Effective Delivery of Student-Centered E-Learning in Higher Education

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Abstract:- Different types of challenging activities should be given to the student by the teacher through technology and the learner should be engaged in thinking. Learners of modern computer-based technologies have significant potential to provide meaningful learning experiences for knowledge building. The purpose of this study is to suggest and develop an effective e - learning framework for strengthening the online learning environment with an e-learning model to enhance online connectivity and learning. Here the individual student engages with a part of an e-learning system and engages in his / her learning through a user-friendly interface. Different parts of the succession model of e-learning and the working process in each section can take into account all types of students in higher education. The e-learning model facilitates self-learning through the student-centered learning process. Teachers can also perform any operation through this method. Using this type of system, they can also learn computer skills and improve their interactive skills. As online education expands, more data is needed on how to optimize its effectiveness in higher education settings. Another objective of this study is to examine the impact of student-centered online learning and student learning in higher education on student-centered learning structures in the online learning process.

Keywords:- student-centered, online leaning, self-learning, higher Education, distance learning, e- leaning, Motivation, virtual learning.

I. INTRODUCTION

The advancement of new information technology has brought about significant changes in many sectors of society over the past two decades. As a result, the process of connecting with the outside world, as well as the pace of modern life, has accelerated. The Internet, which provides access to information and educational resources around the world, has enabled people to create and develop remote jobs. These innovations have clearly had an impact on education, as demonstrated by the use of Internet resources, Internet services, many online educational programs and installed applications and other forms of distance learning by instructors and students.

The use of computer technology, the introduction of information technology to all aspects of contemporary production, these changes which are essential elements of every society in daily life and in social life have caused the epidemic situation faced by the present society to affect the entire education system. Distance learning was the method of educating the child in the face of the Covid-19 epidemic.

But with the introduction of information technology into the learning process, the possibilities for privatizing and modifying the learning process and redirecting it to develop thinking and imagination as key processes necessary for successful learning emerged. The ability to work on a computer provides an effective organization of students' cognitive functioning. Improving the quality of training and the productivity of knowledge.

The teacher and students are the active participants and partners in the educational process in which this interaction takes place. An integral part of the interactive education process is the continuous evolution of specialized relationships between its subjects, activities, activities, and personal interaction between teachers and students, including goals, motivations, activities, and activities that integrate subjects. That motivation is sure to be an essential part of the learning process where teacher-student interaction plays a crucial role. Promoting the motivation to learn is one of the key principles for effective education. Some research works show the connection between student motivation and technology-based environment [3] arguing that the use of media resources such as Google Classroom, Facebook, and YouTube enhances student motivation and activity [15]. All of these approaches and methods testify to the importance of producing the motivation of learners. Educational interaction is a special form of communication between participants in the educational process that enriches the participants' intellectual, emotional, and activity areas [9].

It is necessary to properly build this interaction by creating favorable conditions for learning, promoting the student's personal development and the student's self-awareness. The motivation of students in self-directed learning areas to use online learning resources in line with information and communication technology can be intensified in higher education. This could lead to a transition from the latest humanitarian paradigm in higher education to a student-centered approach. The student becomes the central figure in the educational process. With a student-centered approach, the primary outcome of the educational process is the outcome of learning according to knowledge, understanding, and abilities, not the means and teaching methods that teachers use to achieve these outcomes. Student-centered learning becomes an avant-garde in the development of the learning approach, which is an important indicator of the quality of the learning process and learning product. There is a difference in emphasis from teaching to learning as an active educational activity of a student. [8] [9] stated that in a learner-centered classroom [13], lecturers abandon lecture notes and PowerPoint

presentations for a more dynamic, engaging, collaborative teaching style in higher education and focus on student-centered access,directing an e-learning process with independent activities is an increase in personal responsibility for learning outcomes [13].

Further, the teacher should partner with the student not only on the level of academic achievement but also on the control of action procedures, allowing him or her to gain clarity and transparency about the requirements. It is necessary to establish "feedback" with the student and to provide learning outcomes and their analysis to all interested parties. The role of the teacher in this approach is that of a facilitator, facilitator, mentor [14] and student role as a mentor. Is central to the whole process. In addition to maintaining its previous role-playing status, the teacher is designed to provide students with a high level of counselling and motivation regarding the critical selection of information, its sources, the organization of adequate learning conditions, and their removal. In higher education, the lecturer further activates the new role of student leader and mentor in acquiring various skills among the identified gaps, becoming a "regulator" of knowledge and a trustee of students. On the other hand, students need to be more involved in the educational process, develop their skills to work with basic information, use different approaches to information and its assessment. These directions can be achieved due to the introduction of innovations in the educational process.

This is the basis for teaching active and interactive forms and teaching methods that can intensify the higher education process, and provide the backdrop for building on the dialogue and collaboration of all academic courses. Examples of active and interactive models and methods include critical thinking development technology, dialogue technology, technology for project activities, modular, contextual and problem based learning. Various studies argue that students acquire more knowledge and skills by acquiring computer-aided technology compared to traditional classroom methods [10, 12, 13, and 21]. In this direction, information and communication technologies (ICT), which, arguably, act as a catalyst for interactive learning, have a special role to play. Information Technology is a collection of software tools that provide interactive support for modern computer technology, telecommunications equipment and contemporary learning technologies. [10] Their study found that ICT and virtual skills experience were two important factors that influenced e-learning and had a positive impact on its outcomes. ICTs use a wide range of digital technologies used to create, transmit, transmit, and service information: computer equipment, software, telephone lines, cellular communications, email, cellular and satellite technology, wireless and cable networks, Multimedia, Internet tools. ICT tools contribute to the creation of new information and educational environments as a basis for the development and improvement of the education system.

New opportunities for e-learning with the help of ICT Network tools access to up-to-date information and educational resources, extensive use of educational and systematic and scientific information, training programs and e-textbooks, organization of operational consulting assistance, simulation of research activities, conduct[20] .Virtual training sessions (seminars, lectures) in real time. Advanced ICT programmable and distance learning capabilities have been expanded.

With the advancement of information technology, learning has become a lifelong form of learning that covers education. The number of people studying online is huge. However, the number of students who complete their studies by the end is very low [12]. Positive learning emotions contribute to the emergence of positive learning behaviours [9, 36], an important variable in promoting online learning and reducing online learning drop rates [3]. Streaming is positive learning emotional experiences that can help learners immerse themselves in learning, forgetting the passage of time and pursuing the value of learning [8]. Studies have shown that streaming can help online learners improve their e-learning skills and improve their persistence in online learning [5]. As the e-learning environment is characterized by independence, self-regulation becomes a critical factor for success [6]. When a student is studying online, he or she is required to set learning objectives and set a learning schedule [7] In this case, he or she is primarily in control of his or her learning behaviour. Therefore, [12] exploring the relationship between self-regulation and students' online learning flow experiences to further clarify increasing online engagement and reducing dropout rates.

Extensive approaches to courses, content, and innovative counselling applications have been created in higher education as courses design and personalized instruction rethinking using innovative tools for digital content and instructional delivery[24]. Utilizing online learning technology to translate what can be done in teaching and learning, new learning models are designed to enable synchronous or asynchronous rich student-teacher communication and interaction and to optimize each student's learning experience through robust personalized learning. Still, today, for many students across the country that do not have courses in their schools, online learning represents the only viable medium for providing high quality course options within their district or school. Nowadays online learning has enabled new tools to enable efficient communication and timely feedback, providing more web-based content and resources in addition to textbooks. Through it, collaboration and learning today extends beyond the four walls of the classroom [24]. The main purpose of this article is to conduct a study on the use of student-centered online learning in higher education to further support this.

So, how do administrators, course designers, and practitioners create and maintain high-quality online learning programs that will allow higher education to continue to develop in the digital format? Which variables, especially, when it comes to the design and development of online courses, contribute to student happiness and success while ensuring academic integrity? These are the major concerns raised in the present investigation.

This study was guided by the following research questions:
- How to use student-centered online learning in higher education?
- Does higher education use student-centered online learning?
- What is the impact of the use of student-centered online learning in higher education?

II. REVIEW OF THE LITERATURE

Teaching in many colleges and universities, long-term priority research on administrators and faculty, has been found to compete in the higher education market with new types of institutions that offer flexible, on-demand, student-centered learning. The challenges faced by traditional higher education institutions are compounded by the adjustments in the way colleges advise their students. This literature review begins with a comprehensive overview of these challenges. The following is a discussion of current educational practices and the most effective student-centered approaches. The research literature shows that university administrators have created certain organizational structures and processes to help implement active learning strategies in their classrooms. College professors have not fully embraced these efforts, but are primarily lacking in time, motivation, and ability to rethink and redesign the courses they have taught in a particular way over the years.

