

E-Learning Platforms and Academic Performance of Students

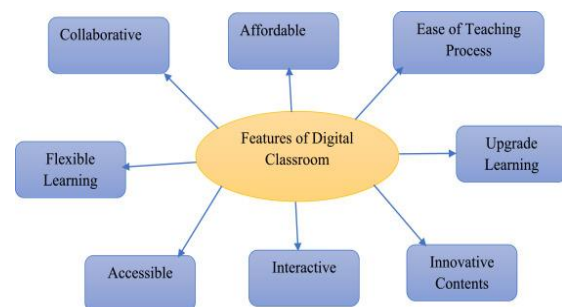
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Abstract: Information and communication has evolved fast and has profoundly revolutionized the education system in the world. The e-learning platforms have come as a viable tool in the delivery of education in the sense that it offers learner-centered and interactive learning environments. Such platforms are Learning Management System (LMS), virtual classroom, mobile learning and Massive Open Online Course (MOOC). The current paper will discuss the importance of e-learning sites to improve academic performance of students. It pays attention to the impact of digital learning tools on the comprehension, interest, drive, and performance of the students on whole. The study identifies the advantages in the electronic learning teaching, including: accessibility, personalized learning, and enhanced learning capacity and, in addition, addresses the issues, including: the digital divide, the lack of technical skills, and the diminished face to face interaction. The results would lead to the conclusion that properly deployed, e-learning platforms have a positive impact on the academic performance and studying satisfaction among students.

Keywords: E-learning, Online Education, Academic Performance, Digital Learning Platforms, Student Achievement, ICT in Education

Introduction:

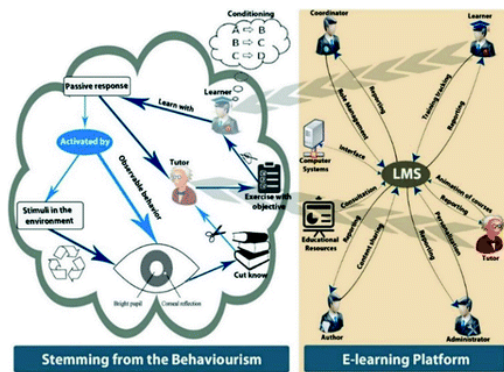
Education is important in social and economic growth of any country. Due to the development of information and communication technology (ICT), digital learning techniques have slowly been integrated with the conventional classroom-based instructions. E-learning systems have come to form part of the contemporary education systems particularly in the institutions of higher education and the school.



E-learning is the process of instructing, contacting and sustaining learning processes using electronic technologies and the internet. Moodle, Google Classroom, Blackboard, Coursera and Microsoft Teams are some of the popular e-learning platforms that enable a student

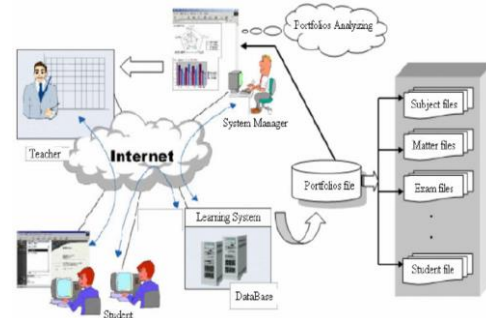
to access learning materials anywhere at any time. These websites offer such options as video lectures, discussion boards, online exams, and live chat between instructors and learners.

The adoption of e-learning platforms has been growing leading to critical questions on whether it can enhance the academic performance of students or not. The performance of the academicians is usually measured in terms of examination results, grades, skill development and learning outcomes. Online learning systems provide individualized learning experience, self paced learning, and interactive learning and this can lead to deeper knowledge and memorization of knowledge by the students.



The COVID-19 crisis only increased the adoption of e-learning platforms, as online learning is a need and not a choice anymore. This abrupt turn of events showed the prospects of use of e-learning systems as well as its constraints. Although these flexible learning contexts benefited a

significant number of students, some of them were faced with the following challenges: absence of internet connectivity, poor technologies, and insufficient digital literacy.



