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DEVELOPMENT OF WEB-BASED LEARNING PLANNING COURSE MEDIA FOR SUPPORT COLLEGE STUDENTS' LEARNING INDEPENDENCE

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Abstract

The lecture process in the university environment is inseparable from the use of technology. The purpose of this research is to develop web-based learning planning course media, to determine the feasibility of web-based learning media through validity tests and effectiveness tests. This type of research and development is research and development using the ADDIE model, namely Analyze to determine needs, Design media, Develop media and test validity, Implement apply to students, Evaluation of the overall process to improve the media to be better. This study produced learning planning course media for UIN Malang students in supporting learning independence who had gone through the validation test stage from design experts obtained 92% with a very decent validation rate, Material Expert 88% with a very decent validation rate, and Learning Expert 96% with a very decent validation level. Meanwhile, the response from students to the media was 86% with a very practical category. Based on the test results that have been obtained, it can be concluded that website-based learning media can be declared valid and effective in the learning process in the classroom. The development of this media is an innovative solution in creating a learning environment that supports student independence.

Keywords: Website media development, Learning Planning, Students

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INTRODUCTION

The development of educational innovation has very broad implications in human life, including in the field of education. In today's era, technology demands education to keep pace with technological developments. Especially in the scope of universities, it is required in the lecture process to utilize technology. Because the characteristics of students are inseparable from the name of technology. One of them is the learning planning course requires students to understand how to plan learning, especially for the elementary school level. So as prospective teachers, students are also required to know and understand the integration of the learning process by utilizing technology. The role of information technology in learning is very significant because it is able to enrich teaching methods and expand the range of learning. Technology also helps to overcome the rigidity of traditional approaches that often do not fit the characteristics of today's generation of learners.

The learning planning course discusses the designs and learning plans that will be implemented for one year or two semesters. In addition, this course also discusses the learning plan that will be implemented in the classroom, which also discusses the learning methods and strategies that will be implemented later. So that there is a need for introduction in the learning process must utilize technology during the learning process

This course is given to third-semester students, as prospective teachers they must be creative based on the educational curriculum that is being implemented. The latest curriculum implemented in Indonesia is the Merdeka Curriculum launched by the Ministry of Education and Culture and has been implemented at all levels of education from elementary school to college. This curriculum contains the concept of independent thinking to make education in Indonesia more quality (Mustaghfiroh, 2020). The Learning Planning course has a high urgency for third-semester students as prospective teachers, because it equips them with basic skills in designing a creative learning process and in accordance with the principles of the Independent Curriculum. However, learning in this course still faces obstacles such as less varied teaching methods, lack of direct practice, and limited use of technology, so that students are not able to achieve their skills optimally.

One of the things that is fulfilled in the independent curriculum is learning that is associated with the use of technology. In addition, they are also required to have 21st century skills, namely problem-solving, creativity and innovation, communication, collaboration, and confidence. These skills must be mastered in facing life's problems (Ordu, 2021). As stated (Medriati & Risdianto, 2020) Creative thinking can be used to solve problems. In other words, these skills can be correlated with each other

Students need to have these skills, but two out of three students have not met all critical thinking indicators including communication skills. Communication processes in the modern era need to utilize various technologies and media (Azizah et al., 2023). The

combination of the two can create learning innovations (Haryani et al., 2021), which produces interactive and interesting learning media (Sholiha et al., 2022). In addition, technological developments encourage teachers to innovate in utilizing digital learning media (Haleem et al., 2022).

There are various digital media; One of them is the use of the website. (Yuliansih et al., 2021) explained that the application of website-based interactive media can increase students' motivation to learn. In addition, it can improve their problem-solving skills (Hartono & Asiyah, 2018) in online learning. This study tries to develop web-based media in the learning planning course, the material has not been studied in other studies, so it is new in this research. University students who will become future teachers, especially teachers for children at the elementary stage for young learners, need to master 21st century skills as they enable them to create a good learning environment for their students. Therefore, this media was developed using the ADDIE model. In developing media, the ADDIE method can be implemented.

