DEVELOPMENT OF E –LEARNING IN AUDIO/RADIO MEDIA DEVELOPMENT COURSES

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ABSTRACT

This study aims to determine the feasibility of e -learning courses developed in the development of audio media / radio . This study is a Research and Development (R & D) by using ADDIE development model. The development procedure includes five stages , namely the analysis phase, design phase , development phase, implementation phase and evaluation phase. Data collection tool that is used in the form of a questionnaire with a scale of four and test questions . Data analysis technique used is descriptive qualitative and quantitative analysis with the average. Assessment conducted by two experts elearning material, two media experts , and 60 students. The results showed that the assessment of subject matter experts , their mean of 3.08 with the category of "eligible ". Assessment of media experts, their mean of 3.49 with the category of " very decent ".

***Keywords**: development , e -learning, media audio / radio*

A. PRELIMINARY

Development of media Audio / Radio is one of the subjects that must be taken by students of S1 Educational Technology Faculty of Education, University of Surabaya country. One of the competencies that must be mastered students in this course include script development audio programs.

A good script will determine the quality of the program, and also it can be a guide for directors and relatives of current production work done recording. Audio media manuscript contains a sequence of sounds, both human voice (speech), the sound of music and other noises (sound effect) to support the creation of an atmosphere in the program to be recorded. Competence script development difficulty level is high enough, for it takes perseverance and creativity in studying it. An understanding of the use of audio language, use the elements of music and sound effects, as well as script writing techniques should be completely mastered before a student conduct audio script development.

Seeing the condition of the course development of audio media, especially on the material development of the manuscript there are several issues that need to be solved soon appears, and problems occur in every generation as students take a course in media development audio / radio. In practice most students have difficulty in developing media manuscript audio / radio. This is because of the limited time lecturer in screenwriting explain the material and the limited-time students in writing the script audio / radio, so the impact of the lack of student understanding of course material and scriptwriting to impact on the work

of the student texts that have not been feasible to produce. Standard mastery of materials specified maximum within 6 (six) weeks students have been able to develop the script with the results of standardized production.

From the facts outlined above, the researchers felt the need to develop e-learning that can be studied independently by students outside of lecture hours in accordance with the material characteristics and student characteristics. Problems will arise in the development process media, ie media what is most practical to bundle, implement, and update learning and training program (Anderson in Sadiman, 2010: 2). Anderson of the opinion, it appears as a media developer must truly understand the characteristics of the media, the material characteristics and the characteristics of the media developed goals that can actually be used to improve the quality of student learning.

From the needs analysis that has been done, it can be a decision that the need for the development of e-learning course on media development audio / radio. The reason is because the characteristics of the media is deemed most suitable to the existing problems. Besides, the addition can be studied independently, oriented to students, as well as having full information (Degeng 2008: 2)

B. METHOD

1. The study design

This research is included in the form of research and development (research and development) . Model development of e -learning using ADDIE development model . there are five stages in the ADDIE development model, namely Analysis, Design, Development, Implementation, and Evaluation. The stages of research and development ADDIE can be seen in the following figure.

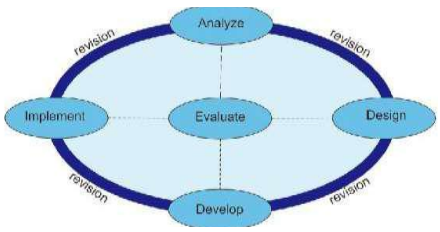

Figure 1. Concept ADDIE

(Source : Branch, 2009: 2)

Based on ADDIE development concept put forward by Branch can be prepared a design for the development of research. This design is more to explain the concepts and

procedures in the study. The following explanation of the concept of research and development that can be seen in the following table .