Due to the temptation in the face of the current epidemic. Online learning promises to help universities escape this volatile stage in the history of higher education. The affordability of online instruction enables students to access their courses at a convenient time and place, to personalize feedback and to target specific students in need of assistance or intervention. The faculty that creates online courses for the first time, work with a colleague trained in the humanities of science to structure their courses for distribution within a learning management system. In their interactions with learning professionals, many faculties will learn that the traditional method of counseling through a lecture format is not the most effective way to reach students and improve learning outcomes. They will be exposed to professionals who are trained in the consulting design principles described in this review.

A. Expectations in higher education vary
[8,14,46] Argues that the instability experienced by the world of higher education is similar to other times when universities challenged themselves to transform, such as the establishment of land-granting universities and the departmentalization of nineteenth-century academic subjects. The approach of non-traditional students in the middle of the twentieth century. [15, 31] Compared to their nineteenth-century counterparts, 21st-century higher education institutions today show the expected changes in demand. Many of these demands are due to the shift to a more student-centered approach to learning and providing educational services. Students will look forward to a personalized learning experience for their academic and social needs. The faculty intends to use and incorporate technology in its classrooms [47, 50]. Responsibility for learning outcomes is shared by faculty and students. The changing unifying force of higher education today is competition. [29] Four of these features are directly related to what is happening in the college classroom: the rise of profitable colleges and universities, the growing number of students from different backgrounds and walks of life, the government's willingness to allow market forces to regulate higher education, and the introduction of technology to create new distribution systems. Relationships.

B. Market regulation
The regulation of higher education has undergone paradigm shift. Over the past 50 years, public higher education institutions have been largely regulated by the state, and its officials have given administrators a fairly broad space to organize advice as they see fit. Local and national accreditation bodies are the external agencies that have the most significant impact on what is happening in those college classrooms that do not represent and provide lucrative employment. Although these organizations intend to ensure the quality of their member colleges, they have been slow to approve colleges that do not meet their requirements. Today, the state-of-the-art courses offered by private universities across the country compete with those of government universities, with many of these public universities rating colleges by academic rigor as well as extracurricular and other indicators of quality of student life on campus. As a result, it has been forced. These should include collaborative learning with peers, an adequate academic challenge, a supportive campus environment, quality faculty student interaction, and effective teaching practices.

C. Technology in education.
The introduction of technology in the college classroom has drastically changed the way many professors advise. A model functional learning classroom may have laptop connectors, liquid crystal display (LCD) screens for individual groups of students, microphones, and large projection screens that can be viewed by the entire class. In large lecture halls, students use personal feedback systems ("clickers") to interact with lecturers. Simulation technology is widely used in medical education settings, showing the promise of laboratory science courses and the complex representations of real-world settings. Many of the work done by professors with typewriters, paper and pencils has been replaced by computer software support platforms for creating and distributing syllabi, exams and assignments [46]. The number of online courses offered by universities has increased. Dramatically over the past decade. There are many reasons for university administrators to transfer more of their resources to online education. The promise of personalization of educational experience through the use of technology makes it easier for administrators to monitor

participation and outcomes The existence of an affordable online distribution system in many colleges and universities, and, most importantly, the attractiveness of flexible scheduling and the universal structure and structure of universities Students who are unable to access will be able to study at private universities on demand [39].

The results of the analysis [11] show that performance expectation, effort expectation, and social impact have a significant impact on motivational behaviour using SCeLE [11][16]. This study further shows that convenience does not affect motivational behaviour and that motivational behaviour has a significant effect on application behaviour using SCELE. The implication of this finding is that the university needs to make improvements to SCeLE, especially given the facilities that support its use, so that students and faculty can use SCeLE optimally for teaching and learning activities. The results of the analysis obtained show that performance expectation, effort expectation, and social impact have a significant impact on motivational behaviour using SCeLE. The implication of this finding is that the university should make improvements to e-learning to SCeLE, especially given the facilities that support its use, and this study argues that SCELE is an environment that can be optimally used for teaching and learning activities for students and faculty [11]. Also, the learning process is student-centered, providing a complete understanding of the learning material. However, SCELE has been applied for approximately ten years, and the system has not yet been tested for its usability, so it is a problem that students and professors do not show how well the system works and what improvements should be implemented. [16].

In addition, big data and analysis are study topics in a variety of application disciplines. Massive data collecting, processing, and adaptation / decision making are the future system design and development directions. From smart cities and the Internet of Things to commercial applications like big data to assist decision-making and intelligent business processes, applications require effective data gathering, processing, and adaption. There is no exception when it comes to online education. Virtual Learning Environments (VLEs) are the backbone of modern education, and their applications in current universities range from mixed classes to massive open online courses (MOOCs) (MOOCs). These systems gather a significant quantity of data that may be utilized to promote awareness [6, 32].

Further studies show that online students in higher education want to reduce their hesitation towards formal education by gaining some sense of a carefully crafted path to success. Students prefer to be more active in passive learning environments, thereby engaging them in a highly interactive world. So, they would only resort to this as a last resort [24]. That is, learners today need more outlets for creativity and collaboration that allow e-learning environments through the various counseling formats provided anytime, anywhere [17, 31, and 45].

Researchers should not be surprised that the definition of the element of satisfaction has become more dynamic and complex. There are multiple aspects that tend to be consistent as a specific course progresses [24, 29]. In this study, the researcher seeks to explain the (cryptic) underlying aspects of student satisfaction in the context of overall course evaluation for students who respond positively to the online experience of course end evaluation protocols. Describes the assessment challenges they face as distributions of considerations when they argue that responding to survey questions is only an estimate of the central tendency of an individual's attitude or belief about a subject or object[17][13][9].

The use of technology in education is no longer new in universities. Lecturers can develop learning modules or incorporate multimedia elements into the teaching material to assist in the teaching and learning process [16, 17]. The use of multimedia elements in teaching materials can help attract students' attention, achieve a better retention rate and then enhance student performance. The multimedia element must be carefully planned and carefully considered to make learning content more meaningful. There is nothing wrong with learning environments that must be followed in distance learning, whether online learning or e-learning, because the main goal of all educators is to impart knowledge to students efficiently and effectively [37, 38]. All teachers would like to see students being able to demonstrate skills or knowledge through course work and exam evaluation after going through a certain learning environment [18, 28]. At the end of each course, teachers will be convinced of the effective student environment in which students are performing. In parallel with the learning environment, the teaching material used will greatly help to enhance the teaching and learning process [27, 38].

The use of e-Learning in medical education in higher education has been steadily increasing over the past 10 years and has now become part of the mainstream. Despite the fact that there are studies that show similar or better efficiencies compared to other teaching methods, the discussion in the literature on e-learning supports its underutilization through the curriculum of medical education, and the improved timing of students' use of computer-based learning in e-learning in their university studies Because of more familiarity. This study shows that teach e-learning gives students the opportunity to assess their knowledge and train their skills in a non-threatening environment and to review the material needed to strengthen students' accessibility to the information provided in an e-learning model.Also, online courses have become increasingly popular in post-secondary education, showing that an estimated 5 to 7 million students are currently enrolled in at least one online course each year. Although a large research institute has compared the results of online and traditional face-to-face college courses, the results are mixed through studies, with some studies finding positive results for online learning while others find negative results [19, 27, and 39].

The traditional distribution method for higher education was a classroom where a professor would give a lecture and students would listen and write notes. The interaction between professor and student is considered an essential learning component in this provision [39, 40]. However, innovations in educational delivery mechanisms have challenged this model. Advances in information technology enable less commonly used education distribution methods such as distance learning to gain new life. On the other hand, distance education is a powerful and growing force in education at the university level. In distance education, the student is away from the campus and is taught through a mixture of media, with specially prepared printed texts centered [51]. Depending on the resource, many other media can be used, especially television, video, and personal computers, all of which can be located in study centers and shared by a number of students [41]. These studies facilitate online learning. Similarly among the various measures being taken to prevent the further spread of the Covid-19 epidemic is to reduce close contact with infected people [20,22,25]This fact has had a profound effect on the teaching and learning processes of higher education. Multimedia makes material learning more efficient and maximizes the amount of information that can be gathered through learning using visual and audio content. [14] Multimedia material is said to inherently attract students 'attention [10,43] and supports learning, as well as reducing students' cognitive load during learning activities.