METHODS

This study uses the ADDIE model (Branch, 2021) in order to develop and produce learning media products used for the lecture process for UIN Malang students. The stages of ADDIE include Analyze, Design, Development, Implement, Evaluation. This research was carried out at UIN Malang, in a learning planning course involving 30 third-semester students majoring in madrasah ibtidaiyah teacher education. The stages of the ADDIE model can be seen in figure 1.

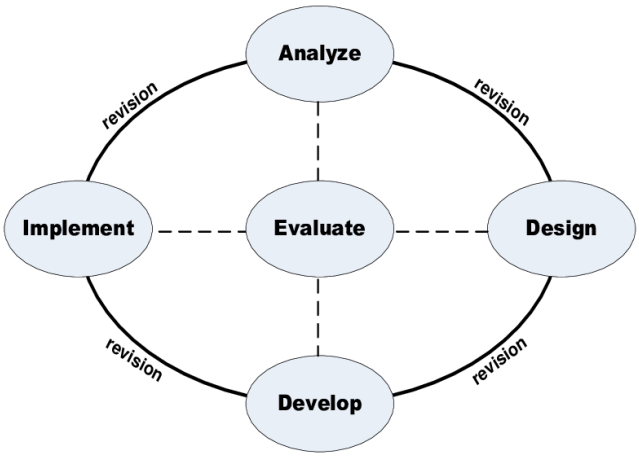

Figure 1. Model Flow ADDIE

The research data is in the form of quantitative and qualitative data. Quantitative data includes validator assessments and student assessments. Qualitative data includes the need for

website-based learning media, criticism and suggestions from 3 validators consisting of validation experts in media, materials, and learning. At the development stage, website-based learning media in the Learning Planning course was created. Furthermore, the website was handed over to 3 validators. The first validator is an expert in learning media, he is a graduate of S2 Technology Education and as a practitioner. The second validator is a material expert in the field of learning planning. He is a practitioner of the Madrasah Ibtidaiyah Teacher Education department. The third validator is a learning expert. He is a lecturer in learning planning at UIN Raden Fatah Palembang. The subjects of the study were 30 third-semester students of the Department of Teacher Education of Madrasah Ibtidaiyah UIN Malang who participated in the Learning Planning class. Data collection was carried out using documentation, The questionnaires used contain questions about the validity of media in software, visual communication and learning design, and interviews. Data analysis was carried out using descriptive analysis techniques. The stages of the research can be seen in Table 1.

Table 1. Research Stages in the development of website-based course media

Research Stage	Research Activities
Analyze	1. Determining the objectives and subjects of the research
	2. Conduct a website-based learning media needs analysis
	3. Conducting student needs analysis
Design	1. Determining the concept of web-based learning media
	2. Create a Storyboard
	3. Compiled materials, validation instruments, and media appeal sheets
Development	1. Media development process
	2. Conducting validation tests
Implement	1. Application of website-based learning media to students
	2. Attractiveness test to students
Evaluate	1. Evaluation of web-based learning media using assessment aspects
	2. Evaluate the media as a whole

RESULTS AND DISCUSSION

Analysis Stage

The first stage in the development of web-based learning media in the Learning Planning course is to determine the research subject and its objectives. In addition, a needs analysis was carried out to determine the need for website-based learning media in the Learning Planning course. As pointed out by (Maydiantoro, 2021), The development research

model begins with data collection and analysis. Conducting interviews with third-semester students of the Department of Teacher Education Madrasah Ibtidaiyah. The results of the interview showed that during the lecture process, the website had never been used as a learning medium in the Learning Planning course. Furthermore, the Learning Planning course is carried out in the face-to-face learning process. The results of the analysis of student needs can be seen in Figure 2

