



Integration of Artificial Intelligence in E-learning: Distance Education Students' Responses

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ARTICLE INFO

Article history:

Received January 26, 2024

Accepted May 24, 2024

Available online June 25, 2024

Kata Kunci:

Artificial Intelligence, E-learning, Pendidikan Jarak Jauh, Tanggapan Mahasiswa

Keywords:

Artificial Intelligence, E-learning, Distance Education, Student Response



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ABSTRAK

Salah satu permasalahan yang sering dikeluhkan oleh mahasiswa yang menempuh pendidikan jarak jauh adalah keterlambatan dosen atau tutor dalam memberikan tanggapan dalam forum diskusi dan menilai tugas mahasiswa di platform e-learning. Mahasiswa membutuhkan umpan balik yang cepat sebagai bagian penting dari proses pembelajaran mereka. Umpan balik yang diberikan dengan tepat waktu memiliki peran krusial dalam meningkatkan motivasi mahasiswa dalam belajar mandiri. Penelitian ini bertujuan untuk mengetahui tanggapan mahasiswa terhadap desain integrasi Artificial Intelligence (AI) dalam platform e-learning Moodle di Universitas Terbuka. Survei dilakukan dengan melibatkan 435 mahasiswa dari 40 wilayah kantor cabang Universitas Terbuka yang tersebar di Indonesia dan luar negeri. Data dikumpulkan melalui metode survei yang dimulai dengan merancang kuesioner menggunakan platform Google Form, kemudian disebar melalui grup WhatsApp mahasiswa. Instrumen survei dirancang untuk mengetahui tanggapan mahasiswa terhadap fitur-fitur AI yang disediakan, termasuk umpan balik untuk tugas essay, dukungan pengecekan plagiarisme, materi pembelajaran dengan penilaian otomatis, saran mata kuliah berdasarkan profil mahasiswa, dan prediksi nilai berdasarkan skor dan partisipasi mahasiswa. Responden diminta untuk memberikan jawaban dalam bentuk skala Likert (1-10) dan pertanyaan terbuka. Hasil penelitian menunjukkan bahwa mayoritas responden memberikan tanggapan positif terhadap semua fitur yang disajikan. Tanggapan positif ini mengindikasikan bahwa integrasi AI dalam platform e-learning memiliki potensi untuk meningkatkan pengalaman belajar dan kinerja akademik mahasiswa.

ABSTRAK

One of the common issues frequently complained about by students pursuing distance education is the delay in responses from professors or tutors in online discussion forums and the assessment of assignments on the e-learning platform. Students require timely feedback as an essential part of their learning process. Feedback given promptly plays a crucial role in enhancing students' motivation for self-directed learning. This research aims to explore students' responses to the integration of Artificial Intelligence (AI) in the Moodle e-learning platform at Universitas Terbuka. A survey was conducted involving 435 students from 40 branch offices of Universitas Terbuka located in Indonesia and abroad. Data were collected through a survey method that began with the design of a questionnaire using Google Forms, which was then distributed through student WhatsApp groups. The survey instrument was designed to gauge students' responses to the AI features provided, including feedback for essay assignments, plagiarism checking support, learning materials with automatic assessment, course recommendations based on student profiles, and predictive grades based on student scores and participation. Respondents were asked to provide their answers on a Likert scale (1-10) and open-ended questions. The research results indicate that the majority of respondents gave positive feedback on all presented features. This positive response suggests that the integration of AI into the e-learning platform has the potential to enhance the learning experience and academic performance of students.

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1. INTRODUCTION

The development of distance education from the correspondence era to the digital era has opened the door to innovation in the world of education (Ramadhanti & Yanda, 2020; Wulandari et al., 2021). In a relatively short time, distance education has developed from initially using correspondence letters to now using e-learning platforms. Technological advances have brought huge benefits in terms of accessibility, flexibility and quality of learning (Hadromi, H. et al., 2022; Zahwa & Syafi'i, 2022). These developments have also inspired innovation in teaching and learning methods in general, as well as enriching the educational experience by utilizing modern technology. The internet is the main medium for delivering learning material online. Through the e-learning platform, students can access learning materials, interact with lecturers and fellow students, and submit assignments via the internet (Nadia Mardhatillah et al., 2022; Rizqi, 2022).

E-learning platform allows educational institutions to upload and deliver learning materials online to students. Learning materials, such as text, presentations, videos or audio, can be accessed by students anytime and anywhere. This function allows students to study independently and adjust their learning rhythm according to their individual needs and preferences. The e-learning platform also provides interactive features that allow students to interact and collaborate with fellow students and lecturers (Almelhi, 2021; Ambarita, 2017). Through discussion forum, chat, or video conference features, students can share thoughts, ask questions, answer questions, and discuss learning material. This interaction and collaboration facilitate joint learning, exchange of ideas, and collective problem solving (Aryo Kusuma Yanaja et al., 2021; Noor et al., nd). E-learning platforms allow students to submit assignments online and provide access to lecturers to assess and provide feedback.