The purpose of the research is to evaluate the effect of the e-learning platforms on academic performance of the students through assessment of existing literature and how the digital learning tools affect its learning outcomes. The research can also be relevant to teachers, policy makers and institutions interested in enhancing the teaching and learning process by properly employing technology.

Review of literature:

One of the first and most productive discussions on the concept of technology-mediated learning occurred with Alavi and Leidner (2001) [1]. Their research focused on highlighting the fact that the information technology is not just a tool of delivery but a medium that helps in constructing knowledge, collaborating and critical thinking. The researchers claimed that the digital learning setting lets the



learners contribute to the educational process by means of discussion forums, shared materials, and interactional activities. They emphasized that further and more extensive empirical studies were required to learn the role of various technological designs on the achievement of learning and academic success. Their contribution formed a solid theoretical foundation on subsequent research on e-learning and student achievement.

In one of the articles, Dhawan (2020) [2] examined the abrupt shift towards online learning caused by the COVID-19 pandemic and characterized online learning as one of the necessary reactions to the global educational crisis. The research article gave the benefits of online learning as flexibility, and learning continuity as well as increased access to digital resources. Simultaneously, the researcher came up with huge issues including unequal access to technology, digital skills inequality between teachers and students, and a decrease in learner motivation. The research was able to conclude that online learning may have beneficial impacts on academic performance where the institutions invest in infrastructure, training and the learner support systems.

A detailed framework of blended learning at the higher education was described by

Garrison and Vaughan (2008) [3]. They highlighted that they had to combine face-to-face training and online learning to produce a balanced and effective learning setting. Through the Community of Inquiry model, the authors described the relevance of cognitive presence, social presence and teaching presence in improving the learning experiences. The research estimated that mixed learning classrooms foster a greater level of understanding, enhanced engagement and most academic performances as opposed to conventional only learning model or full online only learning models.

To find out the effectiveness of online education, Means et al. (2010) [4] undertook a vast meta-analysis of the work on online learning. The results obtained showed that students enrolled in online and blended learning institutions usually performed better than students in conventional classroom set-ups. According to the researchers, this enhancement was caused by such aspects as self-guided study, interactive multimedia materials, and the regular checks. The research generated an excellent empirical data that properly designed digital learning environments have positive effects on student academic performance and academic outcomes.



Within the stipulations of the article by Moore, Dickson-Deane and Galyen (2011) [5], the conceptual differences between e-learning, online learning and distance learning were studied. Their analysis elucidated that even though these terms are mostly used interchangeably, they vary in their form of instructions and the degree of interaction as well as their reliance on technology. The researchers highlighted the fact that these concepts are crucial in developing successful learning environments that people should have a clear understanding of them. Their efforts led to a better categorization of digital learning systems by educators and researchers and to the determination of their effect on student learning and achievement.

The article by Rosenberg (2006) [6] investigated the application of e-learning to improve learning and performances in classrooms that are not traditional. The research was on the issue of the use of E-learning technologies that facilitate ongoing learning, sharing of knowledge and development of skills. During his argument, Rosenberg noted how effective e-learning systems can match technology with learning goals and needs of a learner. The investigation noted that e-learning is efficient in enhancing the performance of learners using its flexibilities of accessing

material and its ability to offer continuous improvement.

A critical analysis of the connection between the future and technological progress was made by Selwyn (2016) [7] who discussed several main arguments and obstacles of ICT integration. The paper showed the problems of digital inequality, excessive reliance on technology, as well as, critical digital literacy. According to Selwyn, technology does not enhance academic performance but only in case it is backed by quality pedagogy and institutional policies. The paper has highlighted the relevance of context and balanced approach towards ICT adoption in education.

The researchers of Sun et al. (2008) [8] examined the key issues that determine the effectiveness of e-learning systems and learner satisfaction. Their empirical research found out system quality, instructor support, course design, and motivation of learners relevant factors in e-learning success. The researchers established that the greater the engagement of the learner and better the academic performance are contingent on the levels of the learner satisfaction. The research indicated the role played by engaging platforms and properly designed courses in the implementation of positive learning results.



