

DEVELOPMENT OF HYBRID LEARNING MANAGEMENT SYSTEM TO
IMPROVE THE QUALITY OF LECTURES AT SAYYID
ALI RAHMATULLAH STATE ISLAMIC UNIVERSITY TULUNGAGUNG

Khoirul Anam
State Islamic University (UIN) Sayyid Ali Rahmatullah
Tulungagung, Indonesia
E-mail: chasna.choir@gmail.com

Beni Asyhar
State Islamic University (UIN) Sayyid Ali Rahmatullah
Tulungagung, Indonesia
E-mail: asyhar_beni@yahoo.com

Corresponding Author: Khoirul Anam

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Abstract: The objective of this article is to develop a learning management system product with the intention of enhancing the quality of hybrid lectures at UIN SATU Tulungagung. The advent of the 21st century has seen the advent of a plethora of novel learning innovations, driven by the rapid advancement of information and communication technology. This represents a potential solution to the various conventional learning issues that have been identified. One such learning innovation product that employs the use of information and communication technology is e-learning. E-learning is a learning model that employs internet technology across a broad spectrum of applications. The objective of these innovations is to enhance the quality of learning. It is therefore important to facilitate the development and utilisation of e-learning. This article is based on research and product development conducted using the ADDIE model. This article presents the development of an e-learning application in the form of a Learning Management System (LMS), which has been designed to accommodate user needs and to allow for the adjustment of roles. The objective of this research is to develop valid, practical, and effective e-learning products. Expert validation indicates an average rating of 92%. The practicality of the application was assessed by users in terms of appearance, material, discussion, and ease of access, with an average rating of 86.39%. The

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effectiveness of the application was also evaluated based on student learning outcomes, with 82% of students exceeding the target of lecture completeness.

Keywords: Hybrid Learning, Learning Management System, LMS, Lecture Quality.

Introduction

It is customary for lectures to be conducted between lecturers and students within the confines of the classroom, with a fixed schedule. The conventional model of lecture activities is undoubtedly perceived as less effective and efficient. This is due to the fact that the potential for interaction between lecturers and students is not fully realised. Furthermore, students encountering difficulties in learning may find it challenging to communicate with their instructors. Conversely, it can also prove challenging for lecturers to oversee lecture activities in an optimal manner.

The advent of the Industrial Revolution 4.0 era necessitates a reorientation of human life towards technology. It is imperative that humans master technology, cyberspace, and big data, among other things. This will undoubtedly present a significant challenge to contemporary society. Furthermore, individuals are in close proximity to information and communication technology facilities. The utilisation of information and communication technology, including e-banking, e-payment, e-commerce, online transportation and other online services, is pervasive, with such services not only prevalent in major urban centres but also increasingly accessible in smaller cities. Consequently, the issues confronting society are becoming increasingly intricate. Consequently, education, including higher education, is anticipated to offer a solution to this problem. It is expected that learning in higher education will employ information and communication technology to enhance the lecture process without compromising the quality of education.¹

It is therefore anticipated that the academic community and society in general will possess new literacies, namely technological

¹ Layanan Informasi Direktorat Jenderal Pembelajaran dan Kemahasiswaan Kemendikbud, "Menristekdikti Luncurkan E-Learning/ Hybrid Learning, Strategi Pendidikan Tinggi Untuk Kaum Milenial," accessed August 22, 2020, <https://spada.kemdikbud.go.id/berita/menristekdikti-luncurkan-e-learning-hybrid-learning-strategi-pendidikan-tinggi-untuk-kaum-milenial>.

literacy, data literacy and humanitarian literacy. It is evident that the advent of information and communication technology has the potential to serve as a conduit for disseminating local wisdom and fostering a sense of national identity that is anchored in the ethical principles espoused by Pancasila.

The advancement of information and communication technology has facilitated the advent of novel pedagogical approaches in higher education. The advent of learning innovations offers a potential solution to the challenges inherent in conventional learning methodologies. One such learning innovation product that adapts the utilisation of information and communication technology is e-learning. E-Learning is a learning model that utilises internet technology in a wide variety of ways. There are at least three criteria that serve to illustrate the importance of E-Learning: (1) E-Learning is a network that can update, store and distribute teaching materials; (2) E-Learning delivers information to the final user with a computer connected to a standard internet network; and (3) E-Learning focuses on a more expansive approach to learning than that which is typical of conventional learning.²

The global pandemic has compelled educational institutions worldwide to utilise Learning Management Systems (LMS) as a means of conducting lectures. A review of research in the Southern European region indicates that the majority of students are able to engage actively with lecturers and fellow students during lectures, either through asynchronous content or real-time interaction.³ In some large campuses, an LMS has been employed to support online lectures. For instance, on several campuses in Saudi Arabia, students' LMS usage preferences are shaped by a range of factors, including performance expectations, effort expectations, social influence, and facilitating conditions.⁴

² Marc J. Rosenberg, *E-Learning: Strategies for Delivering Knowledge in the Digital Age* (New York: McGraw-Hill Education, 2001), 28.

³ Mark Anthony Camilleri and Adriana Caterina Camilleri, "The Acceptance of Learning Management Systems and Video Conferencing Technologies: Lessons Learned from COVID-19," *Technology, Knowledge and Learning* 27, no. 4 (December 1, 2022): 1311–33, <https://doi.org/10.1007/s10758-021-09561-y>.

⁴ Yaser Hasan Salem Al-Mamary, "Understanding the Use of Learning Management Systems by Undergraduate University Students Using the UTAUT Model: Credible Evidence from Saudi Arabia," *International Journal of Information Management Data Insights* 2, no. 2 (November 1, 2022): 100092, <https://doi.org/10.1016/j.ijime.2022.100092>.

Research conducted at Mehralborz University in Iran indicates that students' continued utilisation of the Learning Management System (LMS) is contingent upon their perception of the system's benefits. To date, the deployment of the LMS has become a reliable and flexible option for students to remain connected to the lecture process on campus.⁵ The evolution of the LMS should be aligned with individual requirements while simultaneously responding to the demands of key stakeholders. Personalised learning is likely to emerge as the dominant paradigm in the future.⁶

In the Indonesian context, for instance at IAIN Surakarta, an LMS based on the Moodle platform has been developed. However, the utilisation of Moodle-based e-learning is suboptimal with regard to the implementation and evaluation of learning. Therefore, it is necessary to enhance the quality of applications, supporting facilities and user capabilities.⁷ Based on this description, innovations to improve the quality of learning by utilising e-learning are of paramount importance.