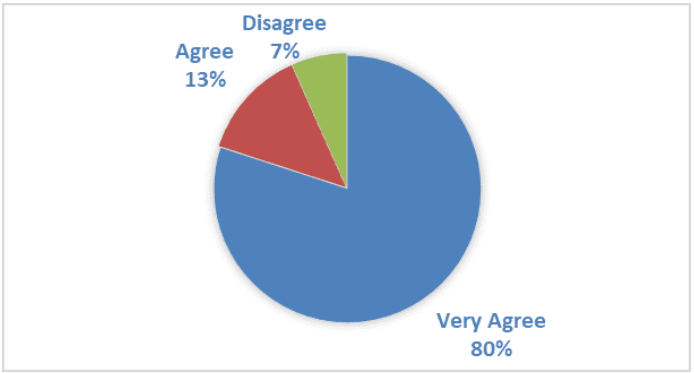

Figure 2. Analysis of student needs for the use of website-based learning media

Figure 2 shows that there are 80% or a total of 24 students who strongly agree with the use of web-based learning media. There were 13% or a total of 4 students who agreed with the use of web-based media. This means that there are 7% or a total of 2 students who do not agree with the use of web-based media. In addition, the results of the analysis of the level of student understanding show that there are still several sub-materials in the Learning Planning course that are considered difficult to understand, especially those related to the preparation of learning objectives, the selection of learning models, and the formulation of achievement indicators. The perception of this difficulty is the basis for determining the scope of material that will be presented in the media, with an emphasis on simplifying concepts, providing applicable examples, and visualizing learning planning flows.

Furthermore, from the results of student responses regarding their expectations for website-based learning media, information was obtained that students wanted a media that not only presented material, but also equipped with practice questions, discussion forums, learning videos, and automatic feedback. This hope is a reference in determining the main features in media development, so that its use can increase students' learning independence and help them understand the material more deeply and contextually.

Design Stage

The media design is made based on the results of the previous stage. At this stage, the concept of web-based learning media in the Learning Planning course is determined. Furthermore, blueprints in the form of storyboards are designed to be interactive, interactive websites are essential to attract more viewers or readers. Starting from the selection of learning materials. It consists of 1) Understanding of programs in learning planning, 2) steps to make, 3) Examples of learning tools, In addition, the concept of web-based media is designed to be interactive and flexible where the storyboard includes several sections that can be seen in Table 2.

Table 2. Website-Based Media Design

Media Section	Information
Home Menu	Providing information about the parts in the media
Definition Menu	Providing the meaning of material from RPE, PROTA, PROSESM, Syllabus and ATP, RPP and Teaching Modules, as well as Assessments
Step Menu	Provides an explanation of all the existing materials according to the definition menu
Sample Menu	Provide different types of appropriate and relevant examples
Developer Profile	Provide information about the name and background of the researcher who developed the website-based media

After the storyboard is prepared, the researcher continues the development process by adding various supporting elements in the form of learning device links, such as Learning Implementation Plans (RPPs), material modules, learning videos, and interactive quizzes. The addition of this element aims to enrich the content of the media and increase the ease of access and understanding of students to the Learning Planning course.

The main innovation of this medium lies in the integration of various learning resources in one interactive and responsive web-based platform. Not only presenting material in writing, this media is also equipped with a navigation feature that makes it easier for students to choose topics, access practice questions directly, and get automatic feedback from each quiz that is done.

The interface is designed in a simple yet functional way, taking the user experience into account. The components in the media include the home menu, the "definition" menu

which contains an explanation of the material, the "steps" menu which contains an explanation of the preparation of learning tools, the "examples" menu which contains various examples of learning tools, and the "developer profile" menu which contains information on the identity of the media developer. The media produced is not only a learning resource, but also a tool that encourages students to be more independent and reflective in understanding and designing learning according to the principles of the Independent Curriculum.

Development Stage

The results of the development of learning media in the learning planning course for UIN Malang students are presented in the following figure.

