Investigating the Learning Motivation of Learners from Higher educational Institutional by Utilizing the Artificial Intelligence Learning Applications

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Abstract

Artificial Intelligence is the science of learning and teaching with significant systems that enable the learners to have the best knowledge according to the learning needs and perspective of learning styles. From the past years Artificial Intelligence has been rapidly advanced in the technology and as well as in knowledge technology where these Artificial Intelligence applications have unconventional ways advanced the learning strategies. These AI applications have also contributed to the education sector where these applications have led to the essential role in learning in the higher educational systems. This study analyzed the motivation and effectiveness of learners towards the artificial intelligence learning approach about the learning applications. About one hundred twenty one respondents were touched from five higher education institutes from which the data was collected from This study found that most of the learners were satisfied with AI applications towards the factors that are artificial intelligence applications increase your learning capabilities, AI learning applications increase productivity in learning, what do you think AI applications are useful in enhancing the knowledge, what do you think AI applications have potency towards the easy and clear content learning process. Most of learners responded positively about the motivation from asked questions and countered about optimistic effectiveness towards the applications of artificial intelligence. Finally, this concludes that more interaction of learners with AI learning application will provide good results in learning the content of concerned subject. This study suggests that there will be training for learners regarding AI learning applications.

Keywords: Artificial intelligence applications: Education: Teaching and learning: Motivation and Effectiveness of learners.

Introduction

Artificial Intelligence applications can also do programmed calculations that can upkeep learner's 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 learning generation where these can enable themselves to be the part of learning in twenty first century in the economy of knowledge that will gain by learners. 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 is essential in the creation of the fast development of technology. On the other hand, technology has reconstruction the traditional education system into new innovative systems of learning. (Lufeng,H,2018) .Day by day technology has been increased and new technological applications have been added in technology innovation. Artificial intelligence has also helped in erudition in different fields, new technological learning management systems and AI applications have been adopted for teaching the students. How these AI applications are effective and how much students are motivated regarding AI applications is why this study is formulated to measure the effectiveness and motivation from university students. Main purpose of this research is to provide ideas about the AI applications in education sector and this study will highlight main findings that will help to education sector to develop main doors for learners in sections of education. By developing different concepts and philosophies regarding AI applications there will be development of knowledge to the learners.

Material and methods

In this research study quantitative research method is used. For quantitative research method the questionnaire tool is used to collect the primary data from the university students about the AI applications. Secondary data will be collected from research articles, reports, books and from newspapers. The data has been collected from the higher educational institutions of Sindh province of Pakistan. The respondents were university learners from different five universities. The demographic properties are their gender, qualification, and age.

Age

In our questionnaire correspondents are according to their age divided into three groups out of them these have first group that is between 18 to 25 other group is between the 25 to 30 and some other are in above the 30 and these correspondents are from different universities from which data has been collected.
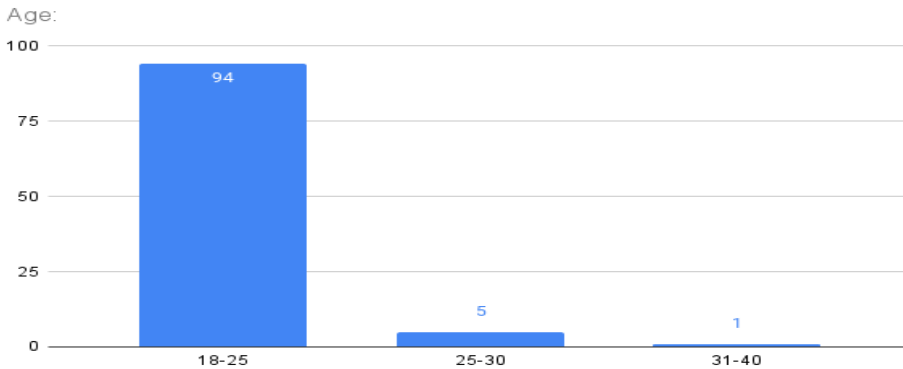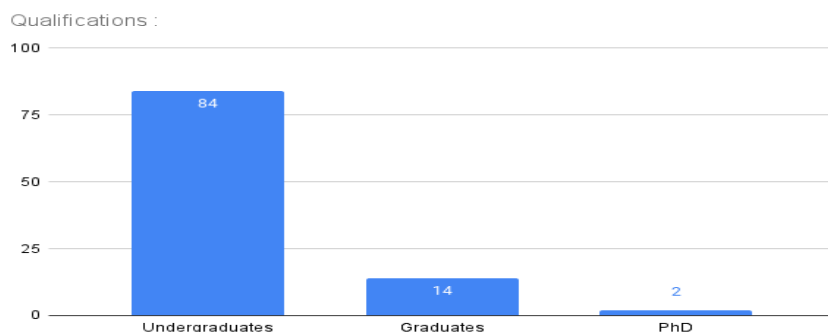

Figure 1. Above figure explains the age of university respondents.