The objective of this study is to develop and assess the viability of hybrid learning applications in lecture activities at UIN SATU Tulungagung. Given the nature of the research, a research and development approach is deemed appropriate. Research and development can be defined as research conducted with the intention of producing a specific product. This is achieved through a process of analysing needs and testing the effectiveness of the product in question, with the ultimate goal of ensuring its functionality within society.⁸ In this research, the product under development is a hybrid learning management application.

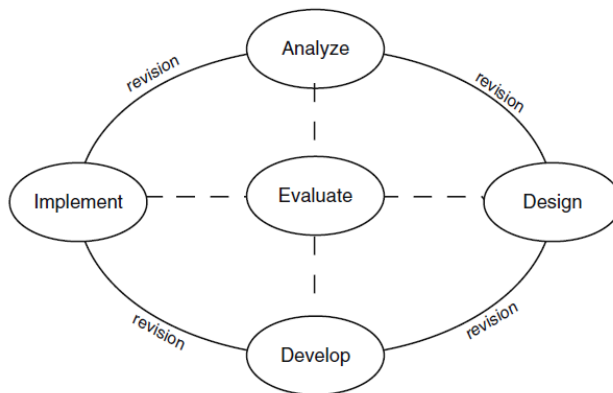
⁵ Amir Ashrafi et al., "Exploring Factors Influencing Students' Continuance Intention to Use the Learning Management System (LMS): A Multi-Perspective Framework," *Interactive Learning Environments* 30, no. 8 (July 4, 2022): 1475–97, <https://doi.org/10.1080/10494820.2020.1734028>.

⁶ Deepak Kem, "Personalised and Adaptive Learning: Emerging Learning Platforms in the Era of Digital and Smart Learning," *International Journal of Social Science And Human Research* 05, no. 05 (March 4, 2022): 385–91, <https://doi.org/DOI:10.47191/ijsshr/v5-i2-02>.

⁷ Imam Makruf, Andi Arif Rifa'i, and Yunika Triana, "Moodle-Based Online Learning Management in Higher Education," *International Journal of Instruction* 15, no. 1 (January 2022): 135–52.

⁸ Sugiyono, *Metode Penelitian Kuantitatif Kualitatif Dan Re&D* (Bandung: Alfabeta, 2016), 615.

Figure 1. ADDIE research flowchart



The research employs the ADDIE model as its development model. The model comprises five stages: analysis, design, development, implementation and evaluation.⁹ The ADDIE model has frequently been employed in educational institutions that are structured in alignment with defined learning objectives. In terms of the philosophical foundation of education, the ADDIE model is student-centred, innovative, authentic and inspirational. The utilisation of ADDIE for the creation of learning applications entails the deployment of efficacious instruments. The sequence of activities involved in the ADDIE development model is illustrated in Figure 1.¹⁰

The development procedure in this study can be explained as follows.

a. *Analysis*

The objective of the present research is to analyse the necessity for the development of hybrid learning applications in the lecture system at UIN SATU Tulungagung. At this stage of the analysis, the characteristics of students and lecturers were examined. The analysis of students was conducted in order to ascertain their characteristics during the learning process. Meanwhile, the analysis of lecturers was carried out with a view to identifying the optimal lecture model.

b. *Design*

⁹ Robert Maribe Branch, *Instructional Design: The ADDIE Approach* (Boston: Springer, 2009), 2, <https://doi.org/10.1007/978-0-387-09506-6>.

¹⁰ *Ibid.*, 6.

The objective of this stage is to devise the visual identity of the Hybrid Learning application. The planning process for this Hybrid Learning application is structured in three phases: navigation structure design, display design, and application storyboard.

c. *Development and Implement*

This stage is the development and implementation stage of the Hybrid Learning application. The process at this stage is divided into 3 activities, namely:

- 1) Application development, namely making Hybrid Learning applications according to the design and storyboard that has been determined.
- 2) Expert validation, the developed application is validated by IT experts and learning technology experts.
- 3) Revision. The stage of improving the Hybrid Learning application after being given input by experts during validation activities.

d. *Evaluation*

This phase of the study is concerned with the testing of the hybrid learning application. The trial was conducted in the context of regular lecture classes, with lecturers from the Faculty of Tarbiyah and Teaching Sciences at UIN SATU Tulungagung serving as instructors. In order to obtain both qualitative and quantitative data, the study employed a variety of data collection techniques, including questionnaires, observations, and interviews. Qualitative data analysis was conducted concurrently with data collection and subsequently. Quantitative data is represented by scores from instruments, comprising assessments from IT/application experts and application users. The scores from the assessment of the instruments distributed are then analysed in the following manner: (1) the letter data is tabulated into scores, (2) the average score is calculated, and (3) the data is converted from the average score.

Hybrid Learning Application Development Process

The process of developing an application begins with a comprehensive analysis of the problem at hand, followed by the design phase and the creation of a preliminary product draft. Finally, the final product is produced.

1. Analysis

In consequence of the global pandemic of the novel coronavirus, the lecture system at UIN SATU Tulungagung has been conducted online via a Learning Management System (LMS). The LMS has been developed based on Moodle, with some content adjustments made according to the characteristics of the learning system and the characteristics of the students. It should be noted that not all content or menus can be adjusted according to the characteristics of the learning system and students; rather, the LMS has been developed to include only those facilities provided by Moodle. The developed LMS is available on the page <https://elearning.uinsatu.ac.id>.

A review of the LMS developed by UIN SATU Tulungagung, based on observations of lecturers and students, revealed that it still requires further modification in order to align with the learning system and the characteristics of students and lecturers. From the perspective of the learning system, this LMS requires ongoing development to provide support for lecturers, facilitating both online and offline learning. In terms of the lecturers and students, this LMS requires modification so that the facilities, content, and menus available can be adapted to align with the characteristics of lecturers and students, ensuring ease of operation.

The previously developed LMS is unable to be tailored to align with the specific characteristics of the learning system at UIN SATU Tulungagung and is not user-friendly. Therefore, it is essential to develop an LMS that supports the distinctive features of the learning system and the needs of lecturers and students. The sophisticated functionality of Moodle presents a challenge for lecturers and students alike, making it difficult for them to operate a Moodle-based LMS. Consequently, this development research aims to create an LMS that can be tailored to the specific characteristics of the learning system at UIN SATU Tulungagung, offering a user-friendly and accessible alternative.

2. Design

The objective of this stage is to devise the visual identity of the Hybrid Learning application. The planning of this hybrid learning application is comprised of three distinct stages: navigation structure design, display design, and application storyboard.

The objective of the navigation structure is to organise website pages or link between pages on the website with hypertext. The navigation structure employed in this research project employs a series or network structure, which represents the connection between one website document that lacks any discernible overall structure. The hypertext is constructed with a discernible hierarchy, which is arranged in a series of stages.