As a result of an initiative to improve undergraduate teaching, student satisfaction and student retention in higher education, a regional state university has requested survey feedback from faculty members. Findings show that students have experienced faculty frustration because they have not read the course material assigned before class meetings [8,43]. Student classroom behavior required constant reminders to opt out of non-course digital devices. Such situations show bad results in e-learning.

Mixed face-to-face combinations of students' face-to-face combinations of technology and integrated technology into the curriculum, with the aim of providing an environment conducive to engaging students through interactive learning activities and enriching the quality of their experience, are increasingly prevalent in university education. Mixed learning is seen as a way to prepare institutions[42,43]. Facebook has tested a popular online social networking site (SNS) used by university students for its various countries and disciplines. The online environment has been cited as a valuable resource for promoting academic critique, discussion, and networking to enhance the learning experience in higher education [15,33,41,51].

Motivation, then students can take some strategies to achieve the goal. In this process, students can adjust and modify to meet their needs. In online learning, task strategies are available through educational guidelines [21] and must be programmed and internalized through multiple trainings. To improve students' flow experience in online learning, more money should be spent on different learning behaviors of self-regulated learning students. Attention.

Acquisition of self-regulation is the process of internalizing external learning skills into one's ability through four stages of observation, imitation, self - control, and self - regulation [22,34]. When studying online, students can find a good example to develop their own long-term learning style and skills by observing and imitating the good learning habits and behaviors of the role models [12].

The term 'e-learning' first appeared at an international conference on computer-based training in October 1999, after which words such as 'online learning' or 'virtual learning' became more common. By combining the two terms mentioned above, e-learning fully describes a learning environment in which learners can interact through the Internet or other electronic media. In the 2000s, with the advancement of information technology, e-learning and LMS (Learning Management System) were first used in business staff training. Easy access to business processes and information in the e-learning system to help employees gain the knowledge, skills and experience that will enable them to perform. The e-learning system not only enhances their knowledge, skills and qualifications but also enriches their career. Since the 2010s, there has been an explosion of application technology on mobile platforms, leading to the development of the new generation of social networks - Facebook, Google Plus or Instagram. This enables more interaction with Internet users' information [44, 47].

Thereby, the interactive methods of the learning environment had to be changed to be more suitable for the users [35]. As a result, mobile applications using the Internet have been created to allow for ever-interacting learners in an e-learning environment in higher education. Today, e-learning is growing rapidly in many developed countries around the world, such as the United States, India, China, England, Korea, Malaysia, Australia and South Africa. These are some of the leading countries in the world for e-learning today. According to University World News, Asia is the second largest market for e-learning, reaching $ 12.1 billion in 2018 [2]. University In higher education, students around the world are already embracing the power of e-learning to provide content, even for free. At a time when universities are under intense pressure to provide education in the face of the Covid-19 epidemic, the integration of technology with education is essential to empower the educational institution, segregate it and present a final product that will allow it to grow its student base worldwide[44,45,50]. Further analysis of studies shows that the use of technology to bridge the education gap in a small population was on the minds of politicians as far back as 1996, according to a report on technology and education by U.S. Secretary of Education Richard Riley. Secretary Riley said the use of technology in American life has exploded over the past decade. This explosion of technology marked the inevitable in American education. [30].

Designing an effective user interface (UI) for an excellent utility e-learning system is a critical function of e-learning development. Today, UCD is a popular method for developing user interfaces for e-learning systems and modules.E-learning brought a new horizon in the field of education. Nowadays, with the advent of e-learning, quality

education is accessible to all, not limited to time and space. E-learning makes learning more flexible, promotes interaction, and activates self-speed learning [1]. In successful e-learning implementation, learner satisfaction proved to be a predictor of actual use of the e-learning method [2]. In addition, learner satisfaction affects the quality of the system [2], [3]. System Utility DeLone and McLean Model of Information Systems Success [4] is one of the attributes that determines the quality of a system. The utility component focuses on learning ability, efficiency, memory, error prevention, and the ability to provide pleasant interactions with a system [5]. As a result, it describes the quality of user interfaces from a user perspective. Thus, the most important factor to consider when implementing an e-learning system is its user interface (UI) quality. Different studies have followed different methods to develop better utility user interfaces. User-centered design (UCD) is the most popular use of user interface design [6].

It aims to make the user clearly aware and engages the user in the design process to create an engaging and efficient user experience [7, 8, 30, 31, and 32]. By engaging users, UCD aims to design user interfaces that align the design with the user's expectations and goals and increase user satisfaction. It can be seen as an alternative approach to design, in which designers rely solely on their assumptions and knowledge. The concept of UCD is primarily related to the concept of utility that determines the quality of a system. In the field of electronic learning development, UCD is considered to be an essential element in ensuring the quality of electronic learning [9]. This is in line with the two benefits of using UCD in software development [16]: better learning and better information retention [10]. According to [23], there is no single agreed definition or method for implementing UCD, also known as user-centric system design (UCSD) [11]. Some sections of the literature describe the different methods of implementing UCD as well-defined stages or approaches to UI design. According to Usability.gov, UCDs generally consist of four stages, namely(1) specifying the context of use, (2) specifying user needs, (3) designing the solution, and (4) evaluating the design [12]. In [13] defined UCD as a "user-centered approach" with five basic tenets. Furthermore, they outlined four basic stages in the design of an interaction in which such principles can be applied.

The stages consist of: (1) need finding, (2) solution design, (3) prototyping and (4) evaluation. Different accounts of how UCD should be used to design a system can lead to different applications of UCD among system developers. This hypothesis was substantiated by [13], who reviewed the UCD application of E-Health systems development [14]. They pointed out that the activities performed at each UCD stage varied between the reviewed studies. By examining the activities performed at each stage, researchers can gain a better understanding of UCD activation and its problems. Furthermore, it is useful to understand the level of user intervention for such a development as well as to understand its impact on utility. Currently, researchers point out that there is a lack of study [23, 31] to investigate UCD implementation on e-learning application UI design processes, specifically the methods

used and the extent of user participation at each stage. [23, 30, 31, 32]

Despite these positive findings, research suggests that the time required to design and teach online courses often hinders the conversion of face-to-face courses over the Internet. Faculty courses need to be redeveloped to meet the needs of counseling planning and course organization. They need to set curricula, create different content distributions and activities, build scaffolding learning opportunities and timelines for teamwork, and establish netiquette rules [48]. In addition, scholars recognize the need to teach online new practices that some faculty members may find difficult to embrace [13]. Faculties of higher education have a significant responsibility to develop new methods, balanced education and technology, to develop teaching styles, to enhance communication with students, and to recognize the benefits and challenges of online learning.

In design process [46] they explore the experiences of professors and consulting creators as they interact to design and develop a learning curriculum. In the process of translation, six professors from several different universities who reported that their education improved after these interactions were identified and interviewed with consulting designers who collaborated with them to determine what aspects of the interaction led them to change their educational practices. The study used a Hermeneutics phenomenology approach using a universal consultation design model and a threat regulation model to shape data collection and analysis. Data analysis showed that the principles of the counseling design model were used by consulting designers to communicate good teaching practices. The tactics of the trust building model have been used by consulting developers as well as some faculties to minimize threats to collaboration. The faculty reports, incorporating a more student-centered approach to their later teaching, primarily based on the improved student outcomes in these courses, including satisfaction, engagement, and retention of new knowledge. Universities recommend implementing designers and the use of quality frames [46]. Furthermore, [15] For the HKU study, the lecturer asked students to identify two burning environmental issues in Hong Kong using two pictures (each with a caption of no more than 200 words).

Students will need to email the pictures and their captions to the lecturer, who will then upload the pictures to a Facebook page created by the lecturer for the course. Students were then presented with pictures (maximum of five minutes) orally using the Facebook platform. The context, content, quality and ingenuity of the pictures and captions as well as the effectiveness of the verbal communication were assessed. Such provisions are repeated in the course for three groups. The population for [18] study consisted of graduate students who were enrolled in Allama Iqbal Open University's distance learning and International Islamic University's traditional classroom programs during fall semester 2009 in course of educational Psychology and completed their course in this session. Both courses were taught by the same instructor. Eighty students from each programme were randomly selected as a sample. After

reviewing the Distance Learning Student Response Questionnaire (DLSRQ) and Student Survey Form (SSF), developed by the Office of Institutional Research at ERAU for the purpose of gathering data, a Likert scale comprised 09 validated questions related to the distance learning and classroom learning was used to collect data.

