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The Validity of Learning Media in the Course of Assessment and Learning Evaluation Based on Articulate Storyline 3

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ABSTRACT

This study aims to develop learning media based on Articulate Storyline 3 in the Assessment and Learning Evaluation course. This type of research is development research. The research subjects were students of the mathematics education study program, Universitas Pendidikan Ganesha. The ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model is a development procedure in this study. In the aspect of validity, at this stage the research has succeeded in developing learning media based on Articulate Storyline 3 in the Assessment and Learning Evaluation course. This is based on the assessment of one material expert and two media experts. First, the assessment of the material experts obtained an average score of 3.8, from the first media expert an average score of 3.8 was obtained, and the second media expert received an average score of 3.73. The total average result was 3.78, including an interval of $X \geq 3.00$ with a value of A. Thus, research on learning media based on Articulate Storyline 3 in the Learning Assessment and Evaluation course has very good validity.

Keywords: validity, learning media, articulate storyline 3

1. INTRODUCTION

States that the application of digital technology-based learning media is a major demand in the current era of globalization [1]. The same thing was expressed that digital technology applied in learning must be integrated with learning models to achieve learning objectives [2]. In higher education, the use of digital technology as a learning medium expands student opportunities to improve learning outcomes. The use of computers as a learning medium also allows learning by fostering student independence so that they will experience a much more meaningful learning process [3].

The use of digital-based learning media is expected to make students absorb information quickly and efficiently. Digital learning media have been popular in the learning process in various fields of science, as well as in Learning Assessment and Evaluation subjects. Lecturers must have competence in learning development. They are also required to be able to compete and develop their skills by using digital media [4]. A substantial element in the learning process is that the lecturer acts as a conveyor of knowledge, a motivator, and a guide.

In the Mathematics Education Study Program, Universitas Pendidikan Ganesha (Undiksha), the Learning Assessment and Evaluation course aims for students to master how to prepare mathematics evaluation tools in the form of tests and non-tests in various types, formats, and varieties. Students can also implement it when conducting evaluations at school. The weight of this course is three credits with a fairly broad course objective [5]. This makes face-to-face classes very lacking. Students still need additional time (in this case with limited classrooms and face-to-face time), not including lecture hours to explore the lecture concepts they have acquired in the classroom [6]. By using digital-based learning tools, this is possible to apply. This will be able to make the learning atmosphere interesting both inside and outside the classroom (online learning) [7].

Currently, many digital-based learning media devices have been implemented. One of them that offers ease of use (both lecturers and students) is Articulate Storyline 3. Articulate Storyline 3 is a software that can be used as a learning medium for presentations and information delivery [8]. Articulate Storyline 3 is suitable for learning media that can compete with Adobe flash media [9].

Articulate Storyline 3 requires no programming language or scripts in the process. All animation commands can be done with the "trigger" menu so that it can make it easier for users to create interactive learning media [10]. The Articulate Storyline 3 program has several advantages, namely simple smart brain ware. This program also makes it easy for users to publish online and offline so that it can be formatted on a CD, word processor, personal page, Nand LMS [6]. Robertson and East revealed in their research that only 32% of students got good grades. However, after the Articulate Storyline 3 learning media was implemented, there were 95% who met the grades according to the predetermined curriculum [7].

Articulate Storyline 3 offers practicality for its users. Therefore, it is necessary to make efforts to be able to implement learning media based on Articulate Storyline 3 for students of Undiksha Undergraduate Mathematics Education Study Program through research "Development of Learning Media Based on Articulate Storyline 3 in the Course of Learning Assessment and Evaluation". In this case the quality of the learning media developed must be in accordance with applicable standards. that there are three aspects that need to be considered in assessing the quality of a product, one of which is validity [8]. So that in the process of developing learning media based on Articulate Storyline 3 in the Assessment and Learning Evaluation course, it will pay attention to the validity aspect, to improve student learning outcomes. For this reason, the purpose of this research is to design and implement learning media based on Articulate Storyline 3 and to determine the validity, practicality, and effectiveness of learning media based on Articulate Storyline 3 in the Learning Assessment and Evaluation courses to improve the quality of student learning outcomes.

2. METHODOLOGY

This research was Research and Development (R&D). The procedure and learning media development used the ADDIE (Analyze, Design, Development, Implementation, and Evaluation) model. The stages of the ADDIE model in this study were described as follows.