In the design stage, specifications are established regarding the LMS architecture, style, appearance, and LMS requirements. This stage provides a detailed account of the guidelines for the design of the admin, lecturer, and student account displays. Subsequently, a storyboard is constructed to delineate the plan for the visual appearance of the website, delineating the visual display for each page or menu on the website. One column in the storyboard represents one visual display on the website screen. This storyboard is employed to facilitate the product development process. At this stage, a preliminary plan for the appearance of the application is formulated as the basis for website development. The storyboard of the developed website is presented in Table 1 below.

Table 1. E-learning Website Storyboard

No	Visual Display	Description
1	<div style="text-align: center;"> <p>Dashboard Login</p> <p>Selamat Datang di E-Learning</p> <p>Universitas Islam Negeri Sayyid Ali Rahmatullah Tulungagung</p> <p>XX</p> <p>XX</p> <p>XX</p> </div>	Initial visual display of the LMS application
2	<div style="text-align: center;"> <p>Profil User e-learning Admin TA/Semester</p> <p>Dashboard Jumlah Kelas Jumlah Mhs Jumlah Dosen Jumlah Prodi</p> <p>Kelas Selamat Datang di E-Learning</p> <p>Pengguna Universitas Islam Negeri Sayyid Ali Rahmatullah Tulungagung</p> <p>Master Data XXX</p> <p>Semester XXX</p> <p>Fakultas XXX</p> <p>Prodi</p> </div>	Visual display of the center/university super admin account

No	Visual Display	Description
3	Profil User e-learning Dosen TA/Semester Dashboard Jumlah Kelas Jumlah Prodi Kelas Selamat Datang di E-Learning Universitas Islam Negeri Sayyid Ali Rahmatullah Tulungagung xxx xxx xxx	Visual display of lecturer account
4	Profil User e-learning Mahasiswa TA/Semester Dashboard Kelas Selamat Datang di E-Learning Universitas Islam Negeri Sayyid Ali Rahmatullah Tulungagung xxx xxx xxx	Visual display of student account

3. Development and Implement

This stage is the development and implementation stage of the Hybrid Learning application. The process at this stage is divided into 3 activities, namely:

a. Application Development

This phase entails the creation of hybrid learning applications in accordance with the pre-established design and storyboard. Based on the previously determined design and storyboard, the researcher/developer commenced the process of assembling the visual identity of the LMS and the content of each menu in alignment with the roles that apply at UIN Sayyid Ali Rahmatullah Tulungagung. The development outcomes are illustrated in Figures 2 to 28.