Figure 3. Media homepage

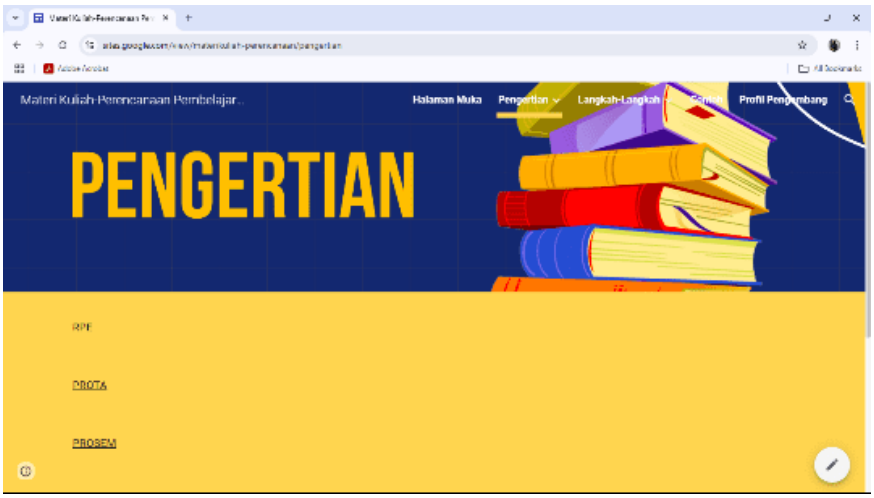

Figure 4. Definition Menu

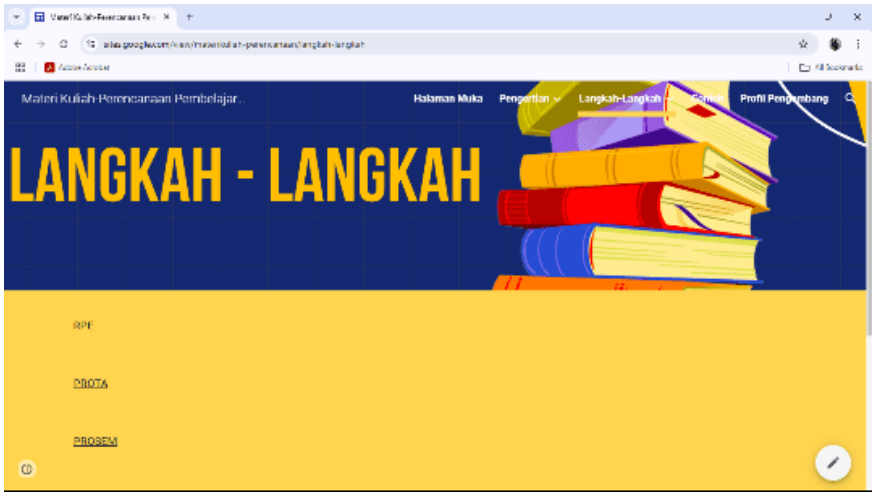

Figure 5. Step Menu

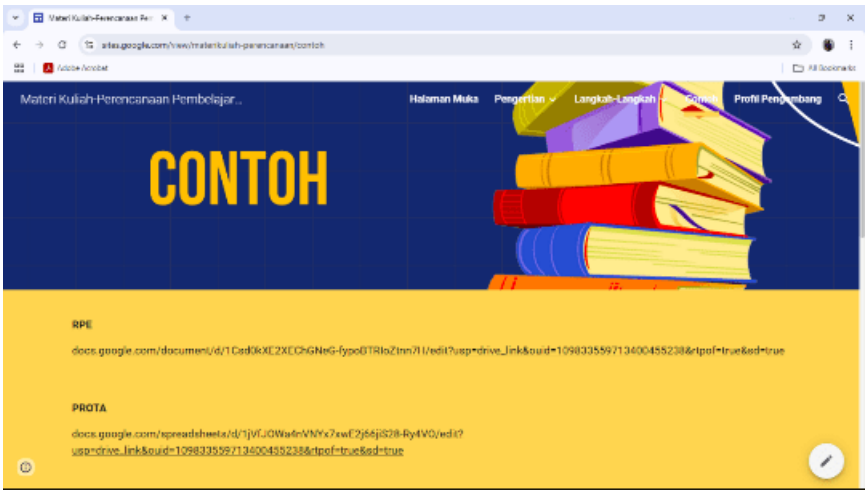

Figure 6. Sample Menu

An assessment of learning materials is needed to find out whether this website-based media is suitable for use by students majoring in Madrasah Ibtidaiyah Teacher Education. This assessment from media or design experts includes several aspects, namely engineering, visual communication, and learning design. The results can be presented in Table 3.

Table 3. Validator Results

Assessment Aspects	Score First Validator	Score second Validator	Score Third Validator
Software Engineerin	43	-	45
Visual Communication	34	65	36
Learning Design	15	23	15
Total Score	**92**	**88**	**96**

In Table 3 The results of the validation of web-based learning media conducted by three experts, namely media experts, material experts, and learning experts, show that the developed media has a high level of feasibility. Media expert validators gave a score of 92, indicating that the media has met the criteria in terms of software engineering, navigation clarity, and visual display quality. This assessment indicates that from a technical point of view, media can be used effectively by students without experiencing obstacles in access or use.

Furthermore, the material expert validator gave a score of 88, which shows that the content of the media is sufficient in accordance with the learning outcomes of the Learning Planning course. However, there are suggestions to increase the depth of material on certain subtopics and strengthen their relationship with the principles of the Independent Curriculum. The learning expert validators gave the highest score, which was 96, which indicates that this media strongly supports the student-centered learning process and provides space for independent, reflective, and project-based learning.

The implication of these findings is that the development of web-based media can be an effective strategy in supporting lectures, particularly in the context of the Independent Curriculum which emphasizes learning independence, flexibility, and personalization of learning. Validation from various expert perspectives shows that this media is not only feasible to use, but also able to improve students' learning experiences in a more active, contextual, and meaningful way(Muthmainnah et al., 2025).