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

Qualification

In this type of demographic property in which the correspondents are asked to mention their qualification according to given questionnaire the qualification is divided into then three portions first is undergraduate second is graduate and third is doctorate. In universities most of the students are continuing their education. These will be undergraduates and others who are near to completing this will be classified as graduates.

Figure 2. Above figure expresses the qualification of university respondents.

In the above graph qualifications demographic explanation is being explained where quantities of this graph showing the ratios of correspondents. According to this graph three values are given in qualification demographics values which are high ratio, low ratio, and lowest ratio. The above graph shows that 84 % are undergraduates, 14 % are graduates and the remaining 2% are concerned with doctorate students. From the above data it is very clear that most of the correspondents are undergraduates in qualifications and other are graduated and only few are the postgraduate learners in different higher education institutions.

Gender

This demographic property concern with correspondent form from which data has been collected. This property is divided into the two portions one is male and other is female. The manuscript will show overall ratio of male and female correspondents.
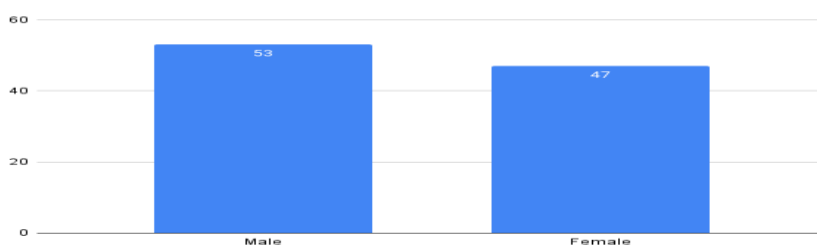

Figure 3. Above figure shields the gender of university respondents.

In the above chart demographic possessions that explain gender properties from data that is collected from these five higher educational universities. According to this

data collection process which explain the gender property that is explaining the ratio of correspondents that how much male and how much females are there in ratio. This data set is describing that correspondent ratio is higher in female students from different universities and ratios that is form male students is lower than the females. The ratio according to the above graph that is 53% is ratio of females, correspondents in data collection from five universities and ratio of male students from five universities is 47% that is lower value of correspondents from the universities. The data has been collected from the learners of universities regarding the application of artificial intelligence and has been analyzed with different factors. About 42 items have been utilized in questionnaire that has been collected and analyzed with different responses. Mostly the learners have responses by collecting the data from university students. The collected data has been analyzed and results are explaining the responding nature of respondents that shows the motivation and effectiveness about the applications of artificial intelligence from the university students. Do you think Artificial intelligence learning applications provide quality of learning? Do you think interactions with Artificial intelligence applications are clear and understandable? What do you think by adopting Artificial Intelligence learning applications can improve your performance in learning content?

Findings about Artificial intelligence learning applications provide quality of learning.

The above point is explaining way of providing knowledge from AI applications with respect to education process. This question is also about providing the quality of learning with A (I) applications. Quality of learning means providing quality contents with respect to subject and providing the flexible way to understand quality of smart content. All the steps are valuable for understanding the content.
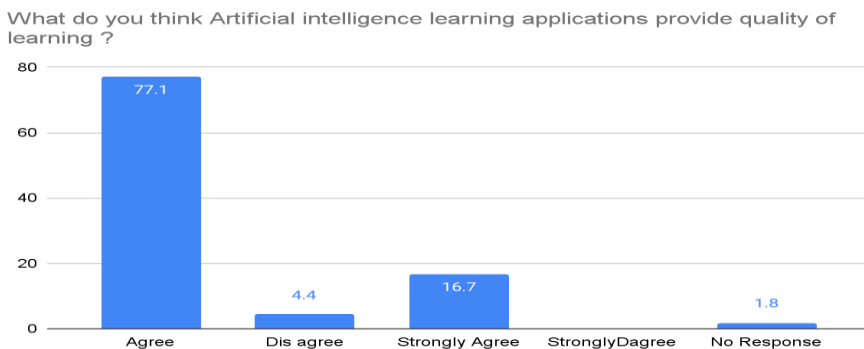

Figure 4. Above figure explains the result about learning application of Artificial Intelligence.

