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Role of Educational Technology on the Students' Performance at University Level

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Abstract: *The purpose of the study was to explore the role of educational technology on student's performance at the university level. Objectives of this study were: (1) To investigate Students' perceptions about educational technology at the university level. (2) To find out the effects of educational technology on students' performance at the university level. In this Research work, the following questions were used: (1) What are the students' perceptions about educational technology at the university level? and (2) What are the effects of educational technology on students' performance at the university level? All (2,139) of the BS students who participated in this study were students at Abdul Wali Khan University. In this study, samples of 402 BS students were used as the research sample. The sample was chosen randomly. A closed-ended questionnaire was created to collect data. Every step of the research procedure was followed. Data was collected in accordance with the sample. The gathered data was tabulated and then evaluated using percentage analysis. It was concluded that the role of educational technologies is very constructive and beneficial for the students. Based on the conclusion, it was recommended that learners should also use other search engines and focus on continuously updating and upgrading education technologies in their day-to-day lives.*

Introduction

The results of studies on the views of learners may have significant effects on companies' teachers, pupils, and university officials in order to improve the standard of instruction provided to students in postsecondary educational establishments and the way in which students apply the skills and knowledge they have acquired in their careers. However, there has been very little investigation on theories and techniques for the study of technology-assisted learning, as well as students' perceptions of and responses to multimedia instruction. With the increasing incidence and availability of technology in students' personal lives, possibilities for learning and relationships are limited. It encouraged students to take part, come up with unique, innovative concepts, and share their educational experiences. And the way that students view technology-assisted learning is positive. The effective application of tools and software for storing, retrieving, converting, organising, and controlling Information and communication technology, or ICT, is the term used to describe data and information that are currently available (Gay & Blands, 2005).

Among the public domains where technology development has had a significant impact is education (Kozman, 2005). Using a vast amount of information is now readily available thanks to the most recent popular integration of technology into daily life. Today's students have grown up with an ever-growing amount of technology at their disposal. To create an effective 21st-century classroom that meets the needs of the students, a modern teacher must take into account the impact of technology on inclusionary education as well as the motivation of the students to learn. A new technology was developed to meet this increasing need. Today's students live in a technological environment where instant access to an extensive range of knowledge is possible (Egbert, 2009).

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Statement of the Problem

The significance of educational technologies in the field of education is infinite. Besides the limits of exams, teachers can actively involve students in their own learning process through the use of educational technologies.

Research Objectives

- To investigate Students' perceptions about educational technology at the university level; · To find out how educational technology affects students' performance there.

Research Questions

- What are the students' perceptions of educational technology at the university level?
- What are the effects of educational technology on students' performance at the university level?

Delimitation

This study was delimited to the Social Sciences Department at Abdul Wali Khan University Mardan.

Using Google Chrome in learning

Teachers at NECS can boost academic motivation among students who are not interested in effectively using both standard and non-standard teaching methods. Can make use of Google technology (such as Google Drive and Docs) as well as other types of technology (SMART Boards, clicker-based response systems, database-grade storage systems). By using Google technology (Google Drive, Google Docs) and other forms of technology (SMART Boards, clicker-based response systems, and database grade storage systems) in both standard and non-standard educational methods, teachers at NECS can effectively increase motivation for learning among bored students. When a teacher uses these strategies, their curriculum will be created with the needs of the students in mind—from the materials to the right pace (Gensburg & Herman, 2009).

YouTube Videos in Learning

Projectors, PowerPoint, videos, etc. These days, academic settings frequently use the Internet, e-learning, and other technology-mediated teaching tools. Students use the Internet to prepare case studies and research papers, visit the websites of companies and professional organizations mentioned in textbooks, and take advantage of free online tutorials, and study guides with practice tests, and other resources in addition to using computers to search for academic and professional journals (Thomas L et al., 2009).

Educational Technologies which Support Learning Activities

Numerous studies revealed that technology has altered how classrooms function, increasing the interaction and participation of both teaching and learning. Rich technological environments have improved students' performance across the board. The use of ICT in higher education teaching and learning is a global phenomenon and a significant area of investment in many universities worldwide. (Selwyn, 2007).