First, "Analyze" means analysis of the students' characteristics, analysis of courses, and analysis of learning resources. Second, "Design" is designing the development of learning media based on Articulate Storyline 3 based on user needs and material characteristics. Besides, at this stage, the model of the instruments will be used to assess the learning media. Third, "Development" is an advanced stage of designing in product design that is developed into learning media based on Articulate Storyline 3 in the Assessment and Learning Evaluation course based on the results of the product design stage. Activities carried out at the product development stage include integrating media designs into the Articulate Storyline 3 application. Forth, "Implementation" is a trial of instructional media products that will be developed for potential media users. The purpose of this trial was to determine the feasibility of learning media based on Articulate Storyline 3 in the Assessment and Learning Evaluation course. At this stage, media trials were conducted and saw the quality based on tests from material experts, media experts, individual trials, small group trials, and field trials. Lastly, the purpose of this evaluation stage was to find out whether the product developed meets valid, practical, and effective criteria to improve student learning outcomes. The evaluation of each phase was to determine the achievement of each ADDIE stage.

The research subjects were students of the Odd Semester Mathematics Education Study Program in the Academic Year 2020/2021. The data collected for qualitative and quantitative analysis in this study included the validity of content and media based on Articulate Storyline 3 using a questionnaire. The measurement tools of learning media were from the content validity and media validity. The content validity was seen in terms of language and material, whether the language used was communicative or not, and whether the material was under the syllabus and semester lesson plan used. While the media was from the presence or absence of a consistent linkage of each component developed with the learning characteristics applied. The validity assessment of this media development had been determined by the results of the evaluation of three validators, namely: one lecturer in the Mathematics Undergraduate Education Study Program as the material expert, two lecturers of the Informatics Engineering Education Study Program. They gave their assessment by filling in the validation instrument.

Table 1. Scale Conversion of Scale 4

No.	Score Interval	Category	Value
1.	$X \geq 3.00$	Very Good	A
2.	$3.00 > X \geq 2.50$	Good	B
3.	$2.50 > X \geq 2.00$	Inadequate	C
4.	$X < 2.00$	Poor	D

The evaluation instrument for material experts and media experts used in this study was to use the LORI assessment instrument, the categories of choice for the material and media validation instrument were: Scale 1, if the media assessment is poor; Scale 2 if the evaluation of the media is inadequate; Scale 3 means good; Scale 4 means outstanding. The data analysis technique was used to test the feasibility of the media through a validation sheet that had been assessed by the validator. Then, the next step was compiling all the data results obtained for each component of each aspect of the assessment. The last was calculating the total average score. The scores were converted into qualitative data or interval data using a Likers scale with a scale of four to determine the quality of the media developed from both the material and media aspects. Therefore, a four scale conversion was presented based on Table 1.

The assessment results of whether or not a media was feasible, was determined from the minimum value of B, which was in the good category.

3. RESULTS AND DISCUSSION

ADDIE Model (Analyze, Design, Development, Implementation, and Evaluation) was the process of developing learning media in this study. The results obtained in each development procedure were described in more detail as follows.

3.1 The Results of Analyze Stage

At this step analyzed the characteristics of learners, courses, and learning resources. The learners were the Undergraduate learners of the Mathematics Education Study Program at the Universities education Ganesha for the initial stage using a questionnaire. Based on the questionnaire, the Assessment and Learning Evaluation course in the classroom was lack of time, effectiveness in managing the material that was so dense, and the lack of exciting and interactive learning media for students. Thus, that could not lead the learners to be able to form concept maps assessment and learning evaluation. The lecturers who taught the Assessment and Learning Evaluation subject stated that there was a need for learning media that was digital-based to overcome learning obstacles in the classroom.

Analysis of the course characteristics included attitudes, knowledge, general skills, and particular skills to measure the learning outcomes. Based on these learning outcomes, the learning objectives were then outlined in the learning media design. In the analysis stage of learning resources, an assessment of the learning resources used in lectures was carried out that could support the achievement of lecture objectives. From the agreed learning resources, a learning media based on Articulate Storyline 3 was designed to be able to keep up learning in an exciting, interactive, practical, and able to maximize the achievement of lecture objectives. So that the learning media contained a summary of the material, an explanation of the material using animation and video, a concept map, and dynamic slides.

