classrooms were conducive and multimedia projectors were fixed in the classrooms. Whereas in two other universities some classrooms were well equipped and multimedia projectors were available in classes. During the classroom observation, it was found that though teachers were using lecture method but it was interactive and students were allowed to participate in all classroom activities through question answer technique and group discussion.

In one university, teacher was using multimedia presentation and in another university though teacher was using interactive white board but as multimedia projector only. It means they were not using special feature of inter-

active white boards. In^{14,15} his study concluded that ICT usage in Nigeria universities bring drastic improvement in teaching-learning process in the classrooms.

7. Discussion

The study was based on mix-method research designed. Quantitative data shows that teachers possess very high perceptions about the use of technology in teaching learning process¹⁶⁻¹⁸. But when classrooms were observed, it was found that majority of the classroom teachers were using lecture method for teaching. They were not found using technologies in classrooms. Although most of the teachers were in the favor of technology integration but they failed to implement in their practices. It is concluded that there is contradiction between perceptions and practices of teachers. Teachers realized that use of technology is very important and beneficial for students but they were not utilizing it in their teaching. Many studies were carried out to investigate the perceptions and practices of teachers about technology integration. Such as^{19,20} examined teacher beliefs and found no significant relationship between the practices and technology beliefs of the teachers^{21,22} and many others conducted studies on technology integration which suggested that teachers often do not integrate technology in alignment with their pedagogical beliefs²¹.

8. Recommendation

1. Teachers may use technology widely in the classrooms for making their teaching more effective and interesting.
2. Administration may provide all possible facilities such as; provision of hardware, software, digital library and other required resource to teachers for effective use of technology in the classroom.
3. Technologically qualified technician should be appointed for helping teachers to use modern devices in the classroom.
4. Motivational strategies may be adopted for encouraging teachers to use technology; such as letter of appreciation from vice chancellors. Likewise, many universities offered the best teacher award, universities can offer best techno-pedagogical knowledge award.
5. Teachers' capacities to integrate technology in their day to day teaching may be enhanced by providing training courses/workshops.

6. Heads of the departments in the universities should have the prime responsibility to ensure the effective and proper utilization of resources available in the campuses at maximum level, and they should encourage Teachers to use technology in classroom teaching as much as possible.
7. Teachers should use collaborative learning techniques and social media for collaboration, where students can get a chance to participate, up-load, or download notes or share teaching materials. So that students can engaged after class in learning.

9. Conclusion

The use of technology makes whole teaching-learning process very effective in the classrooms in the universities of Pakistan, and it helps students and teachers to have frequent and free access to new knowledge. The use of technology increases motivation for teaching among university teachers and enhances their professional competency. Through technology multiple opportunities are available to university teachers for making their teaching process more active and effective in terms of teaching same things in new ways. Use of modern technology facilitates university teachers to develop 21st century skills among the students. And they can also improve their day to day teaching practices.

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