Figure 2. Initial view of the LMS

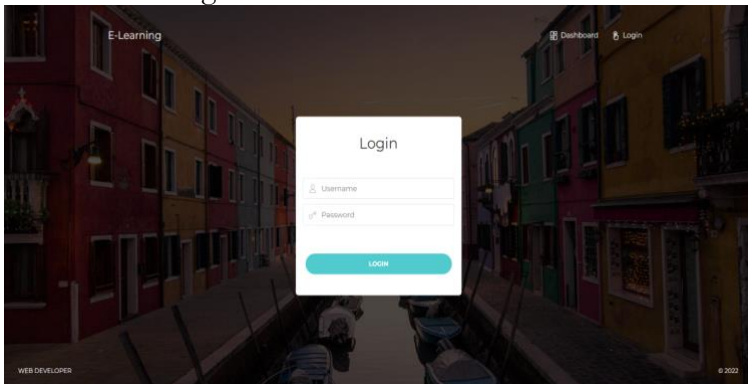


Figure 3. Initial view of the super admin account

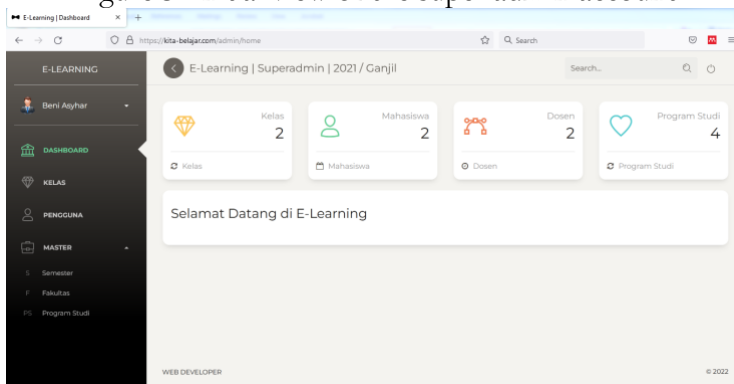


Figure 4. Dashboard view of lecturer account

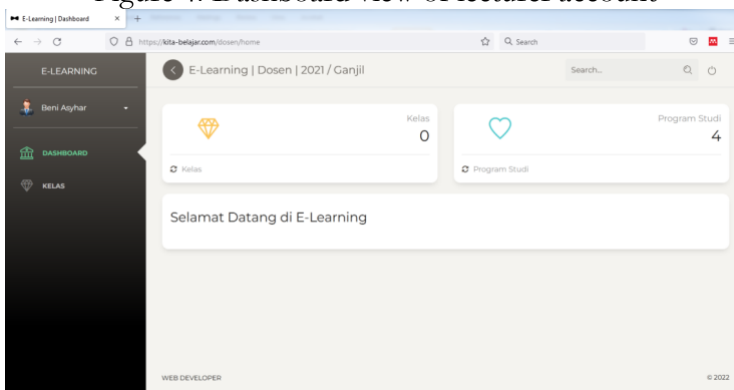


Figure 5. Student account dashboard view

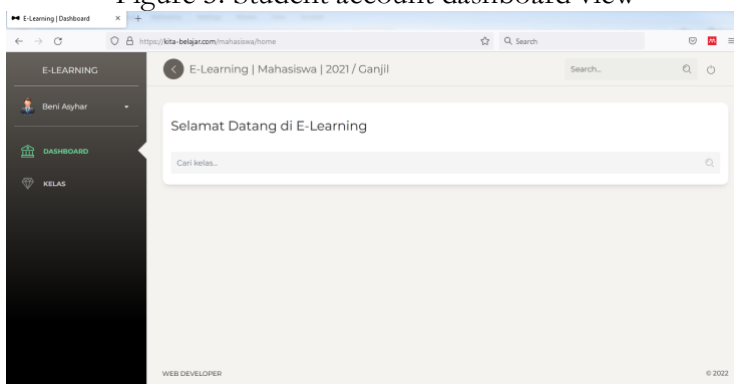


Figure 6. Dashboard view of super admin account adding users

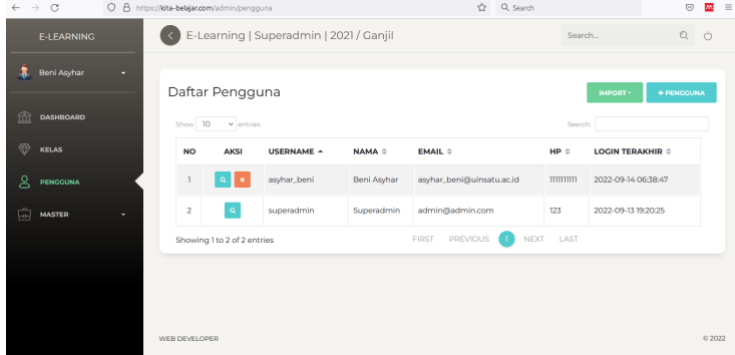


Figure 7. Dashboard view of the process of adding users

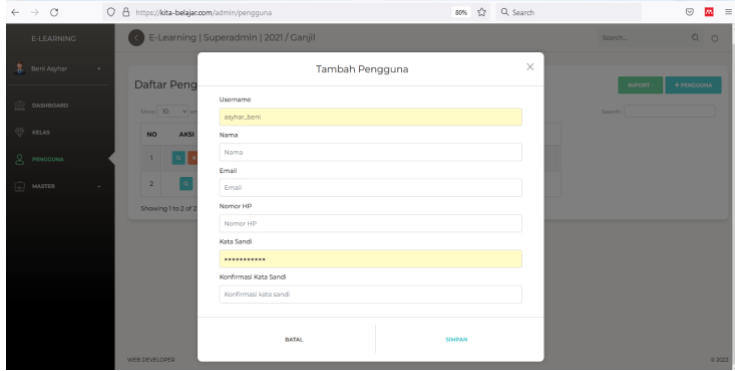


Figure 8. Lecture class view

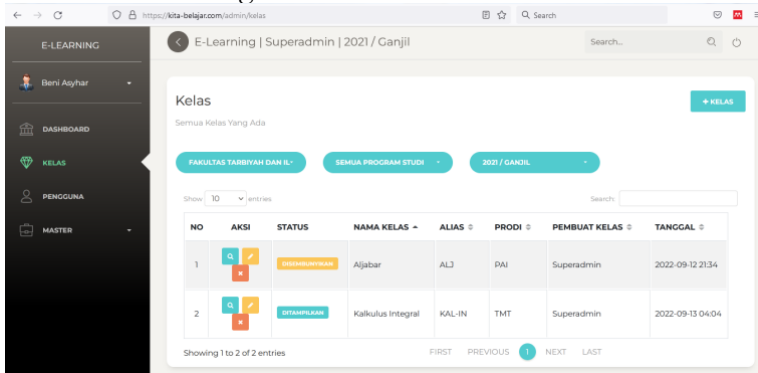


Figure 9. Dashboard view of the process of adding a class

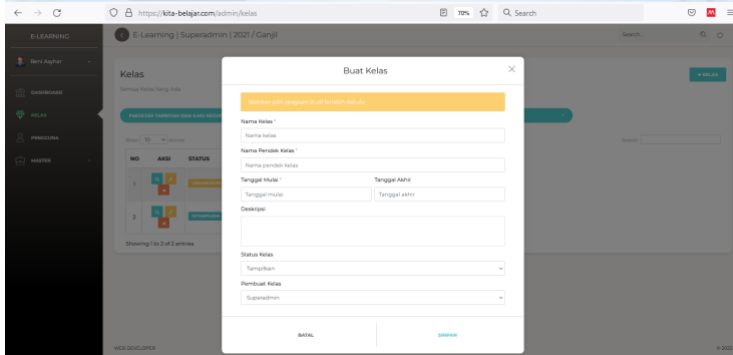


Figure 10. Semester dashboard view

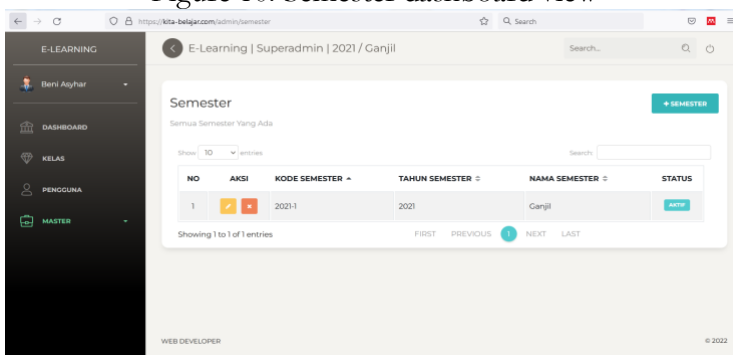


Figure 11. Dashboard view of the process of adding a semester

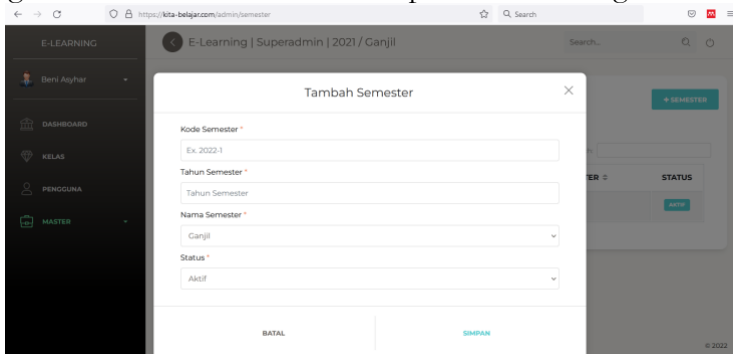


Figure 12. Faculty dashboard view

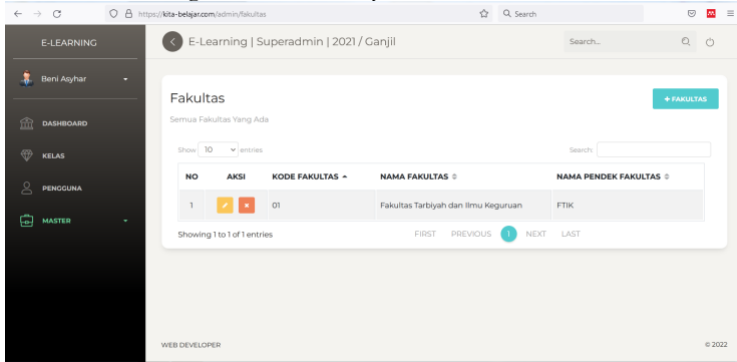


Figure 13. Dashboard view of the process of adding faculty

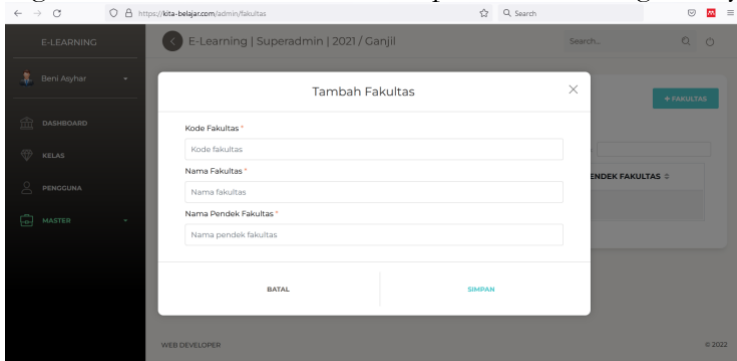


Figure 14. Study program dashboard view

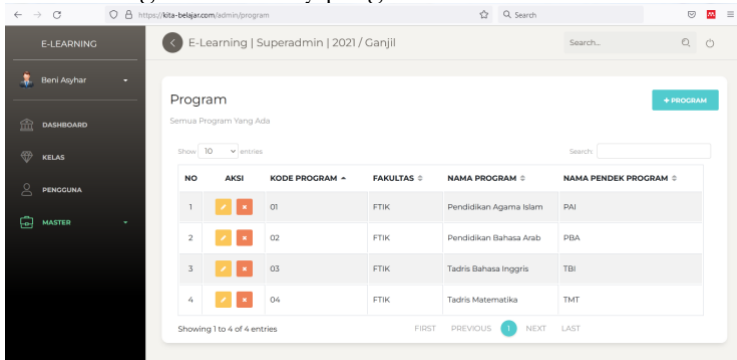


Figure 15. Dashboard view of the process of adding study programs

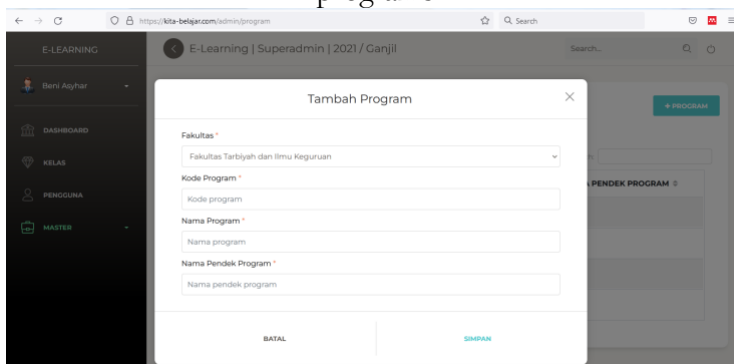


Figure 16. Initial dashboard view of course class

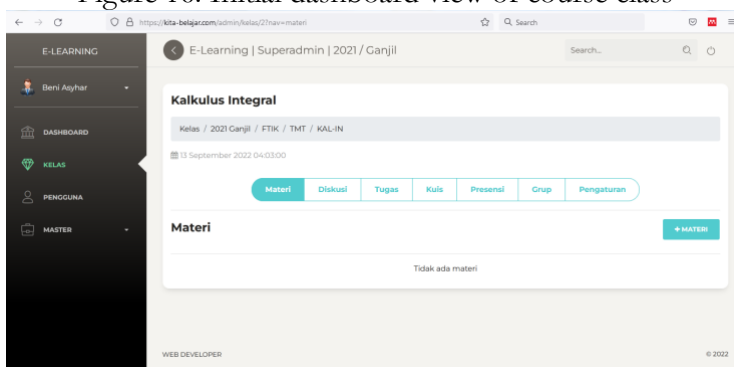


Figure 17. Course class dashboard view: material

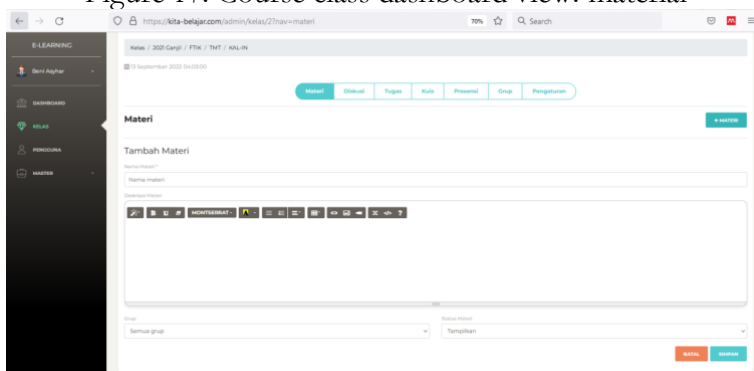


Figure 18. Course class dashboard view: discussion

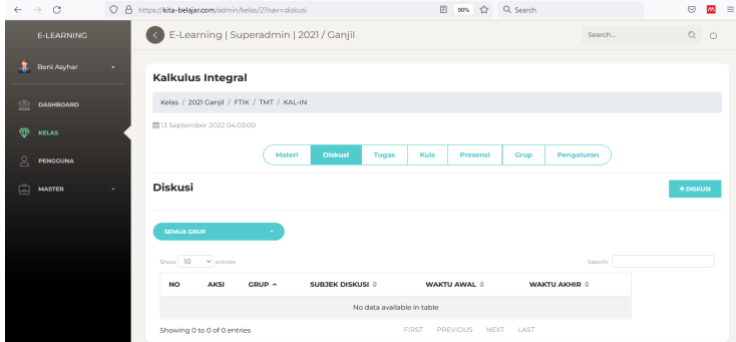


Figure 19. Course class dashboard view: add discussion

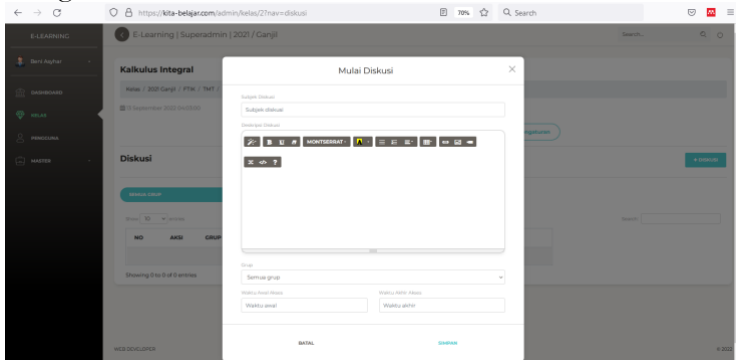


Figure 20. Course class dashboard view: assignment

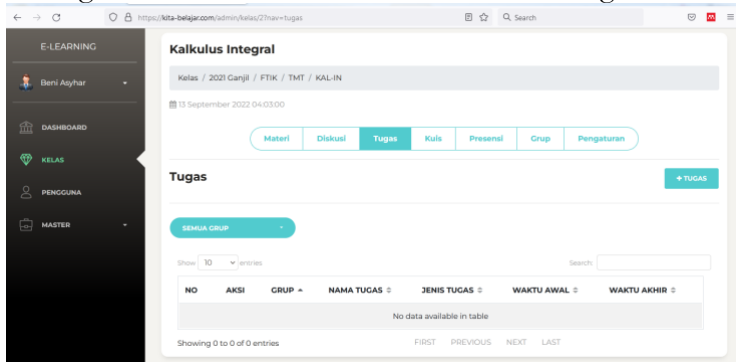


Figure 21. Course class dashboard view: add assignment

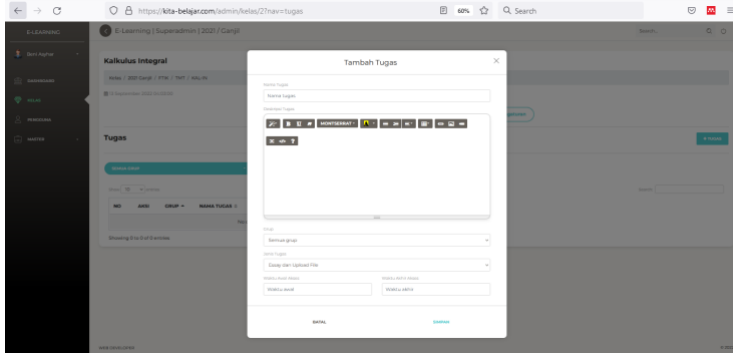


Figure 22. Course class dashboard view: quiz

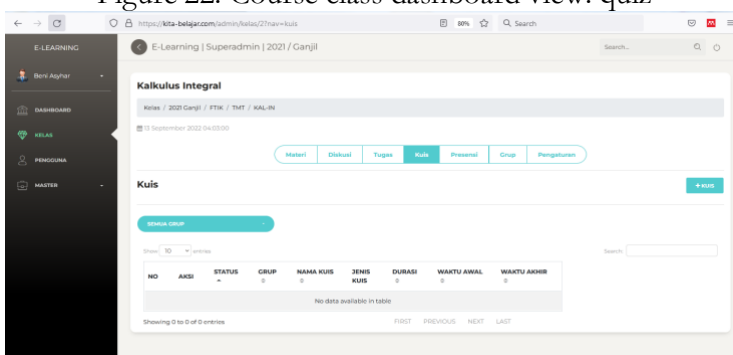


Figure 23. Course class dashboard view: add quiz

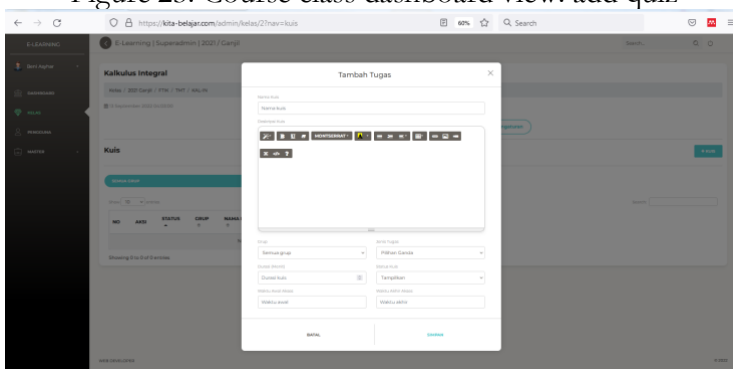


Figure 24. Course class dashboard view: attendance

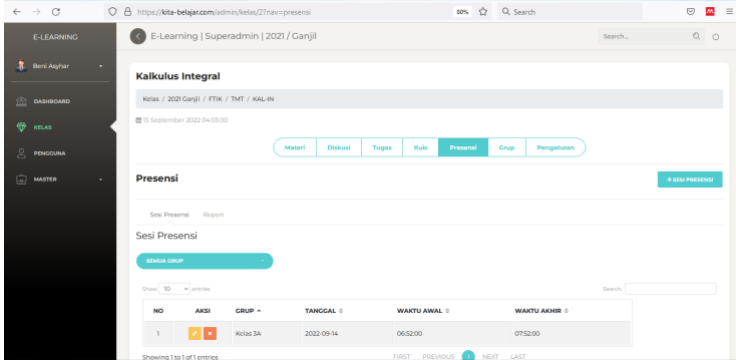


Figure 25. Course class dashboard view: add attendance