The above chart is explaining responses from dissimilar universities about AI applications from correspondents of universities that explained their value in above chart whereas only three options are touched by respondents about this question that is explaining quality of learning with AI application. For this question one hundred twenty -one respondents were touched to collect data from these one hundred fourteen responses are received from the plaintiffs. From these responses all respondents have touched the four options agree, disagree, no option and strongly agree. This question also explains learning ways from respondents and the above data also shows overall satisfaction with this question. Permitting to this question that is describing ratio of respondents in different options, the first option is agree that have 77.1 % from respondents whereas strongly agree have 16.7% from the correspondents, while disagree option have 4.4% from the correspondents, whereas no response have 1.8 % from the respondents. From this analysis most of the correspondents agree and strongly agree with this question that is related to the motivation of AI applications and specifically concern with the learning quality of AI applications. Past research articles have explained the new ideas regarding AI applications with respect to new learning ways in the education sector. Most of the studies have explained new technologies in learning strategies and with innovative learning ways. Most of the studies have focused on teaching methodologies with AI applications with different subjects and with new contents relating understanding purposes. There is a study that is also explaining the adoptive learning system for better understanding with this system to enable the skills of understanding for mathematic class. This study was focusing on this learning system to enhance the learning assistance to the school learners. This study also analyzed that systems should be generated but the working and functions of those systems should also be implemented in the education systems. This study suggested that there should be proper implementation regarding systems that enable learning techniques and suggested proper working of these systems (Nilsson, N 2009).

Results about interactions with Artificial intelligence applications clear and understandable

This above question is related to AI applications with respect to teaching and learning systems. This question also represents the motivation of respondents from AI applications about interaction of respondents to AI applications. Moreover, this question represents the property of AI applications that express clear and understandable way of learning with AI application. This question also means about clear content and understandable materials that are being presented to respondents with respect to AI applications.

What do you think interactions with Artificial intelligence applications are clear and understandable?
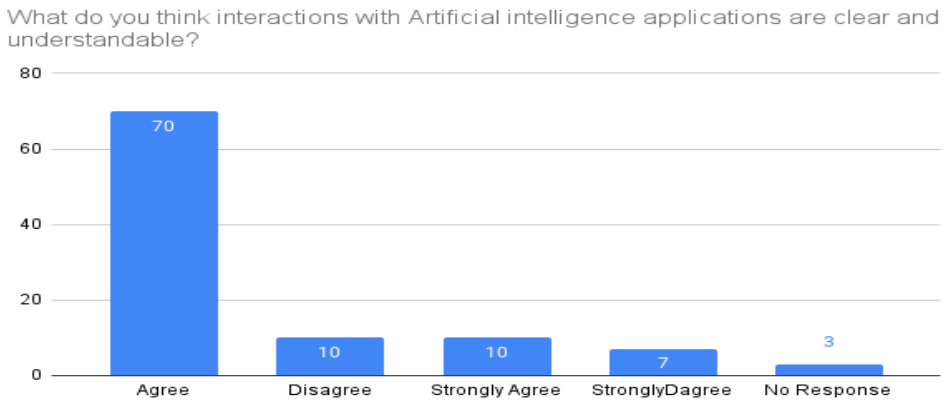
Figure 5. Above figure expresses the finding about applications of Artificial Intelligence

The above chart expresses responses of correspondents for the motivation from university students. This data is also collected from five universities from Sindh Province and the system of data collection is random from all universities. The question was sent to collect the data and this data represents that the total samples have been sent to one hundred twenty-one respondents and response rate is one hundred fourteen from all over five universities. This question also expresses all the options that are present in questionnaire agree, disagree, strongly agree, strongly disagree and no responses are included. According to this question in which all options are presented by respondents in which mostly respondents are showing agree option in investigation and other option strongly agree has positive response. This question has 70% response in agreement whereas 10 % are in strongly agreed with respect to motivation of this question. Another option is disagreed that have 10% from correspondents whereas strongly disagree have 7% regarding motivation towards AI applications while no response has 3% responses regarding motivation AI applications. This data shows that most of the respondents agree with AI applications and showing agrees to this question. Overall, this question has good response and positive response from the respondents from universities. Past research work has also worked on the AI applications, mostly on the learning purpose and systems of AI applications. The study explained the role AI in teaching and learning process with respect to importance to teaching of different subjects. This study also explained AI is the backbone for each system that is used in providing knowledge with tutoring systems. These systems helped to develop qualities in the learning process such self -reflection means analysis of own work and work on the mistakes that have taken during learning process. According to this study, through AI applications learners can answer yawn questions whereas lot of other qualities are being developed such as resolving conflict statements with the help of AI applications (Pujari, 2021).