The study's [43] research was to examine students' learning experiences in the Class pad project and develop a model of their activities based on data analyzed conclusively from final reports. In other words, the goal was to gain an emic1 understanding of students 'learning processes during math lessons and to develop a theory / model that would explain students' syntactic processes. Thus, "bottom-up" data analysis methods of the underlying theory were used in this study. The application of the method is shaped by the ideas of the original theoretical approach that introduced a flexible approach to data analysis [43].The studyof[47] uses a mixed design (survey and semi-structured interview) research plan to explore the effects of Google Classroom as an online learning distribution in secondary schools in Nigeria. Quality data is collected because quantitative data alone is not sufficient to answer research questions. The researchers collected quality data from enhanced online interviews and generated quantitative data from the online questionnaire.

The report [32] introduces a multidisciplinary decision-making strategy with the goal of assisting providers in program configuration. The Internet may be used to combine traditional school approaches with synchronous e-learning through a mixed learning network. Underprivileged school kids will have improved access to education, according to pilot research using the suggested integrated learning framework. The authors of this study want to design and create an effective e-learning platform. This concept can help students and instructors deal with the complexities and challenges that arise in academic settings. Due to network challenges in urban and rural areas, this model may be used for students, teachers, and administration in both offline and online engagement techniques. This e-learning paradigm helps learners with self-learning, teachers with evolving assessments, and administrators with overview trackers. Various data from kids and teachers is stored in a cloud database. Students' and instructors' records are kept in a cloud database system, where teachers can see students' profiles and records and students can see their records to build a progressive report [32].
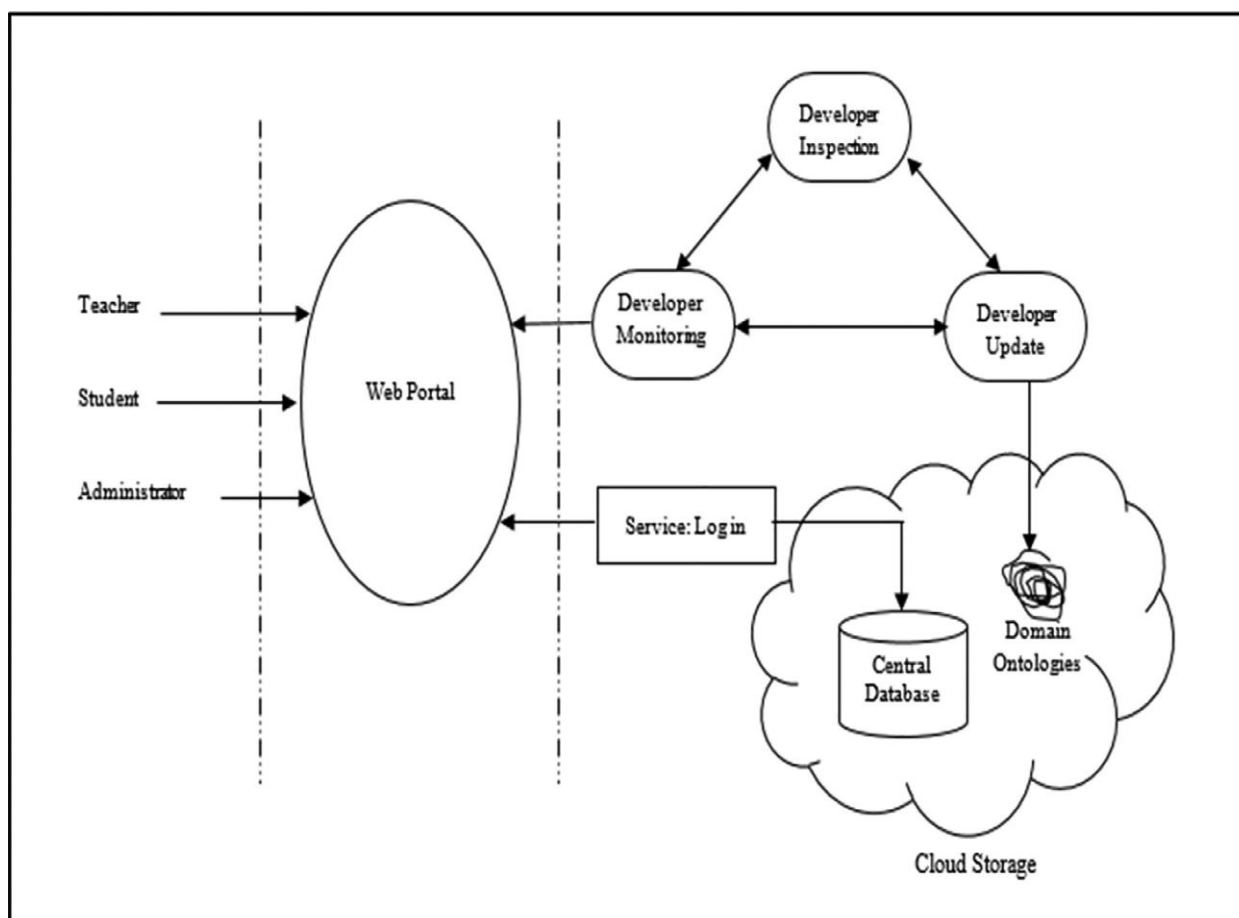

Fig. 1: The architecture of a cloud storage access model.

III. METHODOLOGY

This study hopes to suggest an effective e-learning framework to test student-centered online learning usage in higher education as an e-learning model can help improve online connectivity and e-learning. The individual customer has to perform part of an e-learning system and has a user-friendly interface for the proposed model. Architecture is classified into different categories. The task shows the different parts of a succession model of e-learning and even the working process of each part. This model and structure can be considered by all types of students, so if the system is developed using this method, the above problems will be solved.

IV. EXPERIMENTAL METHOD

E-Learning is a process where we try to come out from the traditional learning system and enter the electronic learning system using different electronic devices. Online activities are now very much popular as it helps people to learn quickly and more conveniently. Deliveringinform-motion and learning materials to the students is the primary approach of e-learning. The complete functionality of the model is divided into three parts.

A. Research model

This system will be used from all of the country's rural places so that the whole system will be used with the Internet through a website. The developers will make a website used by the Teachers, Students, and the Administrator. The developers can make changes to the websites and give updates to the website if it is needed to the domain. The Teachers, Students, and the Administrator can log in to their profile and using the service login function, and they can enter into the user Database (DB) and approach their functions. The architecture of a cloud storage access model is shown in Fig. 1. User: Our proposed system will be used by different users like students, teachers, and administrators. They can access their particular sites. Each user will have a unique profile here. They can make changes to it if they want. Teachers can provide all necessary things here for the students by accessing the web portal. Students will get all learning materials here, and they will also be able to attempt different assessments. The administrator can monitor all things.
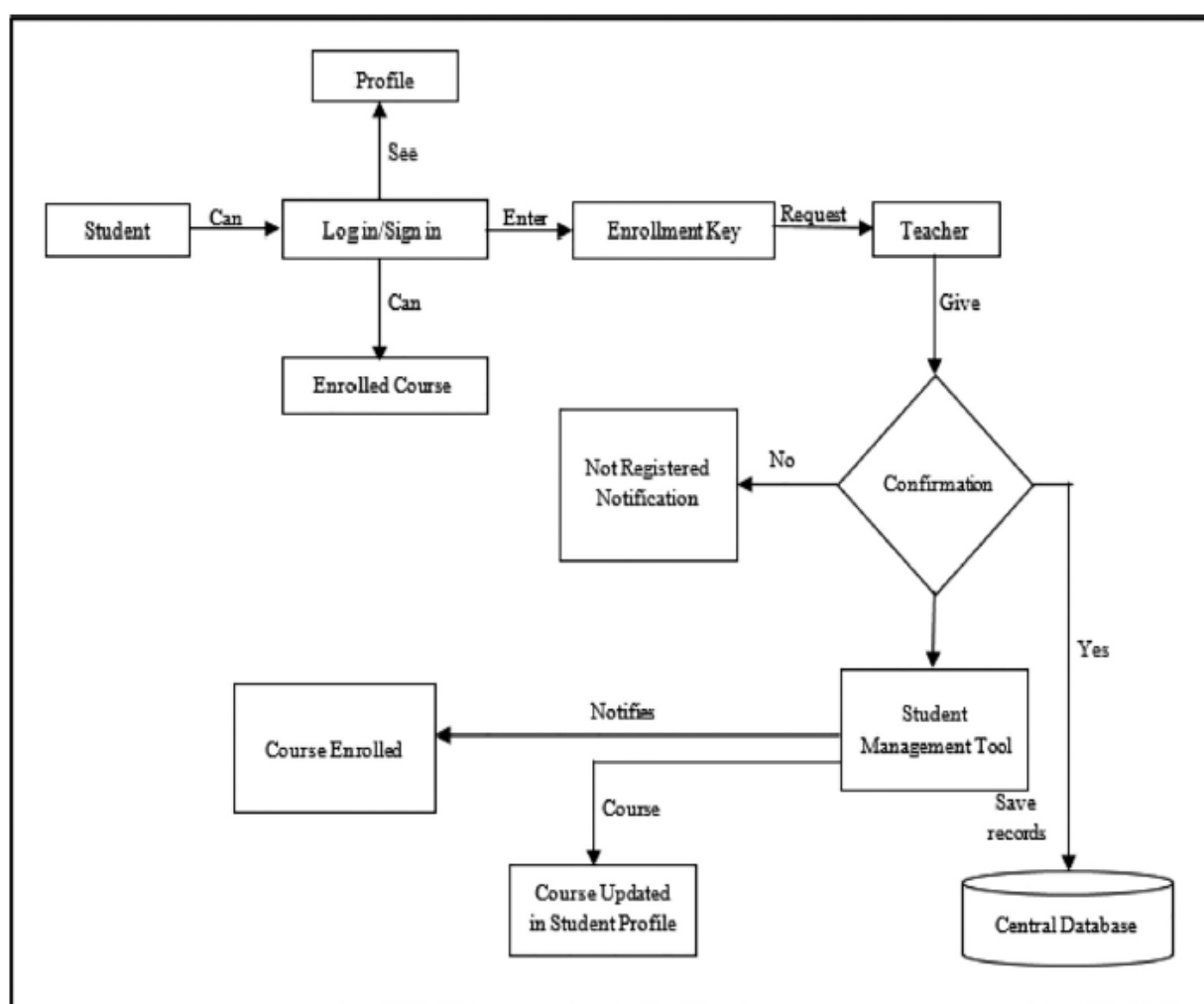