Educational Technology in Everyday Lives

In the modern information era, technology that was once costly and reserved for a select few has advanced and become far cheaper, enabling access to a wealth of global knowledge through a variety of devices (Edwards, 2009).

Educational technology is an integral part of everyday life. According to Floyd and Judge (2012), technological aids can help students with learning disabilities access information and stay up to date in a regular education classroom when used appropriately.

Using Technology in the Educational Process Actually Changed Learning

Pupils will be more motivated to learn and feel included if they receive the support and instruction they are accustomed to. It makes sense that, in today's increasingly technologically advanced society,

classrooms should mirror society. When technology is used in the classroom, it improves the viewpoints of both teachers and students on academic achievement (Courville, 2011).

Educational Technology helps to Develop the Personality of the Learner

Teachers need to change with the times as students have grown up with technology in their lives. As they adjust, Teachers must learn how to incorporate these new technologies into the classroom for both educational and motivational goals in order to adapt to this new way of life. Divergent learning approaches are supported by technology, which also contributes to the creation of meaningful experiences and a sense of community (Future Lab, 2009).

Educational Technology Removes the Traditional Environment of the Class

Higher education teachers use a number of methods of instruction to cover every aspect of course material, from conceptual methods of instruction that understand students' ability to create their own worlds to traditional lecturing approaches that treat students as passive recipients of information. Intrinsic value can be added to the educational process by showing practical uses of technology, which will increase interest and motivation. (Usher &Centre on Education, 2012).

Educational Technology Makes the Class Interesting

It is imperative that these classrooms attend to the needs of each and every student. By encouraging students in all subject areas, including math, social studies, and literacy, appropriate technology use can benefit regular education classrooms (Heafner, 2004; Liu, 2016; Housand & Housand, 2012).

Educational Technology gives the Students a Better Understanding

According to educational technologists, using technology in the classroom may greatly improve pupils' academic achievement and efficiency in learning. How various subjects are taught and learned will likely be significantly impacted by the increasing use of computer applications in higher education (Liu et al., 2010).

Educational Technology Saves Time

Using technology in the classroom has a lot of advantages for researchers and educators. The technology converts tasks from being focused on teachers to being student-cantered, instils in students a greater sense of responsibility for their work, provides them with the necessary skills to complete assignments successfully and enhance the quality of their homework, facilitates their use of resources, expands their knowledge and skill, and allows them to vary their task assignments. One of the key results of the research on the use of technology is that technology may encourage and involve students in important learning, which increases their motivation and engagement. (Godzicki, Godzicki, Krofel, & Michaels, 2013). Educational technology makes the learning process very easy.

The significant improvement in the use of information and communication technologies (ICTs) has had an extensive impact on various facets of the information society, with a focus on educational systems. Collaboration aims to address conditions and group activities related to a common goal and occurs between the students and the components of the learning environment, as well as between the teacher and the students. Technological developments in the online environment have brought about changes in the social interactions and collaborative practices between teachers and students. If a modern teacher adopts the seven concepts of change, they will discover that, even with the challenges and anxiety that come with integrating technology, this very tool will give students a lot of opportunities that they would not have otherwise (Ford & Lott, 2011).

Research Methodology

Research techniques can be applied to address the research problem carefully. It can be regarded as a branch of science that studies scientific inquiry methodology. In it, we examine the various approaches and their corresponding rationales that a researcher typically employs to evaluate his research problem.

Research technique, in its most basic form, explains "how" a specific study is conducted in actual settings. With the primary goal of further developing the field, A number of techniques and approaches are used in educational action research to innovate teaching through a cycle of enacting change and analyzing its effects. (Eilks Citation, 2018).

Research Paradigm

The paradigm employed in research is positivism. According to the positivist paradigm, measurement and reason support the idea that information can be obtained by objectively observing an action, reaction, or activity and then quantifying it. Putting new ideas into practice in education, like digitizing classrooms (Fernández-Batanero et al., 2022)

Research Design

This study's methodology is quantitative and descriptive in nature. A closed-ended questionnaire was made in order to collect data. Over the past ten years, standards for single-case intervention research design have undergone significant change. These standards fulfil two functions: they provide guidance for literature syntheses within a specific research domain, and they aid in the single-case design (SCD) intervention research methodology. Recently, Kratochwill et al. (2021) published an article.