Furthermore, these results also underscore the importance of a multidisciplinary approach in the learning media development process, where collaboration between developers, material experts, and pedagogues is the key to the success of media that is not only functional, but also educational. These findings can be the basis for further implementation in the classroom as well as the development of similar media in other courses(Stringer et al., 2025).

The three validators have assessed and provided suggestions on this. The first validator found that there was one link that was inaccessible. Therefore, he advises researchers to ensure that all included links are accessible to other users. The second validator suggested that the researcher ensure that all grammar in the learning material is lexically correct. Meanwhile, the third validator recommends separating the link links for each example. Furthermore, the

website-based learning media in the Learning Planning course is developed based on validator suggestions. After consultation, the website-based learning media in the Learning Planning course was declared qualified and appropriate.

Implement Stage

At the implementation stage, website-based learning media is presented in the Learning Planning class. All students can access it by logging in to the link provided. This learning media is applied in a classroom with a total of 30 students with a presentation on the practicality of media of 86%. At the end of each meeting, students are given an open questionnaire to find out their perception of the use of website-based learning media in the Learning Planning course. This questionnaire consists of two aspects of assessment, namely the learning material aspect and the attraction aspect.

Aspects of learning materials include indicators such as comprehension of content, suitability with learning outcomes, clarity of presentation structure, and usefulness of material for the learning process. Based on the results of student responses, it is known that the majority of respondents gave a positive assessment of the completeness and clarity of the material. Students consider that this media helps them understand the concepts in the Learning Planning course in a more practical and applicable way. The presentation of material which is equipped with examples of learning tools, explainer videos, and interactive assignments is considered to make it easier to understand material that was previously considered complex(Cevikbas et al., 2025).