Fig. 2: MCQ based assessment

B. *Web portal:*

A web-based objective that collects information from various sources. Users can access the web portal. Users have to log in to this portal to use this system. If users have no account, then they will have to create a new account. It is the website of the e- learning system. Only the developers can make changes to this web- site because developers will create this site. The web portal will be updated when the developers will find new features to update this site. Central database: In the database, all performances will be recorded automatically, like student's or teacher's profile information, student's quiz marks, assignments marks, mid or final exam marks. It is needed to make the results of each student. Otherwise, all of the essential data can be lost or deleted. From the database, the administrator can also see the performance of teachers.

C. *Course enrolment*

First, a student needs to create an account and create a profile with valid information. To enroll in a course at first, a student needs to register for that particular course. Then an enrolment key will be provided to him. Entering the key, they will be enrolled in the course, and the course information will be enlisted into his profile. If the student enters a wrong enrolment key, he will be notified with a notification that will show "Not Registered." Here the whole system will be monitored by a student management tool. The complete course enrolment system is shown in Figure 01.

D. *Teacher's activity*

A teacher's activity is a process for all the tutors to manage their courses, providing links, questions, discussion forums, quizzes, assignments, and exams. First, they need to create an account in this e-learning system. Then they can create courses. After creating an account, all activities will be monitored by administrator system management through the teacher's management tool. The teacher's activity diagram is shown below in Figure. 3 .
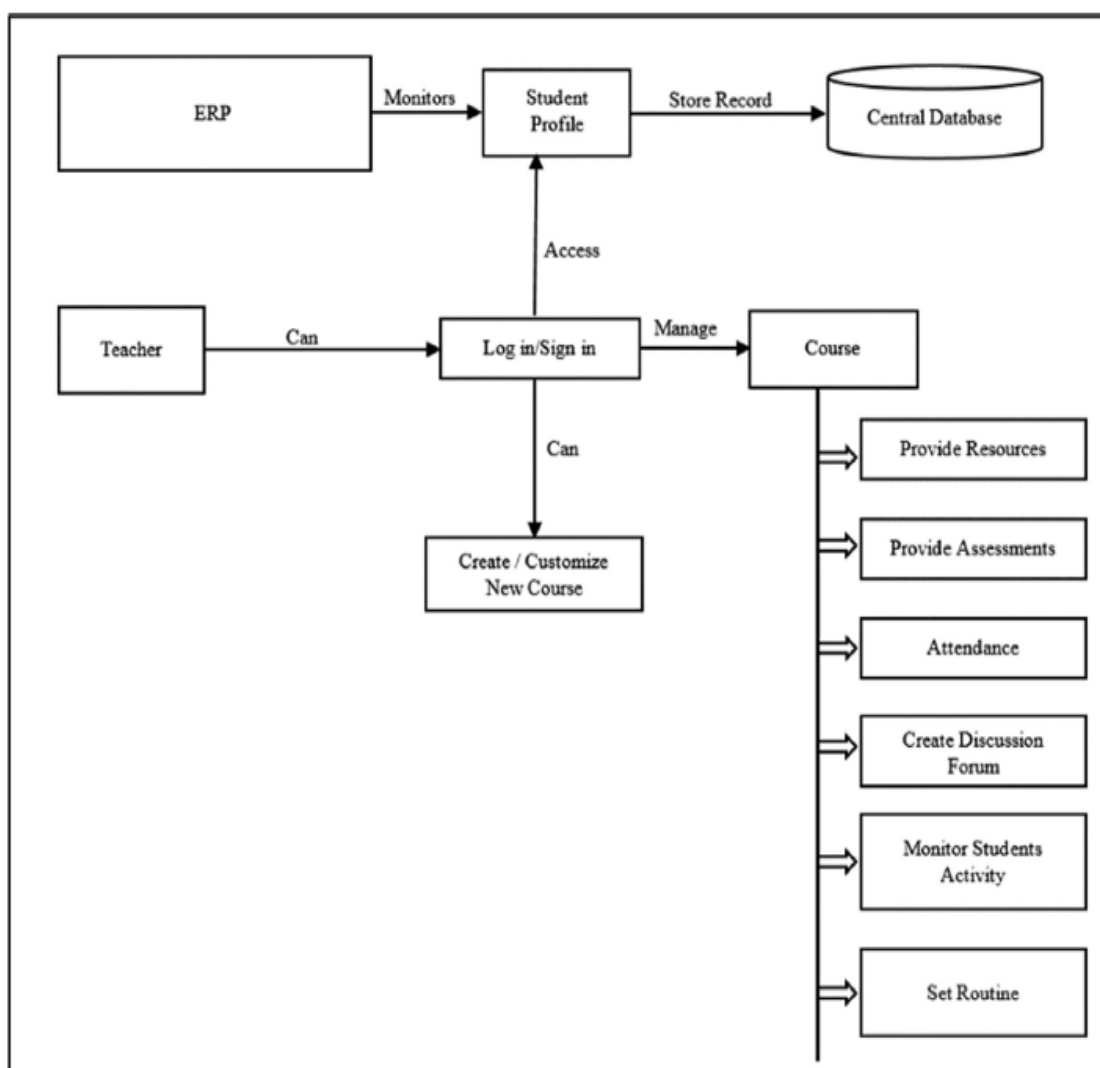