Population

All the (2139) BS level students in the Social Sciences at Abdul Wail Khan University will be the population for this study.

Sample

A sample of (375) BS-level students in the social sciences at Abdul Walid Khan University was used as the research sample in this study, District Mardan. The sample was chosen at random. A closed-ended questionnaire was made in order to collect data. Each stage of the investigation, including validation, dependability testing, and pilot testing, was completed.

Validation

The research tool was verified by the co-supervisor, secondary education specialists, and the supervisor.

Pilot Testing

Four hundred two students from Abdul Wali Khan University Mardan were chosen for the pilot exam. A researcher collects data through an online questionnaire. Reliability was computed @ 0.79 through Cronbach alpha.

Data Collection & Analysis

Data was collected in accordance with the sample. The gathered data was organized and examined.

Data Analysis and Interpretation
Objective 1
Students perceptions about educational technology at university level

| No	Statement	Yes with %	No with %	Undecided with %
1	You use Google Chrome in your learning.	204 (50.70)	145 (36.10)	53 (13.20)
2	You watch YouTube videos in your learning.	216 (53.70)	143 (35.60)	43 (10.70)
3	You use educational technologies to support your learning activities.	198 (49.30)	143 (35.60)	61 (15.20)
4	You use educational technology in your everyday lives.	187 (46.50)	135 (33.60)	80 (19.90)
5	The use of educational technology is an integral part of your everyday life.	223 (55.50)	120 (29.90)	59 (14.70)
6	Using technology in the educational process actually changed learning.	225 (56)	109 (27.10)	68 (16.90)

Figure 1
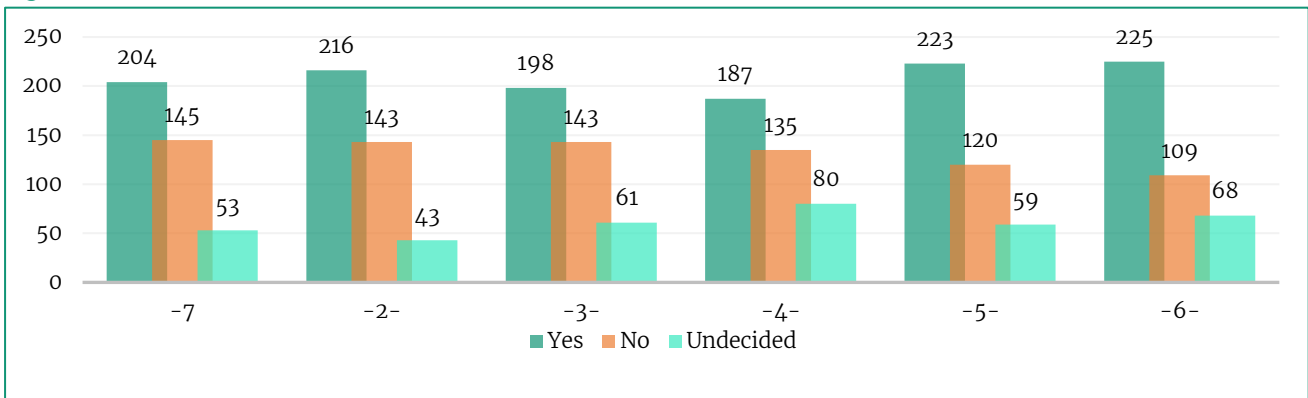
Table data shows against item –1– two hundred and four learners with the highest 50.70 % opted that they are using Google Chrome in their learning. –2– two hundred sixteen learners, with the highest 53.70%, opted to use YouTube videos in their learning. –3–one hundred ninety–eight learners, with the highest 49.30%, opted that they are using educational technologies to support their learning. –4–one hundred eighty–seven learners, with the highest 46.50%, opted that they are using educational technologies in their everyday lives. –5– two hundred twenty–three learners, with the highest, 55.50%, opted that they are using educational technologies as an integral part of their everyday lives. –6– two hundred twenty–five learner, with the highest 56% opting to use technology in education to change their learning.