Outcomes about adopting Artificial Intelligence learning applications can improve your performance in learning content.

This question is about AI applications and data for this question collected from university students by sending the questionnaire to them and this question is also explaining performance of learners from the AI applications. This inquiry explains ways of learning with AI applications that is specifically about improvement of learner's learning developmental styles with AI applications. The data for this question is collected from university correspondents from different five universities of Sindh Province.
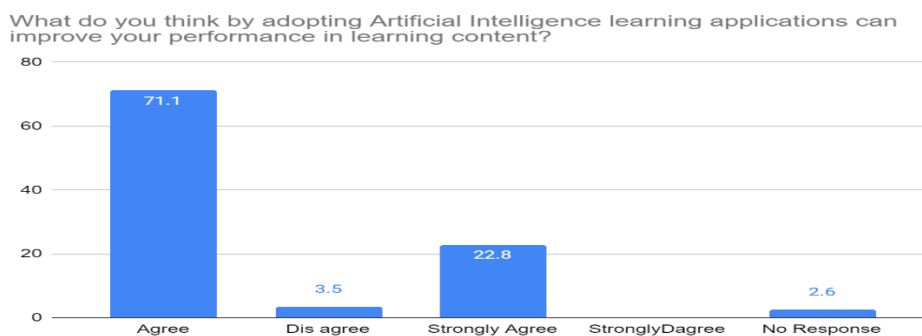
Figure 6. Above figure explains the outcomes about the applications of Artificial Intelligence

The above chart shows results of samples that are collected from correspondent regarding AI applications performance in learning contents from AI applications. That above question also shows response rate of respondents. According to this question that is about the AI applications that have good response rate from respondents whereas total one hundred twenty-one respondents are randomly selected from different universities every question has 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 % responses are in agree with this question whereas 22.8% are in strongly agree with this question while 3.5% are in the ratio of disagree with AI applications likewise no response has 2.6% from the correspondents. This question has not been touched from respondents in the option of strongly disagree towards AI applications. Overall, this item has had a positive response from the respondents. Previous research has been operated on AI applications in different fields of education and with different content areas of learning. The study analyzed learning behavior of school students with teachable agent for conceptual development of school students regarding content of

mathematic. This study analyzed that with those teachable agents the learning quality of school learners has increased with interaction to teachable agent. Students get more and more ideas about the content of mathematic. This study also found that by utilizing this type of learning styles students can get more knowledge with interesting ways and the curiosity in learning the content. This teachable agent increases the motivational powers of learners and worked on the deep thinking about the learning styles of learners. The teachable agents can produce the vital source of learning among the new learners in the field of mathematics and this study also suggested that by the help of this teachable agent the engagement of learning with this agent increased (Mathew, L,2019).

Conclusions

Teaching and learning are an art to deliver the content through step-by-step process and convert the learner to have the good content learning acquaintance. This system of teaching and learning has the different steps that can be done through the procedure. Moreover, these steps are followed by the educator to enhance the information that are planning, explaining, and interpreting the questions of students with feedback. These all steps are very helpful in the learning process with the knowledge reflection process. Likewise, self-reflection and understanding the content are the major ways for explaining and understanding 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 understandings. Most of the research works are carried out for encouragement the learning systems. Most of the research works have given the important findings that AI applications can bring innovative changing in learning systems but lot of other studies have paid attentions to the recommendations for learners to have some trainings for AI applications for effective usage in learning procedure, other studies have also the concluded 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. Likewise, findings of this study conclude with help of results of this that learners that have interacted with AI learning systems and learners that are from higher educational institutions have positive motivation towards the applications their motivation will increase if the higher education has proper sessions regarding the AI applications. Moreover, the results of this study also concluded that learners with high learning intrinsic motivation have shown high positive motivation and effectiveness towards AI learning applications. Moreover, discoveries of this

research also conclude that some factors that are mental efforts required for AI applications if the functioning of AI applications will become easy and relaxed then the motivation for AI applications will increase regarding this factor. Results of this study suggested that there will be proper content for AI applications in curriculum that will help the learners understand the importance of AI applications. Findings of this study also suggested that there will be training sessions for knowledge about AI applications. Discoveries of this study also suggested that Government will manage policies regarding AI application in education sector.

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