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Adaptive Learning Using Online Learning Website (E-Learning) for Students Akademi Bisnis Lombok

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abstract
Digital-based learning in today's era has become a necessity to improve the quality of learning. This is due to the challenges of the times that require every educational institution to continue to innovate and develop in this digital era. The large number of students choosing online programs also poses a challenge for educational institutions to create learning that is safer, more comfortable, and more flexible. Therefore, this study analyzes the impact of using e-learning platforms at the Akademi Bisnis Lombok in supporting every lecture process, both in regular and online programs. We found that the impact of using this platform is significant and positive. This can be seen from the responses of lecturers and students who feel that this platform has helped them during the lecture process. However, on the other hand, there are still several aspects that need to be developed in the future to create a platform that can support learning needs comprehensively.

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1. INTRODUCTION

Adaptive learning is an educational approach that utilizes technology to provide personalized learning experiences tailored to the needs, preferences, and progress of each student [1]. In recent years, educational technology has developed rapidly. When learning experiences are customized, e-learning content becomes richer and more diverse [2], [3].

This approach uses data-driven algorithms and artificial intelligence to dynamically adjust content, delivery methods, and learning pace based on student performance and engagement levels. By adapting to the specific needs of each student, adaptive learning promotes effective and efficient learning, maximizes engagement, and improves educational outcomes. We explore the importance of adaptive learning in e-learning, highlighting its benefits [4].

Recently, adaptive e-learning has become an approach widely applied by higher education institutions. The adaptive e-learning environment is a growing field of research that focuses on development approaches to meet student learning styles by adjusting the learning environment in the learning management system to change the concept of e-learning content delivery. Adaptive learning is a learning process in which content is taught or adjusted based on student learning style responses or preferences [5].

E-learning produces positive learning outcomes, such as high achievement levels and higher-order thinking skills, because it allows learners to actively engage in the learning process anytime and anywhere [1], [6]. Adaptive online learning dynamically adjusts the level of instruction based on students' learning styles and personalizes instruction to improve or accelerate student success. Tailoring instruction to each student's strengths and content needs can reduce dropout rates, improve student learning outcomes, and accelerate achievement. Personalized

learning approaches focus on providing effective, tailored, and efficient learning paths so that every student can participate in the learning process [7]. Learning styles, on the other hand, are an important issue in 21st-century learning, where students are expected to actively participate in developing their self-understanding and engagement with their environment [8], [9].

Educators and practitioners must be equipped with the ability to effectively utilize artificial intelligence (AI) technologies and applications, adapting them to enhance learning experiences in specific educational contexts. Furthermore, it is crucial to explore how traditional skills such as critical thinking, collaboration, and creativity can be integrated and developed in AI-driven educational environments. In addition, there is an urgent need for researchers to conduct more rigorous and comprehensive research on the application of AI technology in the field of learning and teaching [10]. Referring to UNESCO's recommendations for stakeholders in the education sector, this report highlights the need to explore the complex implications of AI in educational environments, particularly how AI redefines essential skills and presents both opportunities and challenges in contemporary educational environments in the AI era [4], [11].

The use of modern technology to shape students' expectations and "their ability to access, acquire, manipulate, construct, create, and communicate information" in this digital context has led to student success [12]. Personalized learning platforms known as "adaptive learning systems" (ALS) can be used to create lessons tailored to students' learning styles and preferences, as well as the sequence and level of difficulty of tasks [13].

On the other hand, although student engagement has become a major issue in learning, it is also an indicator of the quality of education and whether active learning is taking place in the classroom [1], [14]. Further research on engagement is needed because the assessment of student engagement is a predictor of learning and academic progress. It is important to clarify the difference between causal factors such as the learning environment and outcome factors such as achievement. Therefore, student engagement is an important research topic because it affects students' final grades and dropout rates [15].

Although the potential benefits of integrating AI/ML into e-learning platforms are enormous, there is still a lack of comprehensive research on its actual implementation, benefits, challenges, and overall impact. Understanding these aspects is crucial for educators, developers, and policymakers to harness the full potential of AI/ML-driven adaptive learning and overcome the associated challenges. Against this backdrop, this study aims to answer the following research questions:

a. How is the e-learning platform/website applied to adaptive learning?
b. What are the perceived benefits of using e-learning to support adaptive learning?
c. What challenges or limitations do educators and developers face when using e-learning for adaptive learning?
d. How does adaptive learning in the use of e-learning affect key metrics in education such as engagement, retention, and performance?

2. IMPLEMENTATION METHOD

The research method refers to a participatory community service approach, with the following structured stages:

a. Socialization: Conducted to introduce the objectives and benefits of e-learning to lecturers and students at the Akademi Bisnis Lombok.
b. Initial Survey: Identifying the needs and readiness of lecturers through brief interviews.
c. Direct Training: Training is conducted face-to-face, covering intensive theoretical and practical explanations.
d. Guidance and Evaluation: Lecturers and students are given further guidance and evaluated through initial and final tests.
e. Program Sustainability: This is done by providing online access and discussion forums for further program development.

Figure 1. Implementation of Activities

Figure 1 shows the flow of activities, from socialization to sustainability monitoring. Each stage is designed to support the process of systematically improving the capacity of lecturers and students.

The methods used include a qualitative approach. This approach is implemented through interviews and surveys to measure user understanding and satisfaction in order to explore user experiences. Furthermore, experiential learning-based training methods are used so that lecturers and students can directly apply the technology they have learned.

3. RESULTS AND DISCUSSION

Community service activities at the Akademi Bisnis Lombok were carried out on November 21, 2025, in order to improve and implement the use of online learning systems (e-learning) using a website-based application on the website https://learning.akbil.ac.id to improve the online learning system at the Akademi Bisnis Lombok.

After carrying out the entire series of activities as shown in Figure 1, the implementation of e-learning at the Akademi Bisnis Lombok had several positive impacts on lecturers and students in carrying out teaching and learning activities. For example, the e-learning platform made it easier to conduct online lectures, which was in line with several programs at the Akademi Bisnis Lombok that provided online lectures for some students. In interviews we conducted with several lecturers and students at the Akademi Bisnis Lombok, we found that the teaching and learning process was facilitated by several features available on the e-learning platform, such as the menu for uploading materials, the menu for creating and collecting assignments, the chat feature available to support class discussions, and several other positive impacts.

In the context of adaptive learning, e-learning platforms provide several conveniences to support the needs of students. However, despite the positive impacts of using e-learning platforms, there are several internal and external challenges and obstacles faced by the Akademi Bisnis Lombok.

Internally, the challenges and obstacles faced are that some teaching staff and students still need to adjust to using digital platforms such as e-learning. Some teaching staff are still unfamiliar with the use of digital platforms, so they still need some guidance so that the teaching and learning process using e-learning can be implemented perfectly. On the other hand, students also need guidance in using digital platforms, because most of them are still unfamiliar with the features available on e-learning, so it is necessary for each teacher to introduce some of the features available on e-learning.

In the external context, there are several challenges and obstacles faced in the use of this e-learning platform, ranging from the network, hosting system, integration system between features, to the use of different devices, as many still use old devices, so that on some devices, e-learning experiences obstacles or problems. However, as long as this e-learning platform is used or

introduced by the Akademi Bisnis Lombok, we can resolve these external problems in various ways.

On the other hand, in discussions related to key metrics in education such as engagement, retention, and performance in the use of e-learning, we found several important points during the use of e-learning. Although this platform is still under development, key metrics in education have already been felt in several areas, such as the engagement of students and teaching staff, which is accommodated in the e-learning platform because it provides several features that support engagement between students and teaching staff. This engagement can be achieved through active assignments and active class discussions that can be carried out on this e-learning platform. Furthermore, this e-learning platform does not reduce students' thinking skills because the features presented do not cause students to become complacent with the use of technology, such as consistent assignment collection using file submission, so students are still required to think critically in completing the tasks assigned.

The performance of educators and students is also presented in e-learning, as this platform facilitates online lectures, allowing lecturers and students to continue their lectures as usual with several conveniences. This can improve the performance of lecturers and students because online lectures are no longer constrained by time, allowing lectures to be conducted more flexibly.

This platform also provides storage features that have a positive impact on users, allowing students or lecturers to review course materials or assignments that have been completed. Students can repeat previous lessons through materials uploaded by lecturers. Students can review several assignments they have submitted, allowing them to understand which parts need to be adjusted in the future. This platform also helps solve some classic problems in education, such as losing past materials or students having to request learning files personally from lecturers. These problems can be solved through this e-learning platform, because students can view all past materials for review, which increases retention among students and lecturers alike through this platform.

From the above benefits, key metrics in education such as retention, engagement, and performance are still being achieved. However, some improvements are still needed so that these metrics can be fully realized in the future.

The use of digital technology in education improves the efficiency of the evaluation process, and technology can create a more adaptive learning environment. However, this study adds a contextual dimension by emphasizing that community-based training approaches have a more sustainable impact in resource-constrained areas. Thus, these results answer some of the questions raised in the introduction. Participatory and practice-based approaches have proven to be more effective in developing digital literacy in education than purely instructional approaches.

4. CONCLUSIONS

This study attempts to examine the extent to which educational outreach programs related to e-learning platforms have an impact on improving the quality of teaching and learning at the Akademi Bisnis Lombok. Based on the results and discussion above, we can conclude that the community service program related to improving the quality of learning through the e-learning platform has many positive impacts, including increased involvement of students and lecturers in every lecture process, especially in the lecture process of the Akademi Bisnis Lombok's online program.

In terms of performance and retention, it also has a positive impact, as students and lecturers have access to learning anytime and anywhere, without being hindered by any obstacles. The document storage feature in e-learning also provides great benefits for student and lecturer retention, so that past materials or assignments can still be accessed at a later date.