The Open University (UT), like other distance higher education, uses the Moodle e-learning platform. Moodle has become a very popular e-learning platform among higher education institutions around the world, due to its flexibility and the various features it offers. Another advantage of Moodle is that it is an open-source platform, which means it can be accessed for free and is widely developed by a community of users around the world. This allows educational institutions, including UT, to customize and change the platform according to UT's own needs and goals. The open source nature of Moodle also encourages continuous innovation and development to improve functionality and user experience. The Open University uses the Moodle LMS platform as the main tool for asynchronous learning. In the asynchronous learning context, direct interaction between students and lecturers is limited. Although this platform allows students to access learning materials and ask questions through discussion forums, limitations and delays in direct interaction pose challenges in facilitating a more dynamic and responsive exchange of information between lecturers and students. The problem of delays in using the Moodle e-learning platform at UT is a serious challenge that students often complain about (Fadhilah et al., nd; Mujiono, nd). This problem is mainly related to delays by lecturers or tutors in providing responses in discussion forums and assessing student assignments (Santos & Cechinel, nd; Vadilla, 2022). Although in the context of e-learning, discussion forums are an important tool that allows students to interact with fellow students and lecturers, unfortunately, late responses from instructors often become obstacles that disrupt the flow of learning. Online discussion forums should be interactive spaces where students can ask questions, share thoughts, or start discussions with classmates and lecturers. However, students often have to wait quite a long time to get the answers or feedback they expect. This kind of delay creates a significant level of frustration among students, and this can negatively impact their motivation to actively participate in discussion forums.

Apart from that, delays in assessing student assignments are also a serious problem. Students rely on feedback from lecturers to measure their progress and understand where they need to improve. Delays in grading assignments can hinder the learning process, because students have to wait for the necessary feedback to correct their mistakes. This causes students to have to wait quite a long time to get the answers or feedback they expect. In this situation, not only students are affected, but also the teaching process as a whole. Delays in providing feedback and grading assignments can disrupt the flow of effective communication and collaboration between students and lecturers, which should be at the heart of a successful online learning experience. In the context of distance education, students need fast feedback as an important part of their learning process. Feedback provided in a timely manner has a crucial role in increasing student motivation in independent learning (Fadhilah et al., nd; Helsa et al., nd). When students work on assignments or participate in online discussions, they need feedback that provides specific direction, evaluation, and guidance to help them understand the extent to which they have achieved learning goals. Fast feedback gives students the opportunity to correct and improve their understanding of the learning material. When they get positive feedback on their efforts, it can strengthen their self-confidence and motivate them to continue. Conversely, if feedback is provided late or inadequately, students

may feel confused, disappointed, or demoralized. Their motivation for independent learning causes a decrease in interest in learning material.

Additionally, fast feedback also allows students to correct mistakes or misunderstandings immediately. In the context of distance education, students are responsible for their own learning (Mujiono, nd; Sari, 2018). Therefore, they rely heavily on feedback from lecturers or tutors as a guide to improve the quality of their work. If feedback is slow to provide, students may not have sufficient time to make improvements or implement suggestions before the next assignment is submitted. This can hinder students' progress in learning. In order to increase student motivation in independent learning in distance education, it is important for educational institutions to recognize and overcome the challenges of providing rapid feedback. Several research results show that Artificial Intelligence (AI) has great potential in helping students learn independently (Manongga et al., 2022; Sudirman et al., nd). For example, research results related to the use of AI as a future solution in real-time science learning assessment. One of the main benefits of using AI to provide feedback is its ability to carry out evaluations automatically. With the help of algorithms and data analytics, AI can evaluate student assignments and answers quickly and accurately. This allows students to get immediate feedback on the quality of their work, mistakes made, or parts of the assignment that need improvement. In this case, AI can provide fast and timely responses that encourage students to actively interact with learning material and develop their understanding independently (Ariyani & Ganing, 2021; Mujiono, nd). AI can also be used in creating intelligent machines that can provide guidance and guidance to students. This intelligent machine uses AI technology to analyze and understand individual student preferences, needs and learning styles. Based on this analysis, intelligent machines can provide suggestions, customized learning materials, or additional exercises that suit each student's level of understanding and ability. Apart from that, AI can also help students understand their level of progress and provide relevant recommendations. Through data analysis and predictive algorithms, AI can track students' progress over time and provide information about their progress in achieving learning goals (Mujiono, nd; Sedyono et al., nd). With this information, students can monitor their own progress, identify areas that need more attention, and take necessary actions to improve their performance. Some of these things are currently encouraging the Open University to develop the Moodle e-learning platform by integrating AI into it.