Fig. 3: Teacher activity

E. Administrator

The administrator can control the student management system, teacher's management tool, course management tool, and manage the whole system's security. The student management tool contains different tools. 1) Manage department is a sector that handles all the departments. The as different department has a different number of students and teachers. 2) Management section is almost the same as the manage department. It deals with the different sections that are present in a department. 3) Manage class (with limited student) is a section that deals with the limited numbers of students presented in that particular class. It helps to organize the whole approach of the levels of students. Finally, record student performance is a sector that deals with the activity of all the students. How they are working, their performance, and the students' feedback for the course and the teachers. The administrator segment has been cleared by the figure given below in Figure. 4.
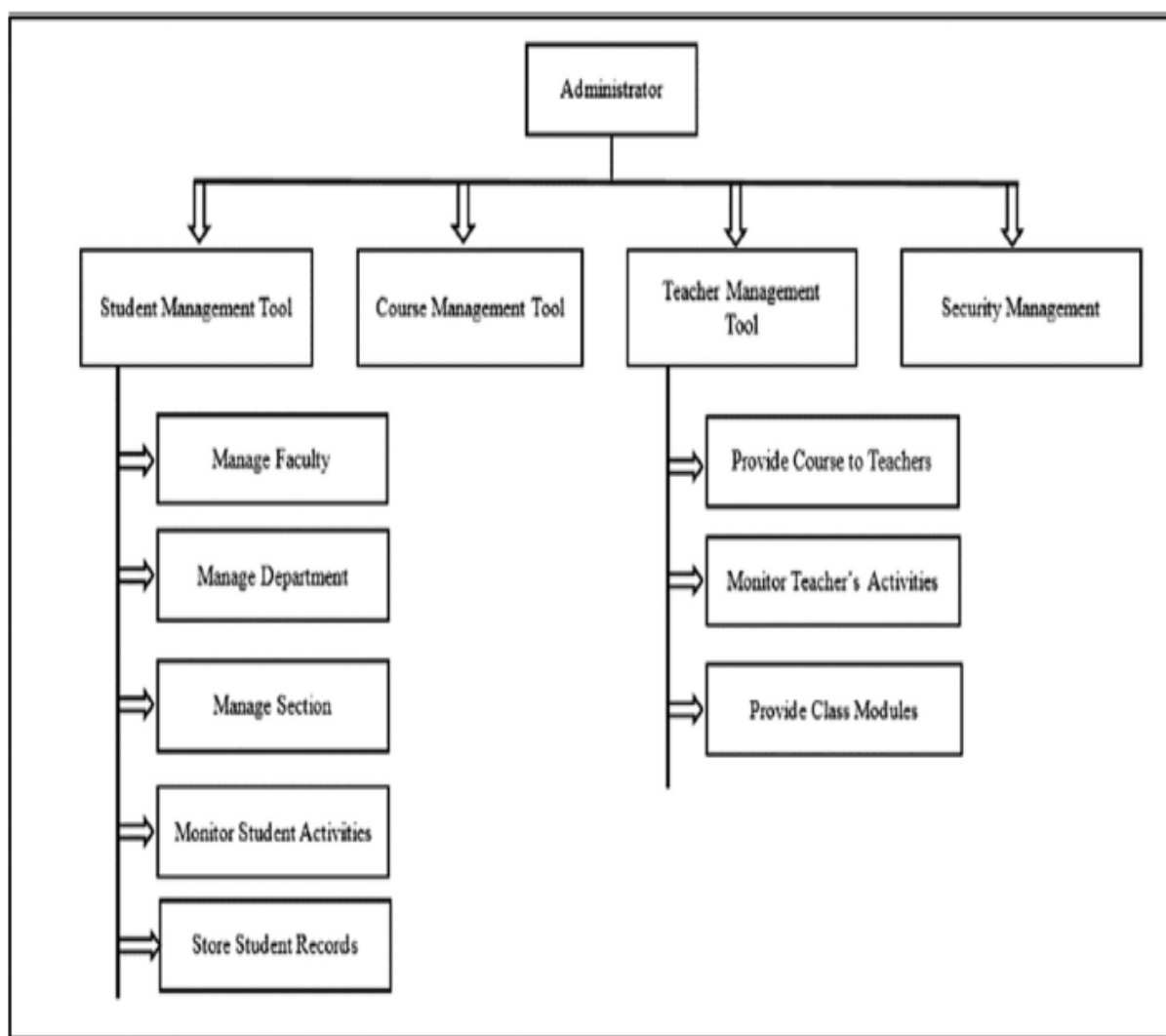

Fig. 4: Administrator activities

F. Exam and assessments

Online or offline interactive classes, exams, or assessments have been taken with a strict schedule and curriculum. Thus, in this proposed model, Exam and Assessments is segmented into two types: Multiple Choice Questions and Written Exam. Multiple choice question For the MCQ (multiple choice questions), the quiz system is straight- forward. The approach is that a teacher will provide several questions and set an answer sheet. When the student attends the quiz, they will only see the questions and answer these questions accordingly. After an- swering all the questions, the answer shit of the student will go inside the system, and then the answers will be compared with the provided teacher's answer shit. Marks will be enlisted into the Record Student pro- file and the database, and the result and the answer shit will be shown to the students. The working process of MCQ based assessment is shown in Figure. 5.
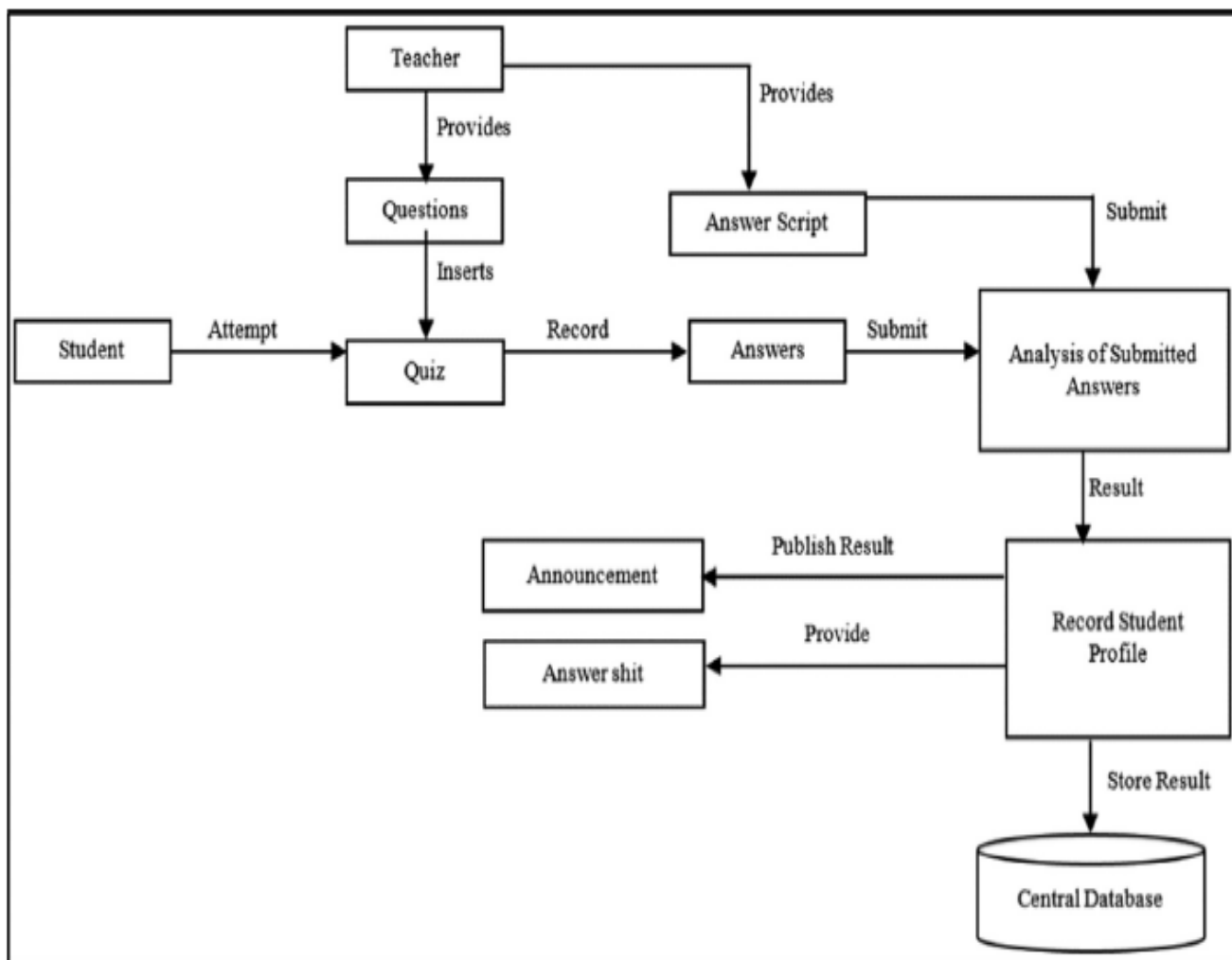
Fig. 5: MCQ based assessment

G. Written assessments

For a written exam, there is a different approach. There will be a time limit in this kind of exam; the students need to submit the answer sheet.