However, on the other hand, there are several challenges and obstacles in its implementation, such as the lack of digital literacy, the unfamiliarity of students and lecturers with the use of digital media, and several other external obstacles.

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6. BIOGRAFFY

[1] J. Lee, H. D. Song, and A. J. Hong, "Exploring Factors, and Indicators for Measuring Students' Sustainable Engagement in e-Learning," *Sustain. 2019, Vol. 11, Page 985*, vol. 11, no. 4, p. 985, Feb. 2019, doi: 10.3390/SU11040985.

[2] H. A. El-Sabagh and E. H. A. Hamed, "The Relationship between Learning-Styles and Learning Motivation of Students at Umm Al-Qura University," *Egypt. Assoc. Educ. Comput. J.*, vol. 8, no. 1, pp. 1–30, 2020, doi: 10.21608/eaec.2020.25868.1015.

[3] H. A. El-Sabagh, "Adaptive e-learning environment based on learning styles and its impact on development students' engagement," *Int. J. Educ. Technol. High. Educ.*, vol. 18, no. 1, 2021, doi: 10.1186/s41239-021-00289-4.

[4] I. Gligorea, M. Cioca, R. Oancea, A. T. Gorski, H. Gorski, and P. Tudorache, "Adaptive Learning Using Artificial Intelligence in e-Learning: A Literature Review," *Educ. Sci.*, vol. 13, no. 12, 2023, doi: 10.3390/educsci13121216.

[5] N. B. A. Normadhi, L. Shuib, H. N. Md Nasir, A. Bimba, N. Idris, and V. Balakrishnan, "Identification of personal traits in adaptive learning environment: Systematic literature review," *Comput. Educ.*, vol. 130, pp. 168–190, Mar. 2019, doi: 10.1016/J.COMPEDU.2018.11.005.

[6] P. S. D. Chen, A. D. Lambert, and K. R. Guidry, "Engaging online learners: The impact of Web-based learning technology on college student engagement," *Comput. Educ.*, vol. 54, no. 4, pp. 1222–1232, May 2010, doi: 10.1016/J.COMPEDU.2009.11.008.

[7] A. M. A. Hussein and H. K. M. Al-Chalabi, "Pedagogical Agents in an Adaptive E-learning System," *SAR J. - Sci. Res.*, pp. 24–30, Mar. 2020, doi: 10.18421/SAR31-04.

[8] P. Nuankaew, W. Nuankaew, K. Phanniphong, S. Imwut, and S. Bussaman, "Students Model in Different Learning Styles of Academic Achievement at the University of Phayao, Thailand," *Int. J. Emerg. Technol. Learn.*, vol. 14, no. 12, pp. 133–157, Jun. 2019, doi: 10.3991/IJET.V14I12.10352.

[9] H. M. Truong, "Integrating learning styles and adaptive e-learning system: Current developments, problems and opportunities," *Comput. Human Behav.*, vol. 55, pp. 1185–1193, Feb. 2016, doi: 10.1016/J.CHB.2015.02.014.

[10] J.-B. Son, N. K. Ružić, and A. Philpott, "Artificial intelligence technologies and applications for language learning and teaching," *J. China Comput. Lang. Learn.*, vol. 5, no. 1, pp. 94–112, Aug. 2025, doi: 10.1515/JCCALL-2023-0015.

[11] UNESCO, "Guidance for generative AI in education and research," *Guid. Gener. AI Educ. Res.*, 2023, doi: 10.54675/EWZM9535.

[12] T. D. Green and L. C. Donovan, "Learning Anytime, Anywhere through Technology," *Wiley Handb. Teach. Learn.*, pp. 225–256, Jul. 2018, doi: 10.1002/9781118955901.CH9.

[13] K. Pliakos, S. H. Joo, J. Y. Park, F. Cornillie, C. Vens, and W. Van den Noortgate, "Integrating machine learning into item response theory for addressing the cold start problem in adaptive learning systems," *Comput. Educ.*, vol. 137, pp. 91–103, Aug. 2019, doi: 10.1016/J.COMPEDU.2019.04.009.

[14] L. M. Nkomo, B. K. Daniel, and R. J. Butson, "Synthesis of student engagement with digital technologies: a systematic review of the literature," *Int. J. Educ. Technol. High. Educ. 2021 181*, vol. 18, no. 1, pp. 34-, Jun. 2021, doi: 10.1186/S41239-021-00270-1.

[15] A. Staikopoulos, I. Okeeffe, B. Yousuf, O. Conlan, E. Walsh, and V. Wade, "Enhancing student engagement through personalized motivations," *Proc. - IEEE 15th Int. Conf. Adv. Learn. Technol. Adv. Technol. Support. Open Access to Form. Informal Learn. ICALT 2015*, pp. 340–344, Sep. 2015, doi: 10.1109/ICALT.2015.116.