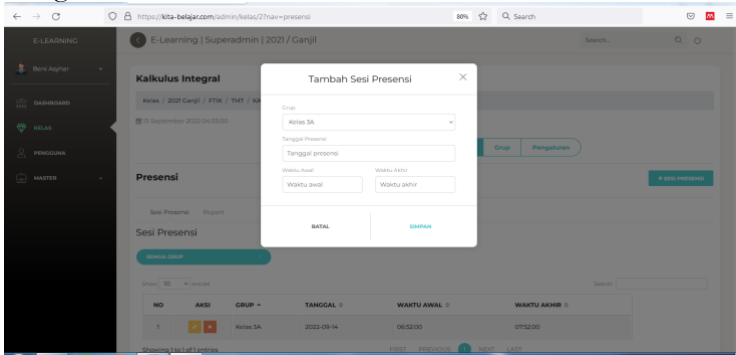


Figure 26. Course class dashboard view: parallel class

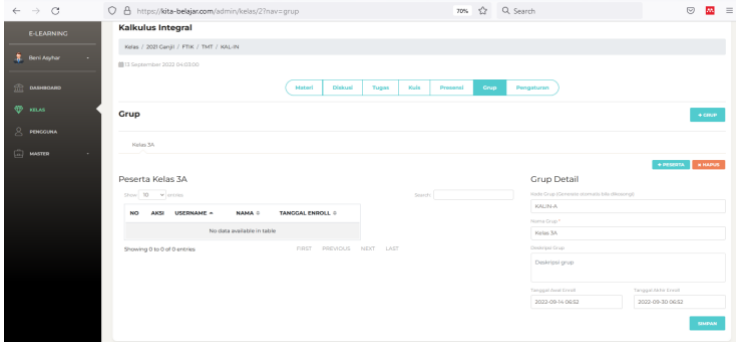


Figure 27. Course class dashboard view: add parallel class

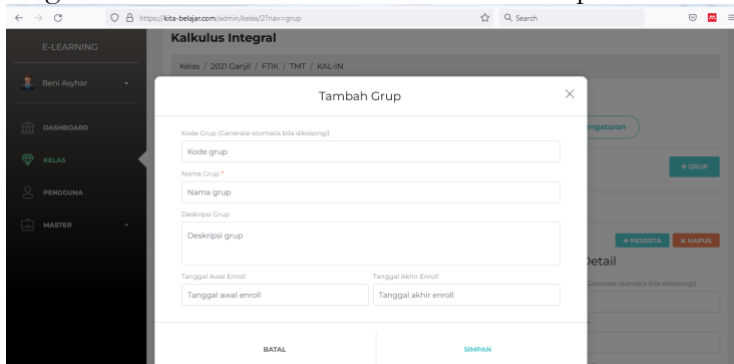
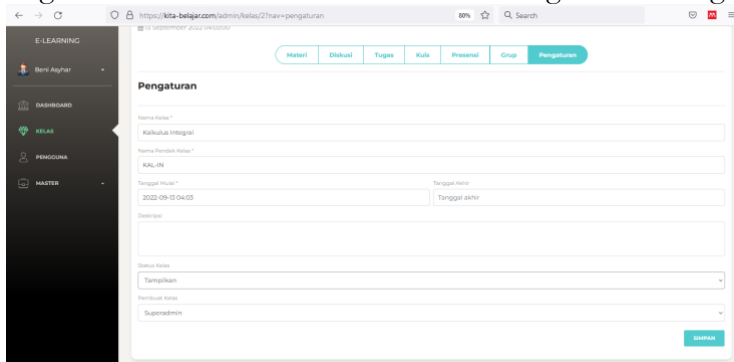


Figure 28. Dashboard view of course class general settings



b. Expert Validation

Validation data is obtained from the validation results of IT experts and learning technology experts. The validation question items are shown in Table 2 below.

Table 2. LMS application assessment question items

No	Assessment Aspect	Maximum score
In terms of application		
1	This LMS application is easy to access/operate	5

2	This LMS application is not easy to crash/stop when used	5
3	This LMS application is not complicated to use	5
4	Each button on this LMS application provides the correct output	5
5	There is no pause/delay that is too long when running the application	5
6	Moving screen by screen in the application is smooth / no freezes / lags occur	5
In terms of graphics		
7	The use of letters (type, size, and color) is clear and appropriate	5
8	Attractive layout design (coloring and image illustrations)	5
9	Layout arrangement and layout are balanced and do not overlap	5
10	The color display used in this LMS is clear and appropriate.	5
11	The images used in this LMS support the words/terms.	5
12	Fonts and backgrounds do not overlap	5
13	The application icon is attractive	5
In terms of content and material feasibility		
14	The words used are easy to understand	5
15	The data displayed is in accordance with the data in the database	5
16	The code that is made is done sequentially	5
17	Illustrations, punctuation and symbols used are correct	5
18	The language used is appropriate and easy to understand	5

	Total	90
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c. Revision

The Hybrid Learning application has been enhanced following the input provided by experts during the validation activity. At this juncture, a multitude of inputs and recommendations for enhancement have been proffered by experts, encompassing both IT specialists and those versed in learning technology. These include: 1) the integration of class data with siakad; 2) the utilisation of the SSO system, integrated with siakad, for the authentication of users, thereby eliminating the necessity for a separate IRS programming environment; and 3) the capacity to accommodate the writing of symbols, Arabic writing, and other forms of text.