If they cannot submit within a given time, there will be negative marking. Then the whole process will wait for the teacher's correction. Of- ten, when attending tests or examinations, students face network issues. When students try tests, several more pages are automatically loaded, including the current one. If a network issue is encountered,

a solution can be provided. If the Internet fault is detected, the previously loaded homepage will load the current database and appraisal pages. After the teacher's grading, the result will be enlisted into the Record Student Pro- file and Publishing the result where the students can see their marks. Furthermore, the whole dataset will be recorded into the database form of the Record Student Profile. The Written Exam or Assessment Module Diagram is given below in Figure 6.
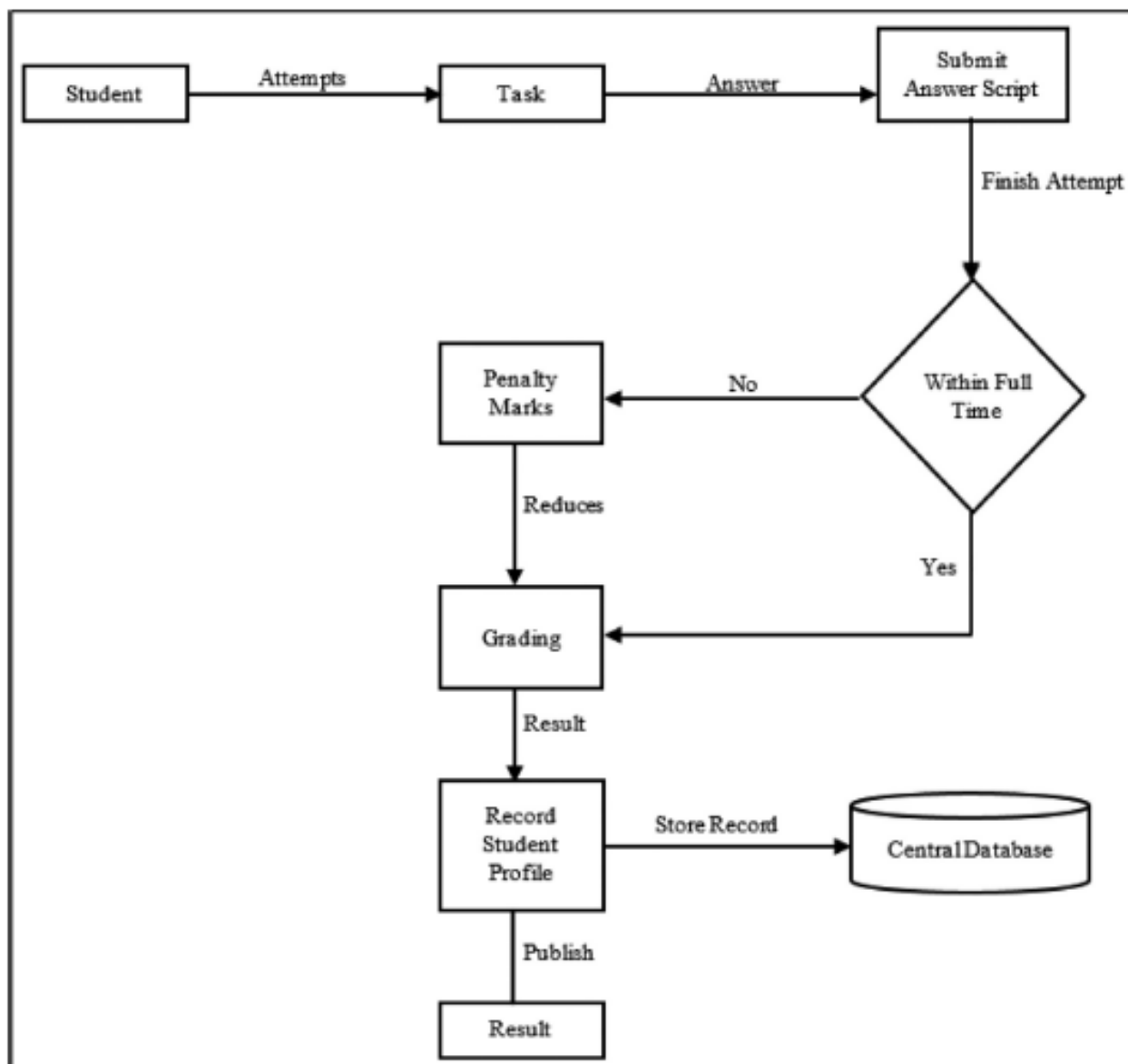
Fig. 6: Written exam assessment module diagram

H. Technical architecture

Here is a use case diagram for the approach of the online base e-learning system. A teacher can create courses with an enrolment key. The students can enroll in that course using that particular key. The administrator will monitor the whole course. The course contains a routine for the class. So, the routine can be accessed by the teachers, students, and the administrator. Here every learning material is provided by the teachers with the help of Provide Resource. All of them can be accessed by the students. Students can download the Resources and study offline. They will get all the assignments and all kinds of links through this method. Links will be provided to them with different drive access and different articles. Teachers can communicate with the students with the help of Forum Communication. He can open different forums if he wants, and the students can discuss different subjects. They can also give feedback on the course through this forum. The discussion feed- back needs monitoring. So, the administrator can also have access to this. The administrator will have access to the teacher's profile as the teacher's profile contains all the course feedback. The teachers will take the quiz. Here the teachers must include the questions, but he can either provide the students with an answering script. The result will contain the student's profile that can be accessed by the students, teachers, and the administrator. An e-learning system contains many courses. So, the administrator needs to maintain all the courses. He also needs to maintain the whole security system of the system.
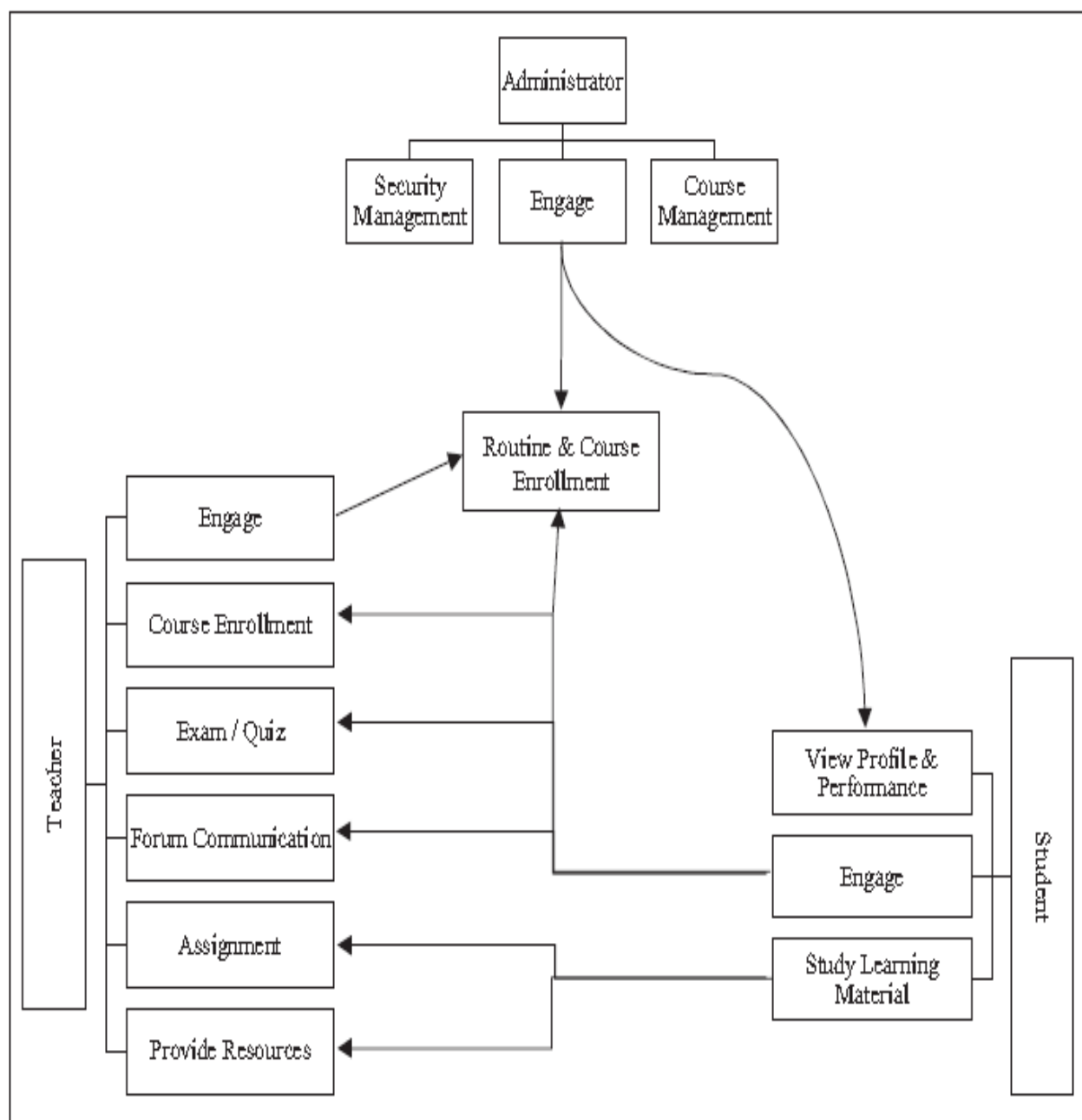
Fig. 7: Technical architecture of the proposed system
Diagram

Firstly, the key questions of this study were how the use of Student-Centered Online Learning in Higher Education. By the present study aims to it provides a simple framework for a more effective learning method. Satisfaction is one factor that determines the practical utility of a system. Users will like the user-friendly interface provided by the provided template. It features a clean and simple eLearning interface. For accurate judgment, this model relies on an offline academic access system and a purely online examination system. To increase productivity, the system uses a dynamic approach. The input of the model containing the ideas will help the designers in improving the model. This model suggests a more holistic approach that takes into account the following function.