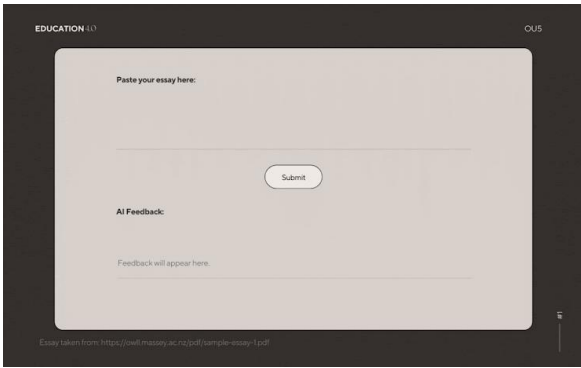
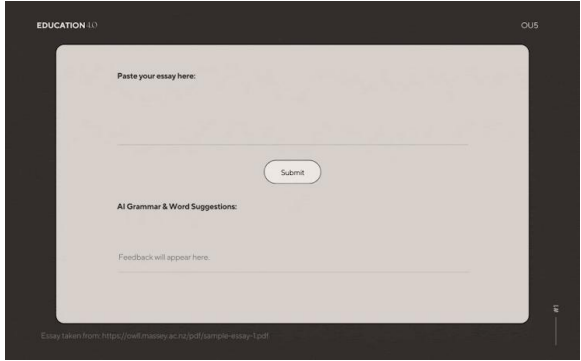


This research offers a new contribution by exploring the integration of Artificial Intelligence (AI) in the Moodle e-learning platform at the Open University (UT). Although many studies have discussed the benefits of AI in education, this research specifically focuses on student responses and perceptions of the use of AI in distance learning contexts. Thus, this research provides new insights into how AI technology can be implemented effectively in e-learning to improve students' independent learning. The findings from this research can help UT and other educational institutions to design and optimize e-learning platforms that are more responsive and adaptive to student needs, as well as overcome the challenges that exist in distance learning.

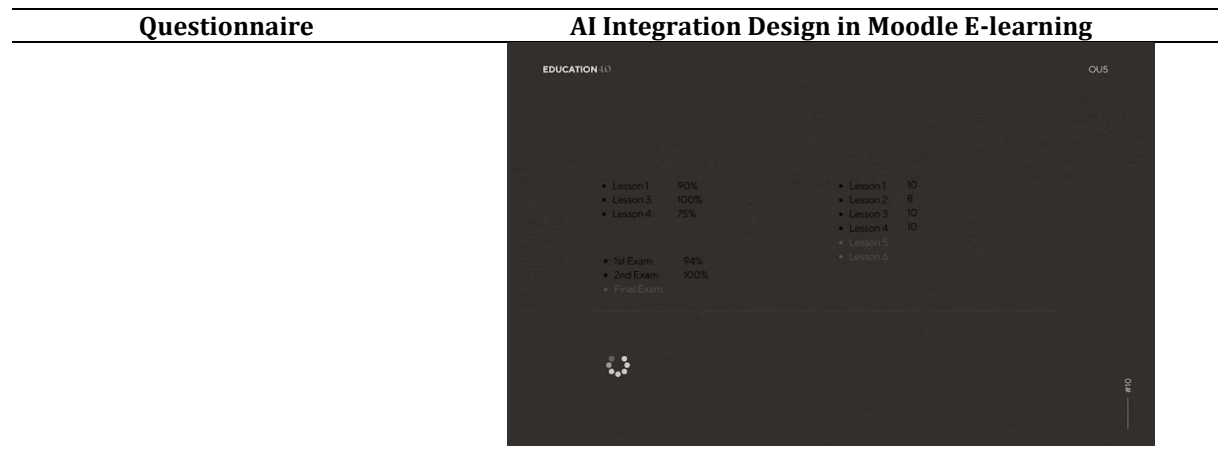
The aim of this research is to determine student responses to the AI integration design in the Moodle e-learning platform at UT. This will provide deeper insight into how students respond to the use of AI in the distance learning context. Apart from that, this research will also investigate students' perceptions of the usefulness and benefits of AI in the Moodle e-learning platform. The main aim is to explore whether students see AI as an effective tool to enhance their independent learning. By looking at how students respond to the use of AI in the Moodle e-learning platform, it is hoped that this research can provide useful insights for the Open University and other educational institutions regarding the benefits of using AI technology in distance learning. In addition, the results of this research can be used to improve the design and implementation of AI technology in e-learning platforms, so as to meet the needs and expectations of students in independent learning effectively and efficiently.

