

Development Of Front Office Digital Modules On Applications On Android For Practical Learning In Tourism Schools

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ABSTRACT

Online learning during this Covid-19 Pandemic faces various obstacles, the lack of supporting internet network facilities in each area, and the lack of teaching materials, especially in digital modules, it gives teachers more assignments than providing learning materials in class. This phenomenon must be addressed immediately by creating an Android-based digital module that was used during classroom learning. The research method used is Research and Development (R&D) using the ADDIE (Analyze – Design – Development – Implementation – Evaluation) model. This Android-Based Interactive E-Module learning media can be used offline, designed and developed using software to convert word files into ePub extension files. This media consists of concept maps, material descriptions, learning videos, and interactive quizzes packed all in one form, hoping that students can be more active in the learning process in class. This discovery is expected to answer the goals of this research, which include creating digital e-modules in the front office learning at tourism schools.

1. Introduction

At the end of 2019, the emergence of viral infection spreads rapidly worldwide, and the virus is called COVID-19. The first COVID-19 cases were discovered in Wuhan, China. The World Health Organization (WHO) announced on March 11, 2020, that COVID-19 was declared a pandemic. To date, 215 countries have been infected with the coronavirus, with reports of 12,768,307 infected cases (WHO, 2020)). Indonesia is one of more countries affected by COVID-19. This virus has spread in Indonesia from last March until today. A total of 72,347 positive cases of COVID-19 in Indonesia (Indonesian COVID-19 Acceleration Task Force, 2020). The COVID-19 pandemic has affected all walks of life, especially education. As a result of the COVID-19 pandemic, schools from kindergartens to universities have been closed. UNESCO said 300 million students were disrupted in their school activities and temporary school closures due to health and crises (Handoyo, 2020)). COVID-19 made a trial of mass online education implementation (Sun, Tang, & Zuo, 2020).

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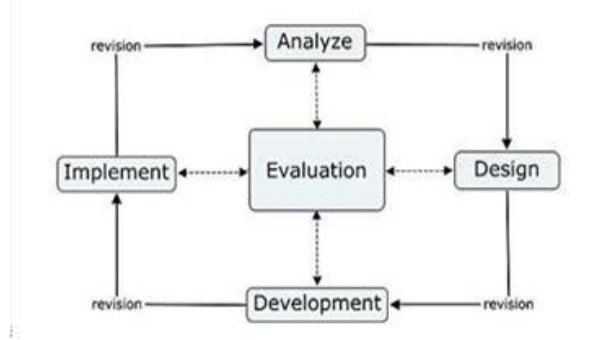
Online learning is the implementation of online learning classes to reach a massive and broad target group so that online learning can be held anywhere and attended for free or paid (Bilfaqih & Qomarudin, 2015). In addition, online learning utilizes the internet network in the learning process and provides practical learning methods such as practicing with feedback, combining collaborative activities with independent learning, personalizing learning based on children's needs using simulations and games (Ghirardini, 2011; Isman, 2016). Online learning or the application of e-learning in early childhood education has become a practical solution to the problems faced (Nichols & McLachlan, 2006). Online learning has benefits such as building communication and discussions between teachers and children, children interacting and discussing with one another, making it easier for children to interact with teachers and parents, the suitable means to see children's progress through parent reports with targets that parents can see direct development, teachers can quickly provide material to children in the form of images, videos, and audio that can be downloaded by parents directly, and make it easier for teachers to make materials anywhere and anytime (Sobron et al., 2019). One form of interactive learning media that utilizes smartphones is an Android-based interactive e-module using Sigil Software. Flip pdf Professional Software can convert word files into ePub extension files read on Skoob's ePub Ebook Reader application. Android-based interactive e-module using Flip Pdf Software is one of the introductions before learning activities aiming to make students have an initial understanding before learning, students are more prepared and motivated in participating in learning (Z. Chen, Stelzer & Gladding, 2010; Sadaghiani, 2012) and for the solution to overcome the problem from ineffective use of textbooks, where some students do not read books carefