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MODERNIZATION OF HIGHER EDUCATION WITH ARTIFICIAL INTELLIGENCE LEARNING APPLICATIONS

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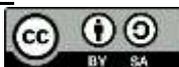
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Abstract

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Applications of artificial intelligence enhance the competence of learners in a robust way which can bring confidence in learning. AI applications can bring new advancements in the science of learning and content understanding procedures. With important information materials, assisting and new essential ways brought the development in learning with individualized systems that help the learners to develop confidence and learning skills of learners. This study has investigated the motivation and effectiveness of learners towards applications of artificial intelligence which discover the new trends in the science of learning and management of learning with effective skills from applications of artificial intelligence. This study is geared towards the five higher educational institutions. This study found that most of the learners have shown positive responses with applications of artificial intelligence and most of the learners have shown the motivated response with factors that AI applications increase the learning abilities, AI applications enhance the learning interest and AI applications modified the learning skills of learners. This study further found that most of the learners have shown positive responses to the effectiveness of AI applications. This study concludes that there is good interaction between AI applications and learners this interaction will be more motivated if the training sessions are arranged, and incubation centers will be arranged to enhance the technology interactions with learners and systems. This study suggests that there should be curriculum development about AI applications that can develop the central idea regarding AI applications.
Keywords: Education, learning, Applications, Interaction, Management

Introduction

Artificial Intelligence applications can also do programmed calculations that can upkeep learners' actual critical rational skills that make better advancement in learning the contents areas. Artificial Intelligence applications may drive the learning capacities of novices to the new type of teaching generation which can enable them to be part of learning in the first century in the economy of knowledge that will be gained by learners. Braun & Clarke (2006) the espousal of Artificial Intelligence applications has shaped the new environment of effective learning. Besides this, it reshaped actions with better technological developments. Artificial intelligence applications have increased the adaptive cultural way of learning where the learners must absorb the learning style by organizing engagement with learning activities that lead to recovering the knowledge with active learning ways in which the students will procure the best experience of learning. Artificial intelligence is essential in the creation of the fast development of technology. On the other hand, technologies have reconstructed the traditional education system into new innovative systems of learning. Day by day technologies have been increasing and new technological applications have been added in technological innovation. Artificial intelligence has also helped in erudition in different fields, new technological learning management systems have been adopted for teaching the students. Nilsson & Nils (2009), Many learning applications have been composed to enhance learning but some of these work according to models of machines and some other apps are also working through the AI technological systems which is why this study is composed to measure how AI apps are effective and how much students be motivated regarding AI applications that is why this study is formulated to measure the effectiveness and motivation of university students. The teaching and learning process is important in the education system as knowledge is being delivered in different ways by which learners can get better knowledge from different teaching and learning structures. As the period has passed teaching and learning processes have been diverted towards the different modes of learning with the help of technology and innovations, and innovations technology has made many things that can be useful for basic cognitive processes in the education system from that technological advancements artificial intelligence get progress in every field. Tavani (2018).

Problem Statement

The traditional learning ways that were used in previous years for providing the content to learners by lecturer methods by providing ideas in as verbal way and learners must learn through these ways of learning. Day by day different teaching methods have been formulated to provide learning content to learners. In higher educational institutions, the learners are learning through pedagogical instructions where the central ideas have been delivered by educators. The system of learning has been changed by technology and new technologies have been added to the learning process. The COVID-19 has also changed the overall system of learning. The whole system of learning has gone online and through the learning management systems the content areas were delivered. These learning, management systems have been changed to new advanced learning systems with chatbots and applications that help the learners to gain knowledge from these systems, and applications of artificial intelligence rapidly utilized by the educational sector and other sectors have also used the AI systems. Due to the usage of AI applications and other machine learning applications, this study was formulated to analyze the motivation and effectiveness of the learners and how much the learners are motivated and feel effectiveness from the applications of artificial intelligence.

Research Questions

1. How much the AI applications can modernize the learning strategies of learners at higher educational institutions?

2. How much do learners find the effectiveness of AI applications at Higher Education Institutions?

Hypothesis

1. How much AI applications can increase the performance of learners while learning the content?

2. To what extent AI applications are useful in learning the course of learners?

Significance of the Study

This research study is significant due to the research developments that are done with this study on AI applications at the higher educational level in rural areas and there are minor research studies that worked on AI applications at the rural level. By increasing the advancements in learning technological applications that help the learners to learn from these applications AI has also provided the new ways of learning developments. Therefore, this study contributes to the understanding of how applications of Artificial Intelligence can be applied in educational developments and how AI can benefit learners and educators to develop new learning styles. This study further shows the significance of providing the facts about how AI applications are providing benefits to learners and educators for the development of education sectors. This study also explores the significant new developments on AI applications that will help the learner and educators sustain the knowledge-providing process with effective applications. This research study provides facts about the interest of learners, the confidence level of learners that will increase learning by engaging the learners with new ideas, and provides facts that will help the institutions how the motivation of learners can be designed in the learner process. Furthermore, this study provides information on the development of effective teaching strategies that increase the learning attainments of learners with AI applications.

Delimitations of the Study

This study which is about the AI applications and higher educational institutions has covered the limited data collection from the higher educational institutions and it can be extended to other higher educational institutions for analyzing the other factors regarding AI applications. This study is done with a specific research design and specific research methods and designs are utilized to analyze the influence of AI applications on learners learning developments. Furthermore, this study analyzes the few factors that are relevant to AI applications at higher educational institutions, but the other factors will be included and other higher educational institutions are being linked for further studies. This study specifically examines the factors related to AI applications and the impact of those factors on the learning development of learners. This study also especially examines the learning developments of learners with AI applications and the development of learning interest with AI applications.

Literature Review

In this article, the researcher analyzed the effective usage of AI tools that help university students to understand the English learning and teaching process. Chatterjee (2020) This manuscript identified the main AI application and the strategies for using the AI applications. The results of this research paper show that the low level of AI (OCR) applications were employed there is a need for effective usage of AI applications for teaching and learning the English language. This study concluded that there should be training sessions for better usage of AI applications. (Khalid, A., 2017).

Artificial Intelligence and Education

This stuff is about the potency of chat boots for learning students and their memory retention by applying the chat boots. In this article, a case study was selected for university students and measures the difference between general search engines and chat boot systems that affect learning and memory retention. Chua, C. P., & Valencia, L. D. (2020). It was concluded that students learning, and retention is more in chat boot and less in general search engines. (Abbasi, S, kazi, 2014). This paper explains the new

progress of AI applications in the field of education; he has explained the technology of China in AI applications for education. (Lufeng, H.2018) also explained that due to AI applications, the education system has been modernizing. This paper also explores the role of AI applications in helping to modernize the education system. Electronic learning is becoming vital day by day, different types of internet-based LMS are being used to communicate with learners face to face, and the manner of transmitting the learning materials has enhanced the student's learning studies Xin-hua Zhu (2005). The learning efficiency of learners increases by picking out strong pedagogical techniques and updating the course materials on time by using gaming and strong teaching methods that will enhance the learning motivation of students. (Esalmi, F. *et al*,2010).

Sample results of respondents

In the questionnaire of this study, correspondents are according to their age divided into three groups the first group is between 18 to 25 other group is between 25 to 30 and some others are above 30 these correspondents are from different universities from which data has been collected. The ratio of suicide cases has been increasing day by day in the whole world, similarly in Pakistan due to various social factors. The writers have been representing this theme in their fiction along with the content of suicide notes. The rapid increase in suicide rate has been getting interested in researchers, and suicide notes are being explored dynamically. Analyzing suicide notes is an emerging area of research in forensic linguistics. Fiction has a great influence on the lives of people. The study aims to identify and analyze the embedded rhetorical structures, and linguistic elements to reveal communicative purposes in suicide notes presented in Pakistani dramas to get interpretations for the analysis of the attitudes of writers and to know their mental health to create public awareness. AL Mohammadi (2017)

Diagram .1. The diagram shows the sample results about the age of the correspondents.