2. METHOD

This research is descriptive quantitative research using survey methods as an approach to collecting data from respondents involved in the study (Dwiqi et al., 2020; Fauziah et al., nd). The survey method is an effective way to obtain information about respondents' responses, attitudes or perceptions of research topics. In this study, sampling/respondents were drawn using a cluster random sampling technique which was carried out by taking representatives from students registered in 36 Distance Learning Program Units (UPBJJ) at the Open University and the Overseas Management Centre. In this research, a survey was conducted in the form of a questionnaire given to Open University students. The questionnaire is designed to explore student responses to the AI features provided, including feedback for essay assignments, plagiarism checking support, learning materials with automatic assessment, course suggestions based on student profiles, and grade predictions based on scores and student participation.

Table 1. The Suevei Questionnaire Accompanied by AI Integration Design in Moodle E-learning

Questionnaire	AI Integration Design in Moodle E-learning
<p>Providing fast feedback for Essay assignments via Artificial Intelligence (AI).</p>	
<p>Providing plagiarism checking support and word usage suggestions via Artificial Intelligence.</p>	
<p>Providing learning materials in the form of portable and interactive e-books that integrate text, audio, video and other multimedia content with automatic self-assessment.</p>	
<p>Providing suggestions for the next semester's courses based on student profiles.</p>	
<p>Providing grade predictions based on current scores and participation in courses.</p>	



The survey was conducted online, starting with designing a questionnaire using the Google Form platform. The questionnaire is equipped with a design display for AI integration in the Moodle e-learning platform which is designed to explore student responses. Respondents were asked to provide answers in the form of a Likert scale (1-10) and open questions. After the questionnaire has been designed, the next step is to distribute it via the student WhatsApp group at each UPBJJ Open University. Messages containing an invitation to complete the survey were distributed via the WhatsApp group by providing a Google Form link to all group members. Students can then click on the link and fill out the questionnaire online. The collected data is then analyzed and interpreted to identify trends or patterns in student responses to the integration of AI in the Moodle e-learning platform at the Open University.

3. RESULT AND DISCUSSION

Results

This research data consists of respondents' responses to the AI integration design in the Moodle e-learning platform at the Open University. Data was obtained from the results of filling out a questionnaire using Google Form which was distributed via the student WhatsApp group. The results of the research showing the participation of 435 students from all UPBJJ Open Universities are presented in Table 2. This number of respondents represents the views and responses of Open University students spread across various regions and abroad regarding the design of AI integration in the Moodle e-learning platform.

Table 2. The Research Respondents

Origin	Gender		Amount
	Man	Woman	
Overseas Student Management Center	2	2	4
UPBJJ-UT Ambon	-	1	1
UPBJJ-UT Banda Aceh	2	2	4
UPBJJ-UT Bandar Lampung	6	15	21
UPBJJ-UT Bandung	21	25	46
UPBJJ-UT Banjarmasin	3	5	8
UPBJJ-UT Batam	2	3	5
UPBJJ-UT Bogor	5	9	14
UPBJJ-UT Denpasar	-	1	1
UPBJJ-UT Jakarta	12	23	35
UPBJJ-UT Jambi	1	1	2
UPBJJ-UT Jayapura	-	1	1
UPBJJ-UT Jember	3	11	14
UPBJJ-UT Kendari	-	1	1
UPBJJ-UT Kupang	2	1	3
UPBJJ-UT Majene	1	-	1
UPBJJ-UT Makassar	2	2	4
UPBJJ-UT Malang	9	15	24
UPBJJ-UT Manado	-	2	2

Origin	Gender		Amount
	Man	Woman	
UPBJJ-UT Mataram	-	1	1
UPBJJ-UT Medan	9	32	41
UPBJJ-UT Padang	3	9	12
UPBJJ-UT Palangka Raya	1	4	5
UPBJJ-UT Palembang	5	22	27
UPBJJ-UT Palu	-	1	1
UPBJJ-UT Pangkalpinang	2	4	6
UPBJJ-UT Pekanbaru	1	8	9
UPBJJ-UT Pontianak	9	17	26
UPBJJ-UT Purwokerto	6	14	20
UPBJJ-UT Samarinda	6	9	15
UPBJJ-UT Semarang	15	12	27
UPBJJ-UT Serang	3	5	8
UPBJJ-UT Surabaya	4	8	12
UPBJJ-UT Surakarta	1	8	9
UPBJJ-UT Tarakan	-	2	2
UPBJJ-UT Ternate	-	2	2
UPBJJ-UT Yogyakarta	4	17	21
Total	140	295	435

Deep data Table 2, this shows that the majority of respondents are women, with a percentage of 68% or 295 students. This shows the high involvement of female students in distance education. In addition, the distribution of respondents spread across various branch office areas or UPBJJ Open University provides broad geographical representation. In several large city areas, the level of respondent participation was quite high, for example UPBJJ-UT Bandung was 11% or as many as 46 students, followed by UPBJJ-UT Medan at 0.9% or as many as 41 students, while UPBJJ-UT Jakarta was 0, 8% or as many as 35 students. Meanwhile, the number of student participation from UPBJJ-UT Palembang and UPBJJ-UT Semarang was the same, namely 0.6 or 27 students. The high level of participation from several large cities indicates the level of awareness and readiness of students in adopting AI technology in the Moodle e-learning platform at UT.

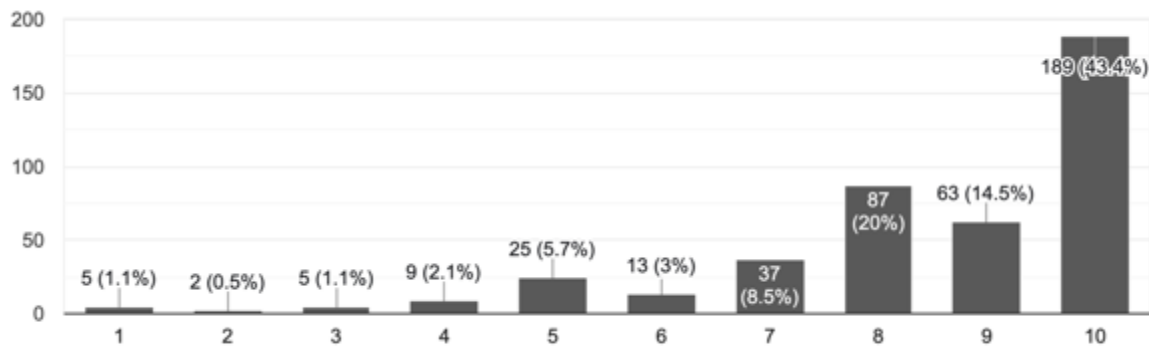


Figure 1. The AI Integration in Essay Assignments

The research results are presented in Figure 1 shows that the majority of respondents gave a positive response to the design of AI integration in the Moodle e-learning platform, related to providing feedback for essay assignments. A significant percentage of respondents gave high scores (scores 8-10), indicating that they appreciated the AI integration design in providing feedback for essay assignments. In this category, as many as 43.4% or around 189 students gave a score of 10, followed by 14.5% or around 63 students who gave a score of 9. As many as 20% or around 87 students gave a score of 8, while 8.5% or around 47 students gave a score of 7. Negative responses to the design were relatively rare, with only 13.5% or around 59 students giving a score of 1 to 6.

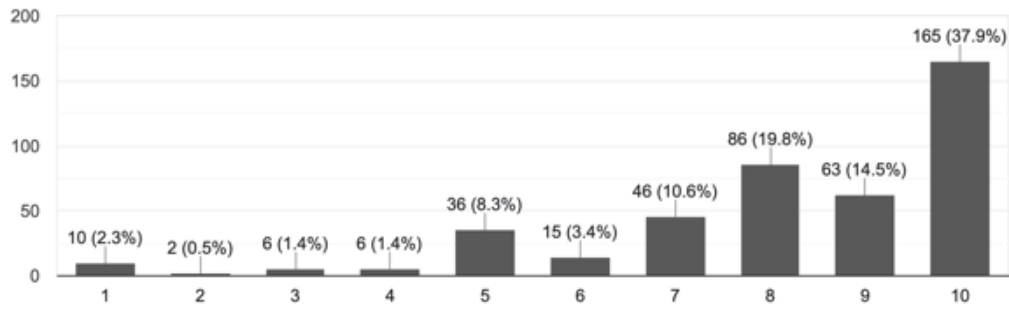


Figure 2. The AI Integration in Plagiarism Checking

As seen in Figure 2, that positive responses were also given by the majority of respondents when shown the AI integration design in the Moodle e-learning platform related to providing plagiarism checking support. A total of 37.9% or around 165 students gave a score of 10, followed by 14.5% or around 63 students who gave a score of 9. A total of 19.8% or around 86 students gave a score of 8, while 10.6% or around 46 students gave a score of 7. Negative responses to the design were relatively rare, with only 17.3% or around 75 students giving a score of 1 to 6. The high percentage of respondents who gave a high score shows that the use of AI in checking plagiarism is considered effective by students. The speed and accuracy of AI in identifying potential plagiarism in student writing is a factor that causes the majority of respondents to give high scores. This support provides students with a sense of security and confidence that their writing has gone through a thorough and reliable review process.

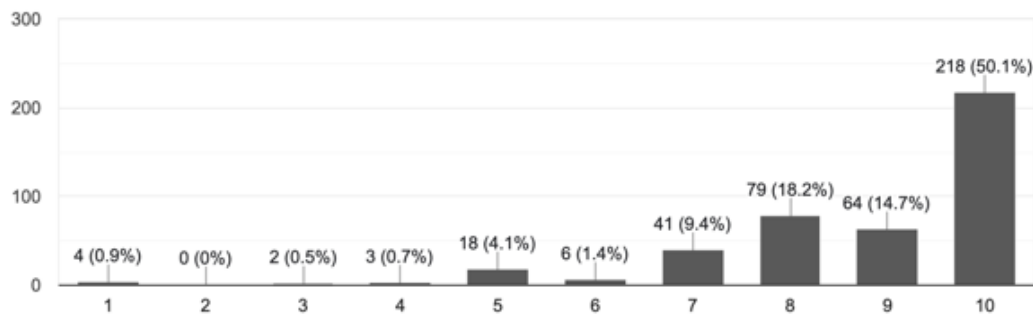


Figure 3. The AI Integration in Learning Materials and Automated Assessment

On Figure 3, also showed that the majority of respondents also gave positive responses when shown the AI integration design in the Moodle e-learning platform related to providing learning materials with automatic assessment. A total of 50.1% or around 218 students gave a score of 10, followed by 14.7% or around 64 students who gave a score of 9. A total of 18.2% or around 79 students gave a score of 8, while 9.4% or around 41 students gave a score of 7. Negative responses to the design were relatively rare, with only 7.6% or around 33 students giving a score of 1 to 6. AI's ability to automatically provide assessments quickly and accurately was the factor that caused the majority of respondents to give high scores. Students benefit from instant responses and objective assessments, which help them to understand how far they have understood the material and how their learning is progressing.

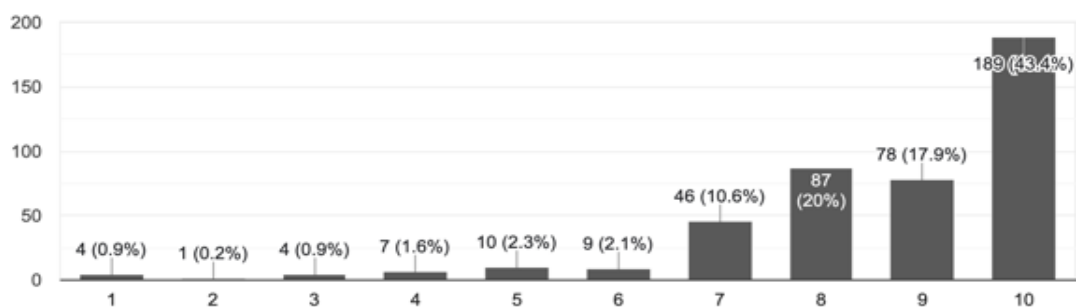


Figure 4. The AI Integration in Course Recommendations

On Figure 4, shows that a positive response was also given by the majority of respondents when shown the AI integration design in the Moodle e-learning platform related to providing course suggestions based on student profiles. A total of 43.4% or around 189 students gave a score of 10, followed by 17.9% or around 78 students who gave a score of 9. A total of 20% or around 87 students gave a score of 8, while 10.6% or around 46 students gave a score 7. Negative responses to the design were relatively rare, with only 8% or around 35 students giving a score of 1 to 6. The importance of course suggestions tailored to the student's profile was the main factor in receiving a positive response from respondents. Students feel the benefits of getting recommendations for courses that are relevant to their interests, abilities and learning goals. With personalized advice, students can feel more focused and have higher motivation in pursuing their educational goals.

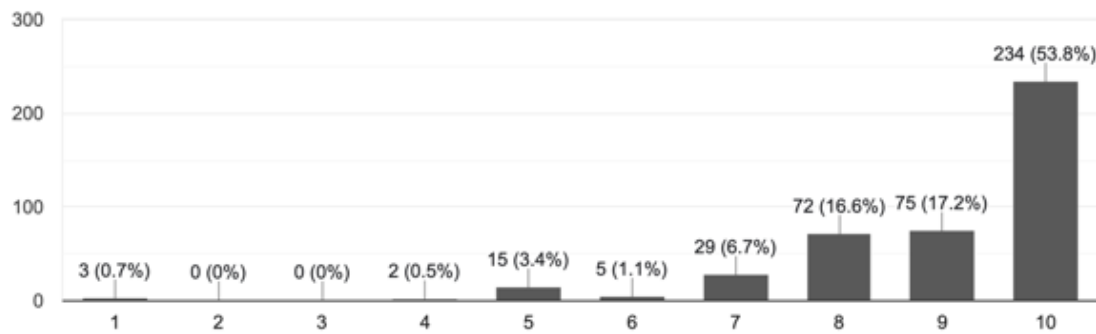


Figure 5. The AI Integration in Value Prediction

On Figure 5, shows that a positive response was also given by the majority of respondents when shown the AI integration design in the Moodle e-learning platform related to providing grade predictions based on scores and student participation. A total of 53.8% or around 234 students gave a score of 10, followed by 17.2% or around 75 students who gave a score of 9. A total of 16.6% or around 72 students gave a score of 8, while only 6.7% or around 29 students who gave a score of 7. There were relatively few negative responses to the design, with only 5.7% or around 25 students giving a score of 1 to 6. The positive response given by the majority of respondents shows that the AI integration design in the Moodle e-learning platform can provide significant benefits for students. Accurate and detailed grade predictions can help students monitor their progress, identify areas that need improvement, and take appropriate remedial steps.

Discussion

AI Integration in Essay Assignments

The majority of respondents gave high scores to the AI's speed and responsiveness in providing relevant and constructive feedback to tasks. Quick and useful feedback can provide additional motivation for students to improve the quality of their writing (Manongga et al., 2022; Sediyono et al., 2022). AI is able to analyze and evaluate essay assignments quickly and consistently. This avoids delays in providing feedback by lecturers or tutors, so students get instant responses. In distance education, where direct communication is limited, rapid feedback becomes important to maintain student motivation and confidence. Apart from that, AI is also considered capable of providing more objective feedback and is not influenced by human subjectivity factors. In the performance appraisal process, objectivity is essential to avoid bias or personal preferences that could influence the appraisal. With AI, assessments become fairer and more measurable (Marcinkowski et al., nd; Vrontis et al., nd).

With AI, students hope that the assessment of essay assignments will be more consistent. AI applies predetermined assessment criteria in a consistent manner to each submitted task. This helps students understand assessment expectations and improve the quality of their writing based on the feedback received. In addition, AI makes it possible to assess essay assignments on a larger scale. So the benefits of using AI in assessing essay assignments are not only felt by students, but also by lecturers or tutors. With AI, assessments can be carried out automatically and efficiently, thereby handling a greater number of assignments and ensuring that feedback can be provided to all students (Ahmad et al., 2021; Rizer & Watney, nd).

AI Integration in Plagiarism Checking

AI's superiority in analyzing and comparing texts with widely available sources can help students understand the importance of academic integrity and avoid plagiarism practices (Abdi et al., 2017; Belani, 2023). In this way, students can understand the consequences of plagiarism and the importance of respecting other people's work by citing sources correctly. This feature provides an opportunity for students to learn and improve their writing skills. With the plagiarism checking feature using AI, academic integrity can be significantly improved (Khasinah, 2021; Siddhpura & Siddhpura, nd). Students become more aware of the importance of academic integrity and work more honestly and responsibly in writing their assignments. This creates a fair and supportive learning environment, where each student is rewarded for their efforts and original written work. In checking plagiarism, AI is able to carry out a more in-depth and accurate analysis of the submitted text. AI uses sophisticated algorithms to compare text with sources in the database, be they journals, articles or other written works (Cioffi et al., nd; Disantara, nd). This helps identify similarities or acts of plagiarism with a high degree of accuracy. AI can check plagiarism quickly and efficiently, especially on a large scale, the benefits of which will also be felt by lecturers or tutors. In distance education, where the number of assignments submitted by students can be very large, this feature becomes very valuable.

AI Integration in Learning Materials and Automated Assessment

By using AI for automated grading, students can receive instant feedback after completing an assignment or exam. This helps students gain a quicker understanding of their performance strengths and weaknesses (Mujiono, nd; Nurhasanah et al., nd). In distance education where fast response is critical, this feature provides students with a motivational boost to continue learning and improve their understanding. In addition, automatic assessments using AI tend to be more objective than human assessments which can be influenced by subjectivity factors or personal tendencies (Commerford et al., 2020; Jarrahi, 2018). With an objective assessment, students feel that they are being assessed fairly and on an equal footing with the same standards. This helps create a transparent learning environment and eliminates the possibility of bias in assessments. The automated assessment feature with AI also allows students to monitor their learning progress more effectively. Through the feedback provided, students can identify areas that need improvement and focus on aspects that require more attention. With more detailed monitoring, students can better organize their learning strategies and optimize their time and effort in achieving desired results. The automated grading feature with AI also enables grading of assignments at scale (Hooda et al., nd; Mujiono, nd). So in a distance education environment, where the number of students taking online courses can be very large, this feature becomes very important not only for students but also lecturers or tutors. Lecturers or tutors can efficiently assess assignments from many students without having to spend a long time completing assessments manually.