Table 1. The concept of research and media development

Concept	Indicators
1. Analysis Analyze the need to define the problem and the appropriate solution and determine student competence is the basis for the development of e -learning	1. Analyze the learning activities by making observations . 2. Analyze the media needs to lecture the media development of audio / radio 3. Analyzing the development of teaching materials on college media audio / radio
2. Evaluation I Choosing a solution from the needs analysis	4. Determine the use of media in accordance with requirements
3. Design Determine the design of the development , assessment , and implementation of media	5. Develop the characteristics and specifications of media. 6. Develop an outline of the content of the material in the media . 7. Designing media . 8. Make media assessment instrument . 9. Develop learning activities .
4. Evaluation II Evaluating the design of media	10. Validate the instrument
5. Development Generate e -learning	11. Make e -learning . 12. Develop teaching materials . 13. Validate media and materials .
6. Evaluation III To evaluate e -learning products after the development process	14. Conduct a feasibility assessment of the media in terms of subject matter experts and media experts 15. Make improvements in accordance with the input material experts and media experts
7. Implementation Implement e -learning	16. Implement the use of e -learning in the learning 17. Completion of the questionnaire students
8. Evaluation IV An evaluation after the implementation is done	18. measure the feasibility of the use of e-learning based questionnaire 19. Revise

2. Subject of the study

The subject of research in the development of e -learning on the subject of media development audio / radio is a subject matter expert and competent media experts with the materials and the media developed . Subject matter experts are two lecturers of the study program that administer educational technology course development audio media / radio .

Expert lecturers media are two study programs that administer educational technology course teaching media and as many as 60 student class of 2014 as the subject of practical utility testing

3. Data collection techniques and instrument development

Media developed must be tested to determine the feasibility of the product. Instruments to test the product in the form of a questionnaire / questionnaire . Tests conducted on subject matter experts , media experts , and students to assess the feasibility of the product .

a. Instruments Expert Content

Creation and development subject matter expert questionnaire was conducted to determine the quality of learning material from the aspect of education . Questionnaire for subject matter experts from the aspect of content and language . The following lattice material expert questionnaire can be seen in Table 2.

Table 2. Lattice questionnaire to subject matter experts

No	Aspect	Indicators	Item number
1.	Content	The accuracy of the content of - the material . - the level of ease pemahanman material. - Systematics material. - The use of matter - Relevance matter with material. - Relevance tasks aim. - Ease of application . - Relevance to the conditions learners.	 1,2,3,4 5,6,7 8,9 10,11 12,13 14,15 16,17 18,19 20,21
2.	Language	- Legibility. - Clarity of information . - The use of language	22,23, 24, 25 26,27 28,29, 30, 31

b . Instruments Media Experts

Testing of media experts carried out to determine the feasibility of such media . Questionnaire for an expert review of aspects of display media, interactivity, and expediency. Here grating media expert questionnaire can be seen in Table 3 .

Table 3. Lattice questionnaire media expert

No	Aspect	Indicators	Item Number
1	isplay	- font size	1,2
		- writing	3,4
		- text color	5,6
		- The picture quality	7,8,9
		- The composition of colors display	10,11
		- The composition of colors writing to background color .	12,13
		- The layout of the buttons	14,15,16
		- Order of appearance	17,18,19
2	Interacti-vity	- completeness amenities	20,21,22, 23
		- easiness	24,25
		- Operation independently	26,27
3	expedien cy	- Help in learning	28,29,30
		- The focus of attention	31,32
		- Ease of process learn	33,34

c . Instruments Students

The questionnaire used to determine the response of students after using e -learning. Aspect that is seen is the aspect of media, materials and expediency. Here grating questionnaire to the user can be seen in Table 4.

Table 4. Lattice questionnaire for students

No.	Aspect	Indicators	Item Number
1	Media learning	display media Ease of use the attractiveness the suitability of the material	1,2 3,4 5,6 7,8
2	Matter	Language Problem shown Task	9,10 11, 12 13,14
3	benefit Media	Motivation to learn Help in learning	15,16 17,18, 19

d. Data analysis

Data analysis technique used is descriptive qualitative and quantitative analysis with the average . Descriptive quantitative technique is quantitative data which will then be converted into qualitative data . Descriptive techniques are used to provide a snapshot of the data.

The scale of measurement using a Likert scale . Data obtained through questionnaires from subject matter experts , media experts , and students . Scores of Likert scale then searched the average. The following scoring criteria on the questionnaire.

