International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

The Use of Artificial Intelligence in Teaching And Learning: Opportunities and Challenges Students Vs Lecturers Perception

Shadrack Mwakalinga

Jordan University College, PO Box, 1887, Morogoro, Tanzania

Abstract

The use of AI in higher learning institutions has brought a dilemma as it was in the era of using google and Wikipedia causing a lot of academic dishonest. There are two paradigm on this, some sees as opportunity for effective learning and others sees as a challenge in the teaching and learning contributing to rote learning. The author wonders as to why should it be perceived as opportunity at the same time be seen as a challenge. The perceptions of students and lecturers towards this technological advancement is always taken as a shock at the beginning, yet can significantly influence the teaching and learning in institutions as it was in the error of the use of google search and Wikipedia. This paper explores the differing viewpoints of students and lecturers on the use of AI in higher education, by examining the opportunities, challenges, and potential impacts on teaching and learning experiences. Questionnaire and interview were used as data collection tools. The study realized that students knows the use of AI in searching information than their lecturers (72%:22%). Lecturers sees AI facilitates rote learning while students see that is an opportunity to them because the information is accessed in short time. Finally they all suggest that there should be clear policies on the use of AI in teaching and learning and having acceptable ratio of human and AI interaction in the teaching and learning. The study concludes by calling upon in-service training to lecturers and other education stakeholders to have proper use of AI for effective teaching and learning.

Keywords: Artificial Intelligence and Higher Education

Introduction

In most of teaching and learning traditions at the University level in Tanzanian Universities is like cat and rate lecture and student relationship. Some of the lecturers are claimed to enjoy when their students fails. Yet this is not the matter, lectures in most cases like students who work hard and have good academic achievements. The use of AI technologies has simplified students work of getting materials probably which contributes to their continuous assessment. In this context lecturers sees it as a problem because they are worried that their students gets materials without understanding. Then this rapid advancement of AI technologies creates opportunities and challenges for higher education (Woolf, 2010). However, Lectures are requires to think of how to make successful integration of AI in educational settings.

Background

The teaching in schools is always affected by the changes of science and technology (Mwakalinga, 2022).

AI technologies have been used in a variety of educational settings, including analytics powered by AI that forecast student performance and intelligent tutoring systems (Baker & Inventado, 2014). There are differing opinions about the use of AI in education, despite its potential. According to Holmes (2019), students perceive artificial intelligence (AI) as a tool that enhances learning, and increasing monitoring, while teachers sees it as a means to support the teaching and learning if it is well monitored otherwise it will undermine their professional duties as teachers. This can also be reflected to higher learning institutions.

Objectives

1. To identify students and lectures opinion on the use of AI in teaching and learning
2. To identify students and teachers challenges on the use of AI in teaching and learning
3. To come out with good was of using AI in the teaching and learning

Methodology

This study is both quantitative and qualitative in nature, therefore data were collected through questionnaires and interviews tools of data collection. This was done to triangulate the responses.

Participants

Participants in the study come from a variety of Universities, including lectures and students from various subject areas of specialization.

Data Gathering

1. Surveys: To measure lecturers' and students' opinions of artificial intelligence in the classroom, structured questionnaires are given to both groups.
2. Interviews: To learn more about a subset of participants' perspectives and experiences, in-depth interviews are held with them.

Analysis

Statistical techniques are employed to analyze the quantitative data obtained from the questionnaires in order to detect noteworthy variations and patterns among the groups. Thematic analysis is employed to reveal recurring themes and nuanced viewpoints in the qualitative data obtained from the interviews.

Results

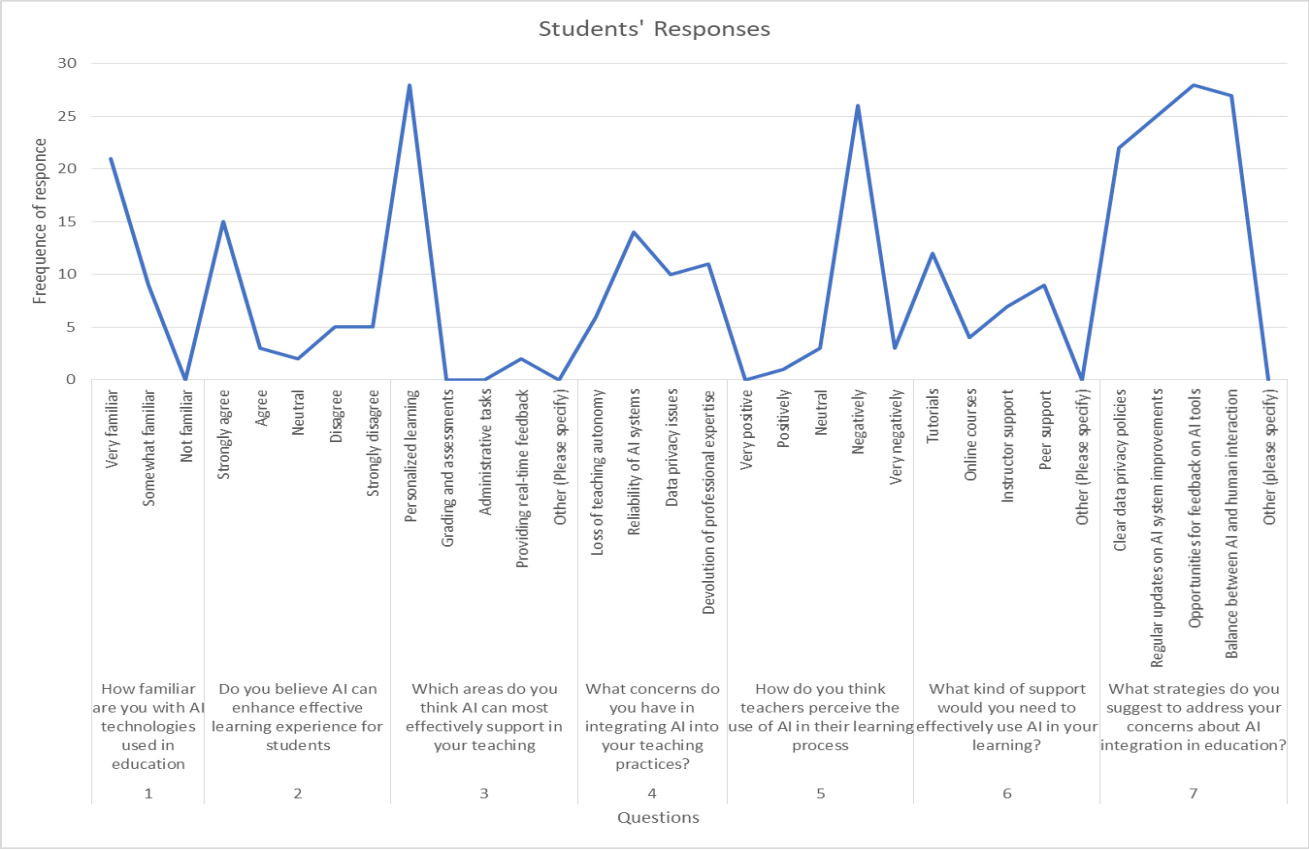
Quantitative findings

Students' Perceptions

The students’ perception on AI shows that they are very familiar with the AI (more than 72%), and they declare that AI enhance effective teaching and learning for the students (More than 50%). Yet students did not specify the areas where AI can support learning effectively about 2% showed that the AI can support in giving feedback. Notwithstanding, the respondents showed that they fear about their privacy, security and the reliability of the AI (50% to 40%).

The participants in the side of the students declared that their lectures have negatively perceive the use of AI for teaching students effectively to them they argue that students learn without understanding (More than 83%). Nevertheless more than 86% agreed with the strategies like clear AI policies to be formulated,

regular updates about AI and balance of human and AI interactions must be observed. See the graph showing students' responses.

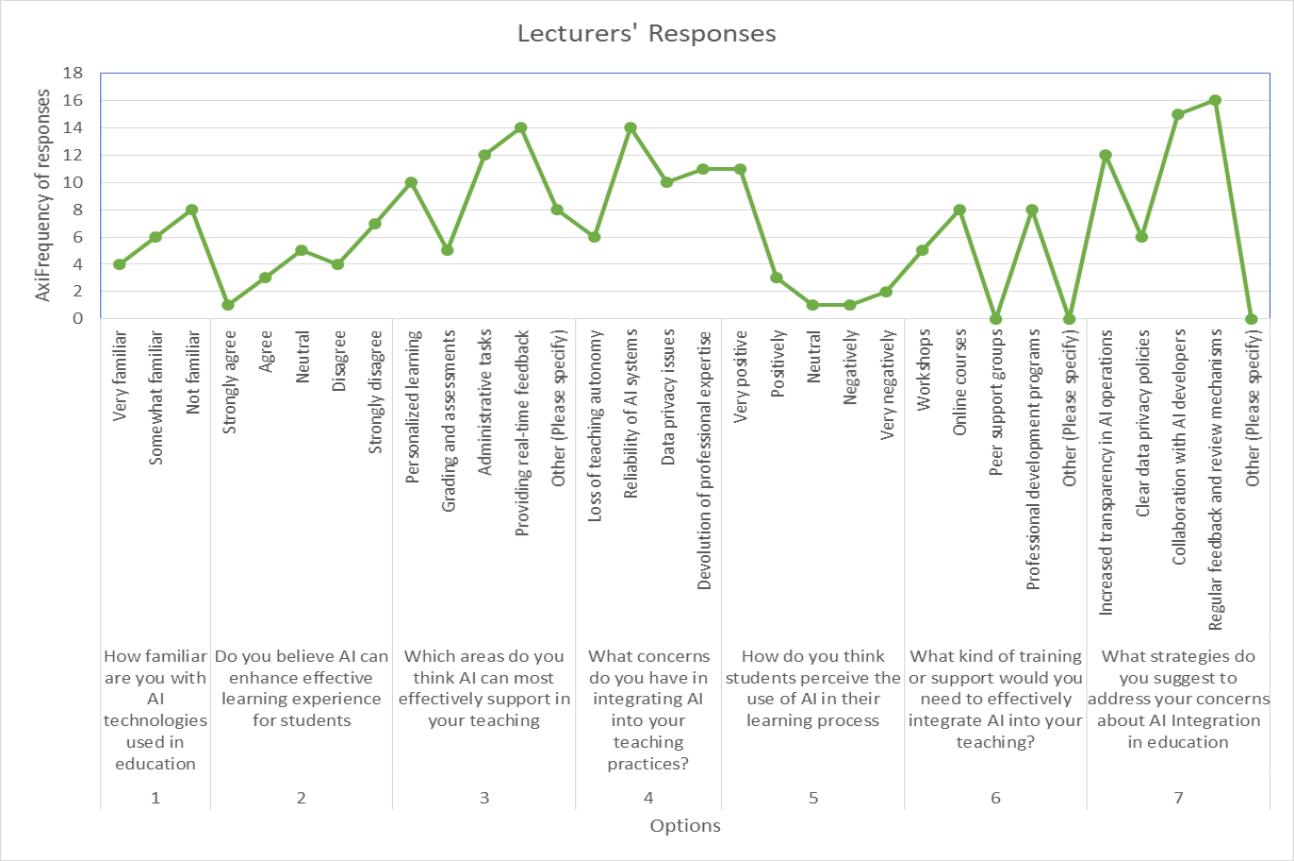


In summary, the questionnaire for the students show that more than 75% of students content that AI can enhance their learning by providing customized feedback and learning pathways. However, 25% of students are worried of AI (Baker et al., 2020).

Lecturers' Perceptions

The lecturers' perception on AI shows a big difference from students that teachers' are not familiar with the AI (more than 44%) only about 22% are familiar, and they declare that AI do not enhance effective teaching and learning for the students (More than 55%). Yet teachers specify the areas where AI can support like administrative tasks (More than 77%) and giving feedback and grading more than 66%, Teachers showed that if AI is used can cause loss of teaching autonomy (77%) and devolution of the professional expertise. Not only that but also, the respondents showed that they fear about their privacy, security and the reliability of the AI (More than 60%).

Lectures declared that students have positive perception on the use of AI (More than 70%). Nevertheless more than 60% agreed with the strategies like clear AI policies to be formulated, regular updates about AI and balance of human and AI interactions must be observed. See the graph below showing lecturers' responses.



Questionnaire results indicate that teachers are divided in their views on AI. Approximately 60% of teachers stipulate the potential benefits of AI in automating administrative tasks grading and feedback. However, more than 40% express concerns about their privacy, reliability of AI systems and the potential reduction in their teaching autonomy (Johnson et al., 2018).

Qualitative findings

Students' Perceptions of AI

Most students who participated in the interview showed that they are open to using technology that improve their educational experiences.

…… Our lectures are insisting us that we have to learn from the internet, now AI is very effective in getting what you want within no time

.....To me AI is like advanced google search, instead of getting everything related to what I search, AI gives the specific thing that I want

During the data collection it was revealed that students are more inclined to accept AI that it will improve their learning outcomes (Zawacki-Richter et al., 2019).

Lecturers' Opinion on the use of AI

In lecturers' opinion it was revealed that most of them fear that students are just picking the information without understanding and use them in responding to their assignments.

……..You know students are just using the information from AI and use them as part of the assignments given by their lecturers without understanding

…….the problem now days students because of AI they pass very well the assignments but if you ask the same question during writing the final examination many students fails.

……Most of them fails because with AI they do not comprehend things

Nonetheless, a study done by Mwakalinga (2022) argue that a learner who cannot apply the knowledge and skills acquired in a new environment lacks reflexive competence. This can be an evidence that most learners who use AI without understanding lacks competencies. However some studies have reveal that although some educators do not value AI, still exists the evidence that AI has a capacity to personalize learning experiences and automate repetitive tasks. In the other side some educationist worry about losing control over their instructional strategies and the possible devaluation of their expertise as professionals (Popenici & Kerr, 2017).

Qualitative Insights:

Interviews revealed that there are differences in perception of the students from their lecturers. Students sees great opportunity in the use of AI in the learning process while lecturers are worried about the fact that that their students learn without understanding. Because lecturers sees that their students just search the information from AI and use them without understanding. Yet, few lectures who declared themselves that they are more technologically savvy tend to have a more positive outlook on AI, viewing it as a valuable tool that can complement their teaching. Conversely, lecturers with less technological proficiency express apprehension, fearing that AI might overshadow their pedagogical skills (Ertmer & Ottenbreit-Leftwich, 2010).

From the Interviews it can be contented that students appreciate the use of AI. However, they also expressed a desire of balancing between AI and human interaction, emphasizing the importance of personal connections with their lecturers (Veletsianos & Navarrete, 2012).

Comparison of students' insights Vs lecturers' insights

A study done by Kisima and Mwakalinga (2023), on the intersectionality between teachers motivation and students' motivation disclosed that there is a close relationship on their motivation with learning achievements. With that study one can expect that lecturers' insights may not differ from students insights. This has also been realized in this study that students' opinion converge to lecturers and diverge as well. For instance, while both groups recognize AI's potential to improve learning efficiency but they need to be monitored. Both students and lectures declare that they are not sure of the reliability and security of the information from AI. Moreover, lecturers are more skeptical about the long-term implications for their roles, whereas students are more concerned about the ethical use of their data (Chen et al., 2020).

While both lecturers and students recognize the potential of AI to improve educational outcomes through assessment and evaluation, their concerns differ (Mwakalinga and Leandry, 2021). Lecturers are more focused on the implications for their professional roles, while students are primarily concerned with data privacy and the quality of AI interactions (Selwyn, 2019).

Discussion

Bridging the Perception Gap

The teaching is always affected by the advancement of science and technology (Mwakalinga, 2022). Schools, universities and other education institution must think of suitable ways of accommodating these changes of science and technology and not discouraging or running away from these changes. To successfully integrate AI in schools particularly higher education, it is crucial to address the concerns of both lectures and students. From this study it has been noted that students knows the use of AI than their

lecturers (Students 72% knows while lectures only 22%). This is a bit dangerous in the teaching and learning because the facilitator cannot monitor very well the use of AI and advice the learners.

To cope with this situation the author argue that there should be comprehensive in-service training for teachers/lecturers about AI and show them that AI cannot replacing their roles, also training them about transparent data policies about AI (Kisima, Lema and Mwakalinga, 2024). If possible train lecturers on the use effective use of AI in the teaching and learning (Fessakis & Prantsoudi, 2019).

These trainings can help to build a trust in the application of AI systems in the teaching and learning. A part from the fact that AI has a great ability of generating information, yet in some cases does not have such ability for example issue of contextualizing still AI does not give accurate data, this can be a caution to the AI users and show that teaching according to context needs a facilitator (Chen et al., 2020).

In reality the author declares that AI has simplified teachers and students' struggle of getting learning materials thus it shows AI will continues to evolve, and its role in education will automatically expand. Future research should focus on long-term studies to assess the impact of AI on educational outcomes and the evolving perceptions of teachers and learners at all level of education (Luckin et al., 2016).

Conclusion

The integration of AI in teaching and learning is inevitable apart from presenting both opportunities and challenges. The author recommend that there should be training for all education facilitators on the use of AI, learners engagement in learning, formulation of policies guiding the use of AI in teaching and learning and to have acceptable balance between human being and Ai interaction.

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