3.2 The Results of Design Stage

The activity at this stage was to design the development of learning media based on Articulate Storyline 3 based on user needs and material characteristics. At this stage, the design of the learning media was made, namely:
1. Loaded user identity on the login menu
2. Contained the topic/material identity
3. Loaded a menu with a choice of learning objectives, sub material, and log out
4. In the selection of the sub material included an introduction to the material, a material resume

equipped with video and animation, and a back menu to repeat the activity
5. Contained concept evaluation and discussion

3.3 The Results of Development Stage

This stage was an advanced stage of design in product design that was developed into learning media based on Articulate Storyline 3 in the Assessment and Learning Evaluation course based on the results of the product design stage. Activities carried out at the product development stage included integrating media design into the Articulate Storyline 3 application, making illustration images, making supporting charts and tables, setting layouts, integrating audio, video animation/presentation, setting dynamic systems on the media, preparing questions, and drafting the evaluation test integrated on the media. The development results could be seen in Figure 1-Figure 4.

Figure 1. User Login Menu

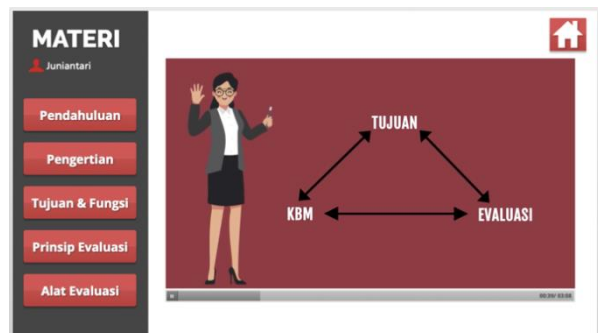Figure 2. Display Learning Objectives

Figure 3. Animated Video Display

Figure 4. Resume Material Display

3.4 The Results of Implementation Stage

At this stage, media trials were carried out and saw the quality based on the test of material experts and media experts using material and media validation questionnaires. The material experts were lecturers from the Mathematics

Undergraduate Education Study Program who qualified for learning evaluation education and media experts were two lecturers from the Informatics Engineering Education Study Program who certified for educational technology and informatics engineering. Two validators assessed the feasibility of the media quantitatively and qualitatively.

3.5 The Results of Evaluation Stage

In the evaluation stage, a quantitative review of the validator's input was carried out. They were presented in Table 2.

The evaluation results based on the validator's suggestions were main as a reference for improving the learning media. Learners would be ready to implement them in individual trial activities, small group trials, and field trials to further see the quality of effectiveness and practicality of the Articulate Storyline 3 learning media in the Learning Assessment and Learning Evaluation course.

Table 2. The Media Review Results Based on the Validator's Suggestion

Validator	Before	After
Media	Advice: The learning objectives should be on the first media menu, not implicit in the subchapter	
	Advice: Materials on the kinds of non-test evaluation tools should show in the sub-menus. Students could click on which type of non-test evaluation tools they would like to study freely.	

Table 3. The Validity Results By The Material Expert Based On Criteria

Assessment Criteria	Total Score
Content Quality	16
Learning Goal Alignment	15
Feedback and Adaptation	3
Motivation	4
	38

Table 4. The Validity Results By The Media Expert Based On Criteria

Assessment Criteria	Total Score Validator		Amount	Average
	I	II		
Language	8	8	16	8
Sot ware Engineering	29	29	58	29
Visual and Audio Display	20	19	39	19.5
				56.5

Table 5. The Validity Results By The Material and Media Experts

Validation Aspect		Total Score	Total Indicators	Maximum Score	Average	Interval	Value
Material Validation		38	10	40	3.8		
Media Validation	Media Validation 1	57	15	60	3.8	3.78 X ≥ 3.00	A
	Media Validation 2	56	15	60	3.73		

3.6 The Quality of Learning Media Results Based Articulate Storyline 3

The validity of the Articulate Storyline 3 based learning media in this study was based on the assessment of the material expert and two media experts. The following was a summary of the validity results of the material and media that had been obtained, which could be seen in Table 3-Table 5.

Based on the data in Table 5, the conclusion was that the learning media of the Assessment and Learning Evaluation course based on Articulate Storyline 3 fulfilled the validity criteria very good.

4. CONCLUSION

Based on the results and discussion, the conclusions of this study are as follows.

Learning media based on Articulate Storyline 3 in the Learning Assessment and Evaluation course in this study is the result of a revision of the development process following the ADDIE model stages (Analyze, Design, Development, Implementation, and Evaluation). In this study the product underwent several revisions from material and media expert validators.

This study has very good validity based on the judgment of material experts and media experts. Evaluations from material experts obtained an average score of 3.8. The analysis from media expert 1 obtained an average score of 3.8 and media expert 2 obtained an average score of 3.73. The total average result is 3.78 which includes an interval of X ≥ 3.00 with a value of A.

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