Table 5. Criteria scoring

Information	Scor (Item Number Positif)	Scor (Item Number Negatif)
SS (Strongly Agree)	4	1
S (Agree)	3	2
TS (Disagree)	2	3
STS (Strongly Disagree)	1	4

The collected data is averaged . Following the calculation of the average formula :

$$\bar{X} = \frac{\sum X}{n}$$

Information:

$\bar{X}$ = mean score

$\sum X$ = total score

N = number of votes

The data have been obtained from the subject matter experts , media experts , and students become qualitative data . Prior to transform data into qualitative data , search for criteria in the placement value . Class number is 4 and a score of 1 to 4. Here to determine the interval of each class .

Distance interval = highest score - lowest score

the number of class intervals

$\frac{4-1}{4} = 0,75$

Based on the above calculation , classification obtained following criteria .

Table 6. Classification criteria

Average Score Answer	Classification Criteria
>3, 25 – 4	Very decent
>2,5 – 3,25	worthy
>1,75 – 2,5	Less worthy
1,0 – 1,75	Not feasible

C. RESULTS AND DISCUSSION

This study uses a model ADDIE stages as follows: (1) Analysis (Analysis), (2) Design (Design), (3) Development (Development), (4) Implementation (Implementation), (5) Evaluation (Evaluation). The products of this research is an e-learning course development on audio media / radio. Here's an explanation of each stage.

Description of Research Results

This study uses a model ADDIE stages as follows: (1) Analysis, (2) Design, (3) Development, (4) Implementation, (5) Evaluation. The products of this research is an e-learning course development on media audio / radio

1. Analysis

The study began with a needs analysis conducted by direct observation in the field, interviews with the lecturers. Observations and interviews conducted in the course of educational technology. Observation aimed to find learning activities, the use of available

media and materials to be delivered by lecturers. Data obtained from the observation is as follows.

a. Learning Activities

Seeing the condition of the course development of audio media, especially on the material development of the manuscript there are several issues that need to be solved soon appears, and problems occur in every generation as students take a course in media development audio / radio. In practice most students have difficulty in developing media manuscript audio / radio. This is because of the limited time lecturer in screenwriting explain the material and the limited-time students in writing the script audio / radio, so the impact of the lack of student understanding of course material and scriptwriting to impact on the work of the student texts that have not been feasible to produce. Standard mastery of materials specified maximum within 6 (six) weeks students have been able to develop the script with the results of standardized production.

b. Use of Media and Instructional Materials

1) The medium used to convey the material using an LCD projector

2) teaching materials still menggunanakan materials provided by lecturers.

c. Facilities and infrastructure

Facilities and infrastructure are provided courses are good enough but not used in the best possible. Additionally, wifi and LAN are provided to support learning.

d. Competence To Accomplish

Competency to be achieved student is able to develop the script and the production of learning media audio / radio as the final project course.

Based on an analysis of the above problems , one of the media that is able to overcome the existing problems is to develop e -learning . Because the media e -learning can be used by students anytime and anywhere Additionally , to minimize the role of teachers so students are expected to be more active in the learning process . Moreover, the facilities and infrastructure that have been provided by the study program is sufficient for their online learning .

2. Design

Design development of e-learning consists of five stages: preparing the characteristics of the media, outlining the content of the material in the media, design media,

create media assessment instruments, and develop learning activities . The results of the event are as follows .

a. Compiling Characteristics Media

E-larning can be used without bounded by time and used independently outside the classroom. E-learning can be used in Notebook or Netbook and incorporates the Android software on the PC. E-learning has kararkteristik interactivity where there is a material that can be accessed, communication forums, quizzes, and animation that makes the students can interact. Users are students and faculty are listed in the database. Students sign in using NIM as the username and password provided by the researcher.

b. Develop Content Outline Content in Media

An outline of the contents of the materials contain original plan materials or topics that will be presented in e-learning. The material in the form of materials and procedures for preparation of the manuscript media production audio / radio.

c. designing Media

Software used is software Moodle 1.9, xampp-win32-1.7.3, Nitro PDF, Notepad ++, Paint, CorelDraw, Microsoft Office Visio, Macromedia Flash 8, firebug and YTD Video Downloader 2.0.7. Flowcharts used to describe e-learning work.

The following description of the flowchart.