4. Evaluation

This stage is the stage of testing the Hybrid Learning application. The trial was carried out on regular lecture classes with lecturers teaching courses at the Faculty of Tarbiyah and Teaching Sciences UIN SATU Tulungagung. To evaluate the application, researchers distributed a field test questionnaire as shown in Table 3 below.

Table 3: Field test question items

No	Assessment Aspect	Maximum score
1	The color display used in this LMS is clear and appropriate.	15
2	The images used in this LMS support the words/terms searched for.	15
3	The transitions contained in the LMS are interesting	15
4	The display design of each page of this LMS is interesting	15
5	The button design on the LMS is attractive	15
6	Buttons on the LMS are easy to use	15

7	The writing/font used on this LMS is clear and appropriate	15
8	This LMS application is not complicated to use	15
9	Fonts and backgrounds do not overlap	15
10	The language used in words/terms is easy to understand	15
11	The color display used in this LMS is clear and appropriate	15
12	This application can help lecture data management: download materials, quizzes, upload assignments, and online communication	15
	Total	180

Feasibility of Hybrid Learning Application

The feasibility of this application was evaluated by experts in the fields of learning technology and information technology (programmers). A validation sheet questionnaire was provided to the experts for the purpose of measuring the feasibility of the developed application.

A synthesis of the data obtained from the validation results of IT experts and learning technology experts allows for the following analysis. (1) Aspects pertaining to the application. The indicators of the application aspects include the ease of installation of the application on a computer or access to the application online, the ease of termination of the application, the ease of use of the