AI Integration in Course Recommendations

The integration of AI in e-learning which provides course suggestions based on student profiles occurs because by using AI technology, e-learning can collect and analyze detailed student profile data, such as interests, academic background and learning preferences. This allows the system to provide more personalized and relevant suggestions to each student based on their individual characteristics. Apart from that, this feature can help students face the challenges of choosing courses that suit their interests and needs. In distance education, students sometimes face difficulties in understanding the curriculum and choosing courses that suit their learning goals (Khanal et al., nd; Selvaraj et al., nd). With course suggestions based on student profiles, students can get more specific and targeted guidance in choosing courses that are relevant to their interests and needs. AI integration in e-learning can also identify emerging trends and patterns based on overall student profile data. In this way, the system can provide smarter suggestions and keep up with the latest developments in courses that are of interest to students in general (Mujiono, nd; Putu Unik Indrayani & Sumantri, 2021). With relevant course suggestions, students can feel supported and helped in choosing courses that are interesting and suit their interests. This can increase student motivation and involvement in the learning process.

AI Integration in Value Prediction

The integration of AI in e-learning which provides grade predictions based on scores and participation makes it easy for students to monitor their academic progress in real-time. By using student score and participation data, AI can perform analysis and produce grade predictions that can help students understand the extent to which they have achieved their learning targets (Afzaal et al., nd; Deo et al., nd). This provides a clearer picture of their learning progress and helps them take appropriate corrective steps. Apart from that, the predicted grades provided by AI can provide additional motivation for students. By

knowing their predicted grades, students can feel motivated to improve their academic performance and achieve better results. This feature can also provide positive encouragement in facing learning challenges, because students can see their progress directly and feel more involved in the learning process. Through grade predictions, students can see certain parts of the learning material that may require more attention or deeper understanding. This way, they can focus on the aspects that need improvement and take appropriate steps to improve their academic performance. The positive response from students to this feature can also be caused by the accuracy of the grade predictions provided by AI. If these grade predictions prove accurate and reliable, students will have more confidence in using them as a guide to managing their study time and efforts (Sanjaya et al., 2024; Vincent et al., 2024).

This research provides significant insight into how the integration of AI in the Moodle e-learning platform at the Open University can improve the student learning experience. The research results show that the majority of respondents gave positive responses to various AI features, such as essay assignment feedback, plagiarism checking, automatic grading, course suggestions, and grade predictions. The implication of these findings is that the use of AI can increase the efficiency and effectiveness of the distance learning process. Increasing student motivation and involvement in the learning process can also have a positive impact on their academic results. The implementation of AI in e-learning can also be a model for other educational institutions that want to adopt similar technology to improve the quality of distance education. Although this research provides many valuable insights, there are several limitations that need to be noted. First, this study only uses data from one university, so the results may not fully represent the situation in other educational institutions. Second, respondent participation obtained through WhatsApp groups may not be completely random and may introduce bias in the sample. Additionally, this study used a questionnaire that may not fully capture the complexity of students' experiences with e-learning platforms. Third, because this research is based on student perceptions, the results may be influenced by subjective perceptions and do not fully reflect the objective effectiveness of the AI integration.

This study has noteworthy strengths. This research includes a fairly large and diverse sample, with respondents from various regions in Indonesia and abroad, thus providing a comprehensive picture of the views of Open University students. This research explores various aspects of AI integration in e-learning, from assignment feedback to grade prediction, providing a broad understanding of the potential benefits of AI in education. The results of this research show that there is positive acceptance from students towards the integration of AI, which shows their readiness and interest in new technology in learning. These findings can provide a strong basis for further development and implementation of AI in e-learning in the future.

4. CONCLUSION

This research reveals that the integration of Artificial Intelligence (AI) in e-learning platforms, especially Moodle at the Open University (UT), has great potential to improve the quality of distance learning. The majority of students responded positively to the speed and consistency of feedback provided by AI, which helped them improve their writing quality and learning motivation. AI also shows excellence in plagiarism checking, automatic grading, and providing relevant course recommendations based on student profiles. Additionally, AI-generated grade predictions help students monitor their academic progress in real-time, providing additional motivation to achieve better results. This research confirms that the use of AI in e-learning not only increases the efficiency and objectivity of assessment, but also provides significant support in students' independent learning, creating a learning environment that is more fair, transparent and responsive to individual needs. It is hoped that the results of this research can serve as a guide for UT and other educational institutions in developing and optimizing the use of AI to increase the effectiveness of distance learning.

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