In above figure explains the age factor of the
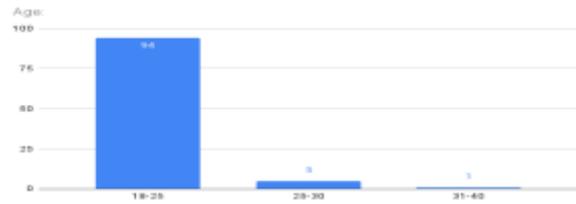
correspondent this also explains the demographic property of correspondents which have different values from the data set, according to the below graph that describes the age factor in which most of the correspondents are between 18 to 25 and other correspondents have property between the 25 to 30. Other correspondents are between 31 to 40 which explains the low quantity of data where maximum data is showing according to the ratio that most of the correspondents are between 18 to 25 age-wise. It also means that 94% are from 18 to 25 and other 5% are in the ratio of 25 to 30 and the remaining 1% are in the ratio of 31 to 40. This explains the substantial number of communicators. Mathew (2019).

Research Methodology

In this research study, quantitative research methods are used. For quantitative the questionnaire tool is used to collect the primary data. Secondary data will be collected from research articles, reports, books, and newspapers. McCombes & George (2023, Research design is a process of research methods and techniques that are used by researchers to collect information and verify information. Research design explains the type of research and subtypes of research. Research design explains what kind of tools are used in the research study and how these tools will be used in the research study. A purposeful research design will usually create minimum bias in the collection of data and raise the trust in collected data. Research design deals with logical problems, not logistical problems. Research design will help in predicting the outcomes of a research study that will be

drawn through the suitable research design (Yin, 1989).

Results

The main aim of the results in the research study will be to help the researchers to examine the results and provide useful conclusions with future suggestions. This process is also concern with the analysis and interpretation of result with collected data and the analysis will help in the prove the objectives of the studies which explain where and what has been analyzed which factors have the high impact, and which has the low and what are the circumstances that are related to data and results of the research study. This process is useful in the mainstream of research where the researcher must make the decision and make different suggestions which will help in further studies and will provide wide areas of new work in the field of science, social science, and physical sciences. This process is also helpful for investing the new trends in research and development where new processes of analysis, and new processes of investigating will be utilized for new researchers. This study is focused on the main points regarding AI applications and the interaction of learners with AI applications from different universities that will help the creation of new ideas and innovative ways that will help the researcher as well as the long-term developmental strategies of education and higher educational institutions.

Hypothesis Testing

H1: Results about the adopting Artificial Intelligence learning applications can improve performance in learning content of learners.

This question is about AI applications and data for this question collected from university students by sending the questionnaire to them this question is also explains performance of learners from the AI applications. This inquiry

explains the way of learning with AI applications that is specifically about the improvement of learners' learning developmental styles with AI applications. The data for this question is collected from university correspondents from different five universities in Sindh Province.

Figure 1: The above figure shows the results of the AI learning applications.

The above figure shows the results of samples that are collected from correspondents regarding AI application's performance in learning contents from AI applications. The above question also shows the response rate of respondents. This question that is about the AI applications that have a good response rate from respondents whereas a total of one hundred twenty-one respondents were randomly selected from different universities every question has a separate rate of response for this question one hundred fourteen responses are received from respondents. Moreover, this question has positive responses regarding AI applications from respondents. This question has 71.1 % of respondents are in agree with this question 22.8% are in strongly agree with this question 3.5% are in the ratio of disagree with AI applications likewise response 2.6% from the correspondents. This question has not been touched on by respondents in the option of strongly disagreeing with AI applications. Overall, this item has had a positive response from the respondents. Previous research has been conducted on AI applications in different fields of education and with different content areas of learning. The study analyzed the learning behavior of school students with the teachable agent for the conceptual development of school students regarding the content of mathematics. This study analyzed that with those teachable agents, the learning quality of school learners has increased with interaction with teachable agent. Students get more and more ideas about the content of mathematics. This study also found that by utilizing this type of learning style students can get more knowledge in interesting ways and curiosity in learning the content. This

teachable agent increases the motivational powers of learners and works on deep thinking about the learning styles of learners. This teachable agent can produce a vital source of learning among the new learners in the field of mathematics and this study also suggests that by the help of this teachable agent, the engagement of learning with this agent increased. (Pareto, L,2014)

H2: *Findings about Artificial Intelligence applications are useful in learning the course of learners.*

The above item expresses AI applications that are used in learning development in favor of learners from which these can get knowledge learning skills. This question is about specific points of AI applications that I asked university students about AI applications. This question represents the way of learning in the style of usefulness in learning procedures. Interactions of learners with AI applications have been measured by university students regarding course learning from AI applications. AL Mohammadi (2017).