A detailed overview of ICT in education was given by UNESCO (2018) [9], especially with respect to enhancing the aspects of access, quality, and equity in education. The report was keen to point out that ICT enhances innovative teaching practices, increased learner engagement, and inclusive education. Another area of concern is that noted by UNESCO which is the strong policy-frameworks, proper infrastructures, and training of teachers so as to have the ICT integrated effectively. This report had concluded that ICT can make a significant contribution to academic performance in case of proper strategic implementation.

The study by Zhang et al. (2004), [10] was looking at the possibility of substituting classroom learning with e-learning. Their research indicated that interactive and collaborative online learning courses have the potential to be very successful as in the case of face-to-face teaching. Nonetheless, the researchers added that e-learning must be used as an extension of conventional methods of teaching and not as a substitute. The researchers concluded blended learning models to be more effective in creating superior learning experiences and academic performance as compared to single-mode teaching methods.

E-learning:

E-learning is a learning system, participated by the usage of technology, digital devices, and internet connectivity, as a system of delivering educational contents, assisting interaction, and assessment. It encompasses both asynchronous learning (recording lectures, deploying e-books, online quizzes, etc.) and synchronous learning (online classes through a virtual platform, webinars, video conferencing, etc.). E-learning enables learners to have a sense of control on the pace, place and time of learning rendering it very flexible and learner centred.

E-learning supports conceptual learning with the use of multimedia information like animations, simulations, and interactive activities. It enhances group learning by use of discussion forums, group projects and peer-assessments. On the institutional level, e-learning lowers the infrastructural expenses, enhances the standardization of the content and allows them to observe learning progress of the learners at all times. E-learning is much more effective in enhancing the knowledge retention, critical thinking and performance by the learner when it is backed by the right design of instructions and the way it engages the learner.

Online Education:



Online learning is a formal and organized learning strategy, which is done purely using digital media without the physical classroom. It also involves degree-level programs, certification programs, and professional training programs in virtual learning environments. Online learning is based on the use of digital technologies, in particular, Learning Management Systems (LMS), video conference software, cloud storage, and online assessment.

All students irrespective of their geographical and socio-economic backgrounds are offered equal learning opportunities in online education. It facilitates the inclusion approach of education wherein learners with varying learning capabilities and requirements are accommodated. Online learning also creates independent learning, time management and self-discipline among the students. Its success, however, is subject to the motivation of learners, the presence of instructor, good course design and technological infrastructure. Online education improves student interaction and brings better academic results when properly enacted.

Academic Performance:

Academic performance is a multidimensional phenomenon to characterize learning effectiveness,

intellectual development, as well as, education achievement of a student. It is evaluated based on exams, recurring tests, assignments, presentations which include project work and health summative grades. When one academically performs well, it does not just imply their level of subject knowledge but also the skills of solving problems, their analytical ability and use of concepts.

E-learning platforms affect academic performance in terms of instant feedback, adaptive lesson evaluation and learning access to multiple resources. Digital learning environments also assist students in revising their concepts on various occasions, monitoring their learning discipline, and detecting areas to be enhanced. Research results indicate that those students who are actively involved in the usage of e-learning tools exhibit better academic achievements, conceptual clarity and better performance in examination compared to those students who exclusive consider traditional teaching approach.

Digital Learning Platforms:

Digital learning platforms refer to elaborate technology based systems, in which an online and blended educational content is delivered, managed, and assessed. These platforms serve as a meeting point where instructors can create



courses, post learning resources, administer tests, and also communicate with students, and learners can receive, work on activities, and monitor their academic progress.

Digital learning modules generally incorporate Learning Management Systems (LMS) including an Moodle, Blackboard, Canvas and Google Classroom and Massive Open Online Course (MOOC) platforms like Coursera, edX and Udemy. Major peculiarities of these systems are the delivery of multimedia contents, online tests and exams, forums, assignment submission platforms, marking applications, as well as telecommunication devices and applications in real time.