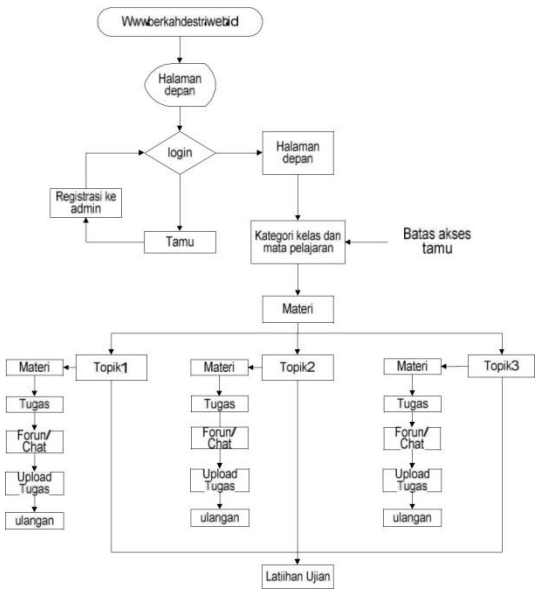

Figure 2. Flowchart

d . Make Instrument Media

At this stage is the preparation of assessment tools to media experts , subject matter experts and student questionnaires . This instrument uses a Likert scale . Questionnaire using

four answer options , namely STS (Strongly Disagree), TS (Disagree), S (Agree), and SS (Strongly Agree). Answer options have a value score of 1 to 4 .

Instruments subject matter experts composed of 31 items which include aspects of assessment content and language . Media expert instrument consists of 34 items assessment includes aspects of display , interactivity and usefulness. Student Questionnaire consisted of 19 -point declaration includes aspects of media, materials and benefits.

The instrument has been made in the validation by experts . Validation is done 2 expert lecturers with doctoral degree . After that , a few grains revised in accordance with suggestions validator .

e . Develop Learning Activities

Assisted learning activities using Semester Lesson Plan (RPS) and Unit Class Events (SAP)

3. Development

At this stage consists of three steps: 1) create e-learning, 2) prepare materials, 3) validate the materials and media. The results of these steps are as follows

a. Creating E-Learning

1) Setting up the software

The main software is prepared Moodle 1.9 and XAMMP software. Moodle 1.9 to make the screen display of e-learning and its facilities. Xampp-win 32-1.7.3 used to put the database offline. Nitro PDF is used to store the materials in PDF form. Notepad ++ is used to change the theme and change the program. Paint used for image processing, CorelDraw is used for image processing. Microsoft Office Visio is used to create a flowchart, Macromedia Flash 8 to create animations, firebug 2.0.7 to help edit and oversee CSS, HTML, DOM, XHR, and JavaScript, while YTD Video Downloader download videos.

2) Installation Software

Moodle software installation process on a computer is as follows.

a) Setting up file-win 32-1.7.3 software Xampp and Moodle 1.9.

b) Install the software Xampp-win 32-1.7.3. Xampp is used as a place to put the database offline. The database is stored in the Local Disk C. Following the initial appearance of the software.

Figure 3. *Xampp-win 32-1.7.3*

c) Once installed then enable Xampp Control Panel Application .

d) Choose Start on Apache and MySql .

e) Put the file moodle into the Local Disk C : / Xampp / htdoc .

f) Open a web browser at http : // localhost / phpmyadmin / and then create a new databse .

g) Open a new tab and then go to the address localhost / moodle to install moodle .

h) Install Moodle and fill in the necessary data . Once the new ready moodle do if the views , amenities, database user , and format of learning in it

Offline storage database is used to store data is e - learning made in order to facilitate in developing the content and appearance of e -learning .

3) Display and facilities

E-learning is made using the facilities available in Moodle. Basic display used is premium-1. Then the basic look of premium-1 modified according to the needs with the help of Notepad ++ and firebug 2.0.7. Animated images and text created using the help of Paint, CorelDraw and Macromediaflash8. The facilities were setup in it, among others, the material of each topic, quizzes, discussion forums, upload assignments and chat. Here's the view of the e-learning.