application, the functionality of the buttons, the absence of pauses when opening the application or transitioning from one command to another. The IT experts awarded the application a total of 36 points, with scores of 5, 5, 4, 3, 5, 5, and 5, respectively. The learning technology experts also rated the application highly, awarding it a total of 36 points, with scores of 5, 5, 4, 4, 5, 5, and 5, respectively. This resulted in an average percentage of 91.7%, which was deemed sufficient for the application to be classified as valid. (2) Graphic aspects The indicators of graphic aspects include the utilisation of letters, the configuration of the layout, the presentation of colours, the display of images, the

avoidance of overlapping letters and backgrounds, and the creation of visually appealing application icons.

The IT experts awarded the application a series of consecutive scores of 5, 4, 5, 5, 5, 4, 4, and 4, while the learning technology experts provided a similar sequence of scores, awarding the application a series of consecutive scores of 5, 4, 5, 5, 5, 5, 5, and 4. The average percentage of scores awarded by both groups was 95.7%, and the application was thus categorized as valid. (3) Aspects of content and material feasibility The indicators of content feasibility encompass the vocabulary employed, the data displayed, the code created, the illustrations, the punctuation, the symbols, and the language used. The IT experts awarded the application a series of scores, beginning with 4 and concluding with 5, with an average percentage of 88%. The learning technology experts also provided a series of scores, beginning with 4 and concluding with 5, with an average percentage of 88%. The overall results of the validation, combining the scores from both groups, yielded an average of 92%. This indicates that the application is valid and feasible for use.

Practicality of Hybrid Learning Application

The practicality of the developed Hybrid Learning application is evaluated by users of the application, comprising lecturers and students. The assessment provided by lecturers and students pertains to the following criteria: appearance, material, language, and ease of access.