The aspect of media appeal includes elements of visualization, user interface design, ease of use, and user involvement in interaction with media(Wang, 2025). Student assessments show that a simple, consistent, and responsive media display provides a comfortable and enjoyable learning experience. Features such as clear navigation menus, access to automated practice questions, and embedding videos and discussion forums add value to the user experience(Stockinger et al., 2023).

Evaluate Stage

The results of student assessments show that the website-based learning media in the Learning Planning course contains feasible and very interesting learning materials. The development of this website is done by conducting a needs analysis and studying previous research. Berikut adalah hasil evaluasi secara komprehensif untuk setiap tahapan:

a. Evaluation of the Analysis Stage

The analysis stage begins with the identification of student needs through the distribution of questionnaires and open interviews. The results of the analysis show that

students have difficulty in understanding abstract concepts of lesson planning if they are only presented conventionally. In addition, students stated the need for learning media that is flexible, can be accessed at any time, and contains examples of practice in preparing learning tools(Era Purike & Aslan, 2025).

On the other hand, curriculum analysis and learning outcomes show that students are required to master the skills of designing contextual learning in accordance with the principles of the Independent Curriculum. Therefore, the media developed must be able to bridge the gap between academic needs and the real conditions faced by prospective teachers.

b. Design Stage Evaluation

In the design stage, the preparation of content structure, storyboard creation, and mapping of the main features that will be contained in the media is carried out. The evaluation was carried out through group discussions with teaching lecturers and learning media design experts. The results show that the content structure has collapsed, starting from concept introduction to application, with the integration of multimedia elements such as text and images(Papageorgiou et al., 2025).

Design expert validators suggest simplifying the menu display, choosing more neutral colors, and using intuitive icons to make the media interface user-friendly. These suggestions are accommodated to improve the effectiveness of navigation as well as the readability of information.

c. Development Stage Evaluation

After the media is developed according to the design, validation is carried out by three validators, namely media experts with a score of 92, material experts with a score of 88, and learning experts with a score of 96. Validation includes technical aspects, material content, and learning approaches. The evaluation shows that the media has met the criteria that are very feasible to be used, both in terms of appearance, content, and support for independent learning(Utaminingsih & Ellianawati, 2025).

Recommendations given by the validators include strengthening the material in certain subtopics, adding illustrations and explainer videos, and improving quizzes to be more varied. Based on this evaluation, revisions were made to improve the media before the trial to students.

d. Evaluation of the Implementation Stage

The implementation stage was carried out with a limited trial to a group of students who took the Learning Planning course. The results of student assessments show that this

media is practical to use, easy to understand, and visually appealing. As many as 80% of students said they strongly agreed, and 13% said they agreed that this media helped their independent learning process. Students also appreciate the existence of interactive features such as automatic practice questions, links to learning tools, and learning videos. This evaluation shows that the medium is not only feasible, but also effective and preferred by the end user. The practicality and flexibility of media support personalized learning that can be accessed at any time, according to the characteristics of students in the digital era(Hou, 2025).

This is in line with (Tiwi & Mellisa, 2023) which applies the ADDIE model to develop learning media. This media is supported by various examples of material that must be analyzed by students, so that they can practice solving problems. This is supported by(Ariyani et al., 2022) which is able to make students more creative.

CONCLUSION

The conclusion of this study is that the ADDIE model is used to develop website-based learning media in the Learning Planning course. The results of the development show that this media is very feasible and very good to be implemented in the Learning Planning class based on the assessment of third-semester students of the Department of Teacher Education Madrasah Ibtidaiyah UIN Malang. The validation results showed that 92% of media experts in the very feasible category, 88% of material experts in the feasible category, and 96% of learning experts in the very feasible category. In addition, the implementation of website-based learning media in the Learning Planning course encourages students to improve critical thinking and problem-solving skills, creativity and innovation, communication, collaboration, and confidence. The limitation of this study is that this website-based interactive media design is implemented in the Learning Planning course. Future researchers can create different website-based media using the same ADDIE development model for different courses to investigate their impact on students

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