4) Network online

E-learning has been made offline are made to be online. Domain and hosting needed to create e-learning to be online. The process of creating e-learning offline to online is (a) set up a domain and hosting, (b) create a database of e-learning to put on phpmyadmin, (c) before making an online advance change in the form of e-learning in the form of file .sql offline , (d) import files in the form of e-learning .sql to a database that had been prepared in a domain that is already prepared

b. Develop Materials

The material prepared in conjunction with the display setting and facilities. The material is inserted into the e-learning in the state when offline. Topics are presented in accordance planned at the design. Content and work presented in PDF form for easy access when it is not in the online state. Daily tests made with the facilities already provided in the facility Moodle. The first topic presents the material in the form of PDF, the task, the repetition and the way video editing content. The second and third topics only provide materials in PDF form, practical assignments and quizzes.

Task adapted to the material being taught. Deuteronomy or quiz consists of multiple choice with 4 options to answer. Tasks are intended to provide experience to learners regarding the material studied. Deuteronomy intended to help students deduce the material being studied.

c. Doing Validation Media and Content

Validation is done with the purpose of requesting the opinion of experts about the weakness of the product. Media experts suggest improvement and assessment of e-learning. After that, improvements were made in accordance with the advice that has been given. Validation is done by two people matter experts and two experts media. Media experts are 2 faculty educational technology courses. Subject matter experts are 2 faculty educational technology courses. Validation of two experts are intended to mendapakan information for the improvement of e-learning. The assessment results can be seen in the data analysis.

4. Implementation (Implementation)

Products are declared eligible by subject matter experts and media experts are used as the implementation of the user. The results of this trial used as a reference for the next revision. The subjects of this study were 60 students. Trial or introduction of the product to the students performed during two meetings.

5. Evaluation (Evaluation)

This stage is used to determine the revision of the e-learning course development on audio media / radio from experts. Then to determine the feasibility of the product is based on an expert assessment.

B. Analysis of Data

Data analysis was performed to determine the learning , the feasibility of e -learning . The initial activity carried out in consultation with the two subject matter experts , and two media experts . Input from subject matter experts and media experts serve as revision e -learning , and then tested to 60 students .

1. Data Expert Content

Subject matter experts provide suggestions for product revision . Revision suggestions are: 1) the use of English Indonesian replaced , 2) the material is better not only in the form of PDF , 3) storage material in the form of video incorporated into e -learning in the form of embed , 4) needs to be added to the material in the form of animation .

The tests given to determine the feasibility of the subject matter experts . The results of this validation is viewed from a questionnaire completed by a subject matter expert . Following validation of the results matter experts

Table 7. Data Expert Content

No	Aspect	Mean	category
1	Content	3,12	Eligible
2	Language	3,05	Eligible
Total score		6,17	
mean Score		3,08	Eligible

Table 7. provide information that the subject matter experts provide an assessment of the total mean score of 3.08. Based on the eligibility criteria in Table 8 , the expert assessment of the material of the products included in the category of " Eligible" .

2. Data Expert Media

Media experts give suggestions for the revision of the product. Suggestions revision products namely: 1) the text color can be varied, 2) provide exercises of each question for each topic, 3) must be supported by SAP that directs students to use e -learning. 4) the place to upload assignments made on each topic , 5) Quiz created several pages.

The tests given to determine the feasibility of the media expert . The results of this validation is viewed from a questionnaire filled out by the media expert . Following the results of validation of media experts .

Table 8. Data Expert Media

No	Aspect	Mean	Category
1	display	3,39	very decent
2	interactivity	3,56	very decent
3	expediency	3,50	very decent
Total score		10,46	
mean Score		3,49	very decent

Table 8. provide expert information that the media provide an assessment of the total mean score of 3.49 . Based on the eligibility criteria in Table 8 , the media expert assessment of the products included in the category of " Very Decent " .

3. Implementation Results Data

a. Data Results Implementation Students

Product feasibility test data obtained from the questionnaire to the student . Data questionnaire results can be seen in Table 9.