The data obtained from the results of the student and lecturer assessment questionnaire indicate that the average assessment of students and lecturers regarding the aforementioned criteria is 86.39%. This suggests that the LMS application is within the practical category.

Effectiveness of Hybrid Learning Application

The efficacy of the developed Hybrid Learning application is evaluated based on data pertaining to the learning outcomes of students who utilise this application in their learning process. The learning outcomes of students who employ this Learning Management System (LMS) are derived from the results of the Midterm Examination (UTS) for the Integral Calculus Class B course,

S1 Tadris Mathematics Study Program, UIN Sayyid Ali Rahmatullah Tulungagung. The UTS results are presented in Table 4 below.

Table 4. List of Integral Calculus exam results

No	Student Identification Number	Name (Initials)	Middle Test Score
1	126204211009	AC	50
2	126204211018	DAAK	80
3	126204211020	DNH	100
4	126204211021	EY	100
5	126204211022	EN	25
6	126204211023	EA	100
7	126204211024	FU	95
8	126204211025	FS	90
9	126204211026	FLM	100
10	126204211028	FW	100
11	126204211029	HMS	100
12	126204211031	HA	85
13	126204211034	IKH	100
14	126204211035	IKHA	70
15	126204212100	AAI	45
16	126204212101	AAP	85
17	126204212104	MLA	100
18	126204212105	RLF	75
19	126204212106	DNR	100
20	126204212107	AHA	100
21	126204212108	FZ	100
22	126204212109	WI	40
23	126204212110	AEN	100
24	126204212111	SFP	95
25	126204212112	SF	60
26	126204212113	NAK	75
27	126204212114	PAN	70
28	126204213175	MRA	100

29	126204213176	MS	45
30	126204213180	SF	100
31	126204213182	FAVY	45
32	126204213183	SH	45
33	126204213184	RM	80
34	126204213185	UFS	55
35	126204213186	ZRH	65
36	126204213188	DTPL	65
37	126204213189	SN	75
38	126204213191	FA	100

A review of the UTS results data in Table 3 reveals that seven students achieved a score of less than 55, representing 18% of the total number of students. In contrast, the remaining 31 students scored 55 or above, accounting for 82% of the total number of students. A learning medium, in this case a website-based application (LMS), is deemed effective if a minimum of 75% of students are able to achieve the minimum completion criteria (KKM) score. The minimum score required to pass the course at UIN Sayyid Ali Rahmatullah Tulungagung is 55. Given that 82% of students achieve this score or higher, the hybrid learning application developed is effective for use in the learning process.

One of the principal factors influencing the organisation of lectures in higher education, particularly in the context of the digital age, is the level of preparedness exhibited by the institution in question. Tsani and his team's research indicates that leadership support, institutional financial capability, lecturer competence in using IT, and online learning infrastructure readiness are some of the most crucial factors that must be optimised.¹¹ In essence, the development of mobile learning can be attributed to two principal factors: those pertaining to technology and those associated with the utilisation of technology. The former encompasses all aspects of hardware and

¹¹ Iskandar Tsani, Rofik Efendi, and Sufirmansyah Sufirmansyah, "Evaluasi kesiapan lembaga pendidikan tinggi Islam dalam menghadapi era digital," *Ta'dibuna: Jurnal Pendidikan Islam* 9, no. 1 (April 4, 2020): 019–033, <https://doi.org/10.32832/tadibuna.v9i1.2604>.

software, whereas the latter concerns the capacity to harness technology to its fullest potential in the context of online learning.¹²

The use of hybrid learning is becoming increasingly prevalent in the context of courses across a range of disciplines. While there are instances where the hybrid lecture model may not be the optimal approach, it has demonstrated effectiveness in the context of academic reading¹³ and Arabic vocabulary acquisition.¹⁴ The potential for hybrid formats to be optimised for distance learning was confirmed by Masalimova and her team. Their research findings indicate that, in the post-pandemic era, there is a growing trend of technological collaboration in support of hybrid learning formats, which are perceived to be more effective.¹⁵

The advent of blended learning preceded that of hybrid learning.¹⁶ Nevertheless, both remain highly pertinent and warrant further development in the context of contemporary lectures. In light of this, the endeavour to create a hybrid learning management system represents a significant advancement that merits continued pursuit. Despite the persistence of several limitations, the collaboration of all stakeholders is crucial in ensuring the success of this distance learning application.

Conclusion

The Hybrid Learning application for lecture activities at UIN SATU Tulungagung was developed in accordance with the ADDIE

¹² Violeta Chirino-Barceló and Arturo Molina, “Critical Factors in Defining the Mobile Learning Model: An Innovative Process for Hybrid Learning at the Tecnológico de Monterrey, a Mexican University,” in *Handbook of Research on Mobility and Computing: Evolving Technologies and Ubiquitous Impacts* (New York: IGI Global, 2011), 774–92, <https://doi.org/10.4018/978-1-60960-042-6.ch048>.

¹³ Zhenyu Yang and Linnea Spitzer, “A Case for Hybrid Learning: Using a Hybrid Model to Teach Advanced Academic Reading,” *ORTESOL Journal* 37 (2020): 11–22.

¹⁴ Nuril Mufidah et al., “Hybrid Learning Dalam Pembelajaran Kosakata Bahasa Arab Pada Anak Berbantuan Media Al-Mutho,” *Al-Mudarris: Journal Of Education* 2, no. 1 (April 30, 2019): 40–52, <https://doi.org/10.32478/al-mudarris.v2i1.227>.

¹⁵ Alfiya R. Masalimova et al., “Distance Learning Hybrid Format for University Students in Post-Pandemic Perspective: Collaborative Technologies Aspect,” *Cypriot Journal of Educational Sciences* 16, no. 1 (2021): 389–95.

¹⁶ Zamzami Zainuddin and Cut Muftia Keumala, “Blended Learning Method Within Indonesian Higher Education Institutions,” *Jurnal Pendidikan Humaniora* 6, no. 2 (July 30, 2018): 69–77.

stages. The Hybrid Learning application, developed for use in lecture activities at UIN SATU Tulungagung, was deemed fit for purpose by IT experts and learning technology experts, with an average assessment of 92%. The Hybrid Learning application, developed for use in lecture activities at UIN SATU Tulungagung, has been demonstrated to be effective by both lecturers and students who have utilised it. The application was evaluated by lecturers and students according to a range of criteria, including its visual presentation, the quality of the material, the language used, and the ease of access. The mean rating for these aspects was 86.39%. Furthermore, the efficacy of the Hybrid Learning application in facilitating learning outcomes was evaluated. The utilisation of the application within the learning process was evidenced by the attainment of learning outcomes amongst the student cohort, with 82% of the sample population achieving a score of 55 or above.

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