Figure 2: The above Figure shows the results of the AI learning applications.

The above figure expresses the learning capabilities of learners concerning AI applications from university students from Sindh Province and this question is sent to respondents to measure motivation about AI applications concerning learning styles and learning techniques that are used by learners while learning from AI applications. This question also has a good response rate from respondents. One hundred twenty-one questionnaires have been sent and the return rate is one hundred fourteen from respondents. This item has obtained all the options from the questionnaire about AI

applications. All options are agreed, disagree, strongly agree, strongly disagree, and no option. According to this question, most respondents agree with this question and strongly agree option is in a positive sense. This question shows that 71.9 % agree with the question 14.9% strongly agree with this question 7% disagree with this question 1.8 % strongly disagree with this item and the other option is no response which has 4.4% value with this question. These all questions are regarding the motivation of respondents towards AI applications concerning the usefulness of AI applications towards learning procedures. Bygone research papers have identified the role of AI in education systems and found the importance of AI in this sector in schools, colleges, and in higher education. Most of the past papers have highlighted AI in utilizing the systems in providing knowledge with tutoring systems and other AI-enabled systems. The study analyzed the IT's intelligent tutoring systems that are utilized by the learners in the development of knowledge regarding teaching and learning. This review study mostly focused on communal information about ITS regarding teaching and learning and the effectiveness of ITS in the process of providing knowledge to learners. This review study has manipulated many studies about teaching systems concerning the evaluation of these ITS systems how much these systems are beneficial for learners and how much these systems are fruitful for learners in wisdom development (Colby, 2017).

Discussions

The different studies have worked on applications which shows that there is good evidence for the interaction of learners with the applications whereas the other studies have investigated the learning behaviors of learners with systems and applications (K, Sand. Kuhl. 2019). The learning systems that are needed for learning purposes should provide the main ideas with effective feedback mechanisms, managing ways, preparation ways, and better understanding ways that will help the learners with learning the different content with different

subjects (J, S, U et al 2022). This study focused on the motivation and effectiveness of AI with learners from different five higher educational institutions which provides the results from the objectives that explain how learners have shown the motivation, effectiveness, and importance of AI applications that can be utilized with effective managing skills. This study further shows that applications of artificial intelligence have motivated learners to learn from applications of artificial intelligence and feel confident when utilizing the applications. Özer, M. (2020)

Conclusion and Suggestions:

Teaching and learning are art to deliver the content through a step-by-step process and convert the learner to have a good content learning acquaintance. This system of teaching and learning has different steps that can be done through the teaching process. Moreover, these steps are followed by the educator to enhance the information that is planning, explaining, and interpreting the questions of students with feedback. These steps are very helpful in the learning process with the knowledge reflection process. Likewise, self-reflection and understanding the content are the major ways to explain and understand the content rather than memorizing the content. With AI systems the learning abilities and understanding skills are being increased by the systems that are governed by machine learning systems. AI-enabled applications have the stuff to provide better ways of understanding. Most of the research works are carried out to encourage the learning systems. Most of the research works have given the important findings that AI applications can bring innovative changes in learning systems but a lot of other studies have paid attention to the recommendations for learners to have some training for AI applications for effective usage in learning procedures other studies have also the conclusions that there should be proper usage of AI applications for development of learning process with smart content developments with tutoring systems and with AI made systems that will enhance the learning capacities. A lot of other studies have also neurotic the different points in the teaching and learning process that AI systems that work with students learning have the specific ability to determine the main weakness of a child and will also engage with students to able that learner try to overcome from those learners. Besides this, in the teaching and learning process lot of efforts must be taken for fostering the learning system.

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