Table 9. Results of Implementation of the student

No	Aspect	Mean	Category
1	Instructional Media	3,21	Eligible
2	Matter	3.12	Eligible
3	benefit	3,24	Eligible
	Total score	9,57	
	mean Score	3,19	Eligible

Table 9. provide information that students provide an assessment of the total mean score of 3.19 . Based on the eligibility criteria in Table 8 , the assessment of students to products included in the category of " Eligible"

D. DISCUSSION OF RESULTS

This research was conducted to develop an e -learning course development on audio media / radio and tested the feasibility . The development of e -learning using ADDIE development in the hope students can use the media to facilitate learning. Ratings using a Likert scale questionnaire with four possible answers . The highest score is 4 and the lowest score is 1. The discussion that determine the feasibility of e-learning products on the subject of media development audio / radio are as follows 1. Results Matter Expert

Expert assessment of the material to the material contained in the e -learning got a mean score of 3.08 . According to Table 7 , the test results show the two subject matter experts " worthy " to be used . But do not rule out the need for revision of the product from subject matter experts . Results of the assessment of subject matter experts can be seen from Figure 4 below.

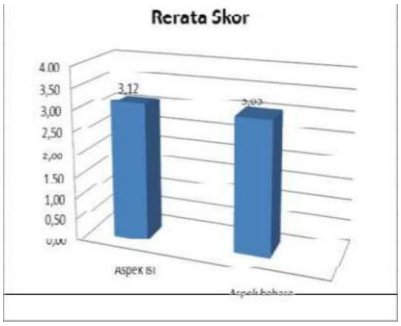

Figure 4. Graph Results Matter Expert Assessment

2. Results of Media Experts

Media expert assessment of the e -learning got a mean score of 3.49 out of a maximum score of 4 which criterion can be seen in Table 8. The test results of products from two media experts shows e -learning " very feasible " to be used as a medium for learning. However , do not rule out the need for revision of the product. Results of the assessment of media experts can be seen from Figure 5 below.

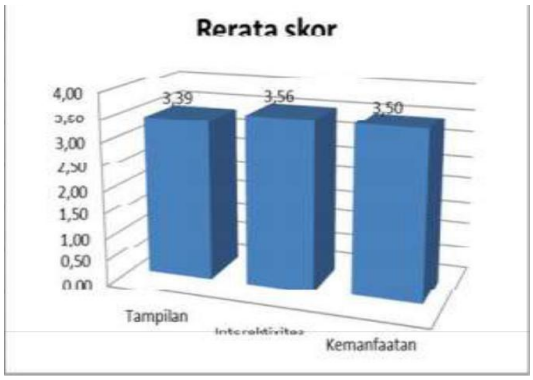

Figure 5. Graph Assessment Expert Media

4. Results of Implementation

a. Results Implementation of student

The trial of 60 students get the result by 3.19 . The results suggest that e -learning "worth " is used as a medium of learning . The results showed that students' perceptions on the products . Results of the assessment of students can be seen from Figure 6 below.

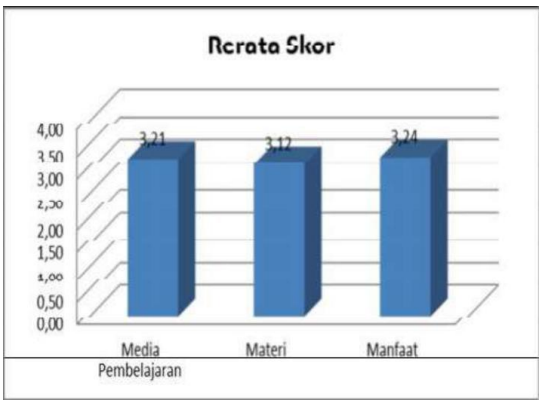

Figure 6. Graph Results Implementation Students

Based on the above discussion of subject matter experts categorize "eligible " , media experts categorize " very decent " , the results of the implementation categorize "eligible " . It can diisimpulkan that the results showed the e - learnig fit for use as a medium of learning on the subject of media development audio / radio . Media is expected to assist faculty performance and can assist students in learning.

E. THE END OF ARTICLES

Conclusion

Based on the results of the discussion , this research can be concluded that the assessment of media experts on e -learning , their mean of 3.49 is considered " very decent " and an expert assessment of the e -learning materials , their mean of 3.08 is considered " feasible " . It can be concluded that the media e -learning course on the development of digital audio / radio worth using.

Suggestion

Based on the results of research stating that the product is fit for use in learning , so that some of the advice may be given, among others :

1. Further studies to see how far the learning outcomes using this product .
2. Further studies to be more feature complete .

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