Second, does higher education use student-centered online learning? And what is the impact of student-centered online learning practice in higher education? The following conclusions were reached in the study of the research papers conducted to inquire into.

Reported results of several significant discoveries in online education and technology. E-learning technologies are a mobile and contemporary tool of teaching professionals that is a way of building a new information culture. They enable students to acquire sustainable life skills and work in an information society, preparing and engaging in information activities. The learning process is flexible, affordable and personalized. It meets student-centered learning needs. Student-centered learning process

builds student independence, adequate self-esteem, and desire for self-awareness in education, based on the innovation of technology, methods and forms of education. Student-centered learning enables students to develop the skills they need in a changing labor market and enable them to become active and responsible citizens. With the rapid development of society, technology and technology, the nature of information culture is changing, globalization, large-scale "Internalization" and the socialization of services and technology are becoming a priority for the development of balanced e-learning that complements full-time education. Education system. E-learning changes the nature of teacher-student interaction, requires greater motivation and self-discipline from the student, opens up new opportunities for student creative expression, and has great potential to implement new ideas and projects for personal development. And implementation of the principles of continuing education. After analyzing the situation, the following general conclusion can be drawn: HEI researched requires a change in orientation: the required transition from traditional stable education to mixed education using the e-learning model. Changing the educational model with a clearly structured motivation system for faculty members and students can be implemented.

The results show that the theme of "Integrated Learning Outcomes" is a key factor that significantly affects students' overall achievement in learning outcomes. This theme covers whether students are encouraged to be creative; whether the learning activities gave them an overview of current environmental issues; did they learn much from the class discussion; and whether that assignment motivated them to learn more about the subject. Significant positive correlation echoes student openness [3].

The role of the teacher is also very important in the learning environment. The student expects from the teacher and their timely response positively affects student satisfaction. The group interactions initiated by the teachers are very effective and the students enjoy the learning environment. The government should support the establishment of open distance learning centers for higher education by enacting appropriate legislation. Distance learning should be seen as a positive strategy to meet the demands of education, as well as a tool for poverty alleviation and economic empowerment. Therefore, governmental and non-governmental organizations need to organize and manage open and distance learning programs. The beneficiaries of distance learning are the students, and if they are not satisfied, opportunities for successful implementation of the distance learning environment cannot be created. Student, teacher and counseling technical factors are key factors leading to student satisfaction.

If these factors are positively entertaining, otherwise the satisfaction will increase, which will lead to frustration of the students [23].

The findings of this study have several crucial implications for future use. The concept of teaching by individual teachers can be promoted to student-centered learning through mobile technology, suggesting that educators and teachers need more resources to advance training in mobile technology-integrated instruction and professional learning. Proper integration of mobile learning activities can be a potential medium for nurturing teachers' concepts of technical support. Also, some exemplary mobile learning activities or lesson plans can be shared with teachers to facilitate their conceptions of learning enhanced by mobile technology. The study followed a phenomenon methodology that explored teacher concepts of mobile technology-integrated instruction by collecting a set of teacher interview responses, revealing the 7-T framework. Further research may provide an opportunity to extend possible teacher concepts through more open or investigative questions as technology advances. In addition, future research may include class observations for those who implement mobile or other technical assistive learning activities, along with follow-up interviews, to explore more potential other concepts of mobile or technical support learning conducted by teachers. It is also interesting to examine the relationship between teachers' concepts of mobile learning and their teaching approaches [31].

These plans recommend the need for teacher development of e-learning through theoretical lectures and hands-on practices in traditional training events, practical-oriented sharing from peers, and evidence-based counseling from experts. Second, the governments of the four cities / regions of Central Asia began with the traditional focus on the development of e-learning teachers on the use of information and communication technology in the learning and teaching process. As e-learning develops and progresses, new emphasis is placed on principles, models, and / or practices related to the educational application of e-learning in schools, leadership planning, and socio-cultural awareness for students' subject knowledge and development. First century skills. These plans recommend the need for e-learning teacher development training to prepare school leaders for the full potential of leadership and management of e-learning plans, as well as to prepare pioneering teachers for a wide range of educational decision-making in the use of ICT education. E-learning initiatives according to school based needs. Education authorities should pay attention to the above trends when planning for future teacher development of e-learning for school education. This not only prepares the faculty to meet the new educational challenges of e-learning for the knowledge building and skill development of 21st century students, but also nurtures the school community to implement practical solutions for e-learning planning and improvement [35].

Digital technology is making a dynamic difference in society. They permeate every aspect of human life. The impact on all levels of the education system around the world is increasing [11]. Digital technology is an essential tool that provides innovative learning opportunities by reorganizing student learning content, actively engaging students in classroom activities, and changing the role of instructors in the classroom. In this digital age where technology simplifies almost everything; Contemporary students use this technology in its various forms in their daily activities inside and outside the classroom environment. This is why the educational model has now

proven that many educational activities are inseparable from the use of technology. Student-centered teaching approaches recognition by incorporating student needs, abilities, and learning styles into decision-making processes, which in turn can motivate 6. Conclusion Google Classroom provides a real platform for teachers and students to use digital technology tools. For students to engage in an online environment. The platform promotes active learning so that the learning material is more accessible to students anywhere, anytime. Educational partners need to prepare students to use this platform during an outbreak, taking into account the identified counseling benefits of using the Google Classroom platform. In addition, due to the current state of the global epidemic (COVID-19), limited mobility and social distance, the Google Classroom Learning Platform supports students and teachers to work together, create assignments, rank and publish students.

Materials. Similarly, students can ask questions about areas they do not understand. Therefore, Google Classroom, as an online learning platform, offers the advantage of achieving the quality of teaching and learning process at all levels of education in any epidemic period [49]

E-Impact learning's on the Family and the Home the aims of e-Learning deployment are generally secondary, if not peripheral, to parental participation and other home consequences. Nonetheless, e-Learning appears to have some beneficial benefits at home.

There is evidence that there is a link between home PC use and academic success. One research looked at data from the 1996 National Assessment of Educational Progress in mathematics and found that kids who used home computers had superior math proficiency. This appears to corroborate prior research findings, which describe incremental effects as technology becomes more mobile, customized, and integrated throughout the day and throughout the curriculum. Researchers have also noticed an increase in family engagement. Researchers have also noticed an increase in family engagement. Many school districts provide an e-Learning site for parents to access in order to manage homework assignments and contact with instructors and staff, allowing for greater knowledge and discussion of homework assignments, student progress, and other topics. Furthermore, students who bring their computers home can study in the living room with their families rather than in a more isolated location. This provides parents a better understanding of their children's schoolwork and opens up new channels for discussion [51].

Social and Community Effects By issuing a laptop to each student, schools aim to meet the educational needs of students who ordinarily could not afford a PC and thereby improve the performance of all students. Research shows that this strategy is working. • In studies of students with disabilities, researchers have observed improved student self-esteem, increased motivation and ability to work independently, and other academic achievements such as improved quality and quantity of student writing. How to make e-learning more effective: Provision of the listed points will improve E-learning effectively.

- Availability of hardware (particularly computers)
- Faster Internet connectivity/improved bandwidth
- Improved software
- Appropriate policies favoring e-learning
- Provision of technical support for e-learning at a range of scales
- Lower prices for connectivity
- Availability of reliable electricity
- Appropriate content inappropriate languages
- Awareness-raising about the value of e-learning
- Improved training for teachers in e-learning at all levels.

Benefits of e-learning
- E-learning is important for education because it can improve the quality of the learning experience, and extend the reach of every lecturer and tutor.
- E-learning can help remove barriers to achievement, by providing new and creative ways of motivating and engaging pupils and learners of all abilities, enabling and inspiring everyone to attain their educational potential.
- E-learning can support learning by offering differentiated learning,
- Particularly for those who need support in literacy, numeracy and ICT. E-learning offers a wide range of tools to enable teachers and learners to be innovative, creative and resourceful in all learning activities.

E-learning is a large and growing market with great potential for higher education. The best performers were students with mixed learning. In order to maximize this potential, it is concluded that e-learning implementations should strive to satisfy the needs and requirements of all stakeholders as much as possible.

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