Objective 2

Effects of educational technology on students' performance at university level

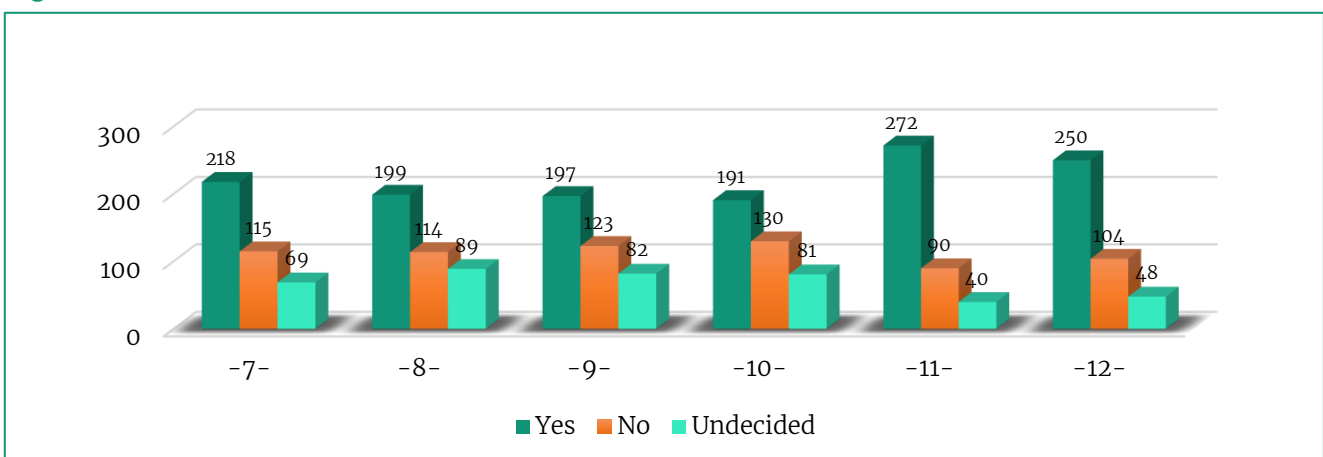| No	Statement	Yes with %	No with %	Undecided with %
7	Educational technology helps to develop the personality of the learner.	218 (54.20)	115 (28.60)	69 (17.20)
8	Educational technology removes the traditional environment of the class.	199 (49.50)	114 (28.40)	89 (22.10)
9	Educational technology makes the class interesting.	197 (49)	123 (30.60)	82 (20.40)
10	Educational technology gives the students a better understanding.	191 (47.50)	130 (32.30)	81 (22.10)
11	Educational technology saves time in terms of understanding for the students.	272 (67.70)	90 (22.40)	40 (10)
12	Educational technology makes our learning process very easy.	250 (62.20)	104 (25.90)	48 (11.90)

Figure 2

Table data shows against item –7– two hundred eighteen learners with the highest 54.20 % opted that educational technology helps to develop the personality of the learner. –8– one hundred ninety-nine learners, with the highest, 49.50 %, opted that educational technology remove the traditional environment of the class. –9– hundred ninety-seven learners, with the highest 49%, opted that educational technology makes the class interesting. –10– one hundred ninety-one learners, with the highest 47.50%, opted that educational technology gives a better understanding to the students. –11– two hundred seventy-two learners, with the highest 67.70%, opted that educational technology saves time in terms of understanding for the students. – 12– two hundred and fifty learners, with the highest 62.20%, opted that educational technology makes our learning process very easy.

Conclusion

It was concluded that Learners using Google Chrome, watching YouTube, and using educational technologies in everyday levies, an integral part of learning, helps the in-personality development, removes traditional environment, makes learning interesting, gives better understanding, saves timing and makes learning very easy.

Recommendations

On the basis of the Conclusion, it was recommended that Learners should also use other search engines like YAHOO, Firefox, ResearchGate, Microsoft Academic, Google Scholar, Educational Resources Information Centre, Virtual Learning Resource Centre, etc. Moreover, it was also recommended that Learning should focus on continuous updating and upgrading of Education Technologies in their day-to-day life.

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