The fact that digital learning platforms enable personalized and self-paced learning is one of the greatest benefits of these learning platforms. Students are able to review lectures, and get additional materials, as well as study through their personal requirements as well as their learning styles. These websites also facilitate collaborative learning with an opportunity of understanding the course with other learners on discussion boards, group projects, and virtual classes.

He or she is also instructionally valuable because the digital learning platforms can

offer useful learning analytics that allow educators to track student engagement, determine learning gaps, and provide timely feedback. These platforms are structured and interactive, which increases the engagement of students, deepened the conceptualization, and resulted in an increase in academic results. Nevertheless, the success of digital learning platforms is subject to correct course design, intuitive interfaces, technical infrastructure and digital literacy of the teachers and learners.

Student Achievement:

Student achievement is the general academic success and student growth in a learning process. It includes such measures of academic performance as grades, exam results, test scores, and even more general measures such as skill improvement, critical thinking, ability to solve problems, and knowledge application in real life.

Achievement among the students is determined by a variety of factors, such as the quality of the teaching, the learning facilities available to the students, motivation, the learning environments and technological access among others. The application of the digital learning platforms has greatly transformed how learning is measured and improved among students. Digital platforms will offer ongoing evaluation, real time feedback,



and learning modularization that assists the student in identifying his/her weaknesses and strengths.

E-learning platforms also facilitate self-management of learning, whereby students are motivated to be in charge of their learning. By engaging students in digital activities, discussing and overall assessment online, students gain lower levels of confidence, self-sufficiency, and academic competence. The research studies have repeatedly indicated that the students with high digital learning platform performances reflect better academic performance levels, increased levels of student engagement, and increased overall student achievement.

ICT in Education:

Information and Communication Technology (ICT) in education is merging digitally based technologies in teaching, learning, assessment, and educational administration. ICT involves computers, mobile gadgets, internet services, business education software, multimedia software, cloud platform, and communication technologies like email, video conferencing, and online collaboration software.

ICT application in education increases the effectiveness in teaching due to the possibility to apply innovative teaching

methods among which are blended classes, flipped classes, and virtual simulators. ICT can enable a teacher to build forms of interactive learning material, online testing, personal feedback. To students, ICT is an enabler of engaging, accessible and interactive learning strategies in regards to content.

ICT is also imperative in increasing accessibility to education, especially towards remote and underserved regions. Online classrooms and learning systems make education more inclusive, as they eliminate geographical boundaries. What is more, students are able to acquire some of the necessary digital literacy skills with the help of ICT to be either able to continue their education or find employment at a modern job environment.

The proper execution of ICT in education needs sufficient infrastructure, teacher training and institutional backing despite the advantages that this infrastructure has. Difficulties like a low level of internet penetration and limited internet access, unequal access to technology, etc. have to be overcome. Under such effective management of these challenges, ICT plays a huge role in ensuring better academic performance, student achievement as well as overall education quality.



Final conclusion:

The current research comes up with the conclusion that digital learning platforms and the proper use of the Information and Communication Technology (ICT) is important in boosting student achievement and performance in general. Integration of e-learning tools has revolutionized the traditional teaching-learning processes because it made education flexible, interactive and learner based. Digital learning space gives learners round-the-clock access to learning materials, customized study experiences and real-time feedback, which in turn enhance the conceptual grasp and academic performance.

The results suggest that students that actively use digital platforms exhibit more motivation and self-regulated learning as well as academic confidence. ICT in education reinforces cutting-edge approaches in teaching, enhances the quality of instructions and facilitates collaborative and inclusive learning. Digital learning is however dependent on sufficient technological infrastructure, digital literacy and institutional support.

Altogether, the paper highlights that in case of the successful implementation of digital learning platforms with the necessary ICT-based support, it can

influence student success positively and promote the enhancement of the educational quality. Consequently, the educational institutions ought to make investments in ICT infrastructure, train teachers and students, and implement the blended learning strategies to be able to achieve sustainable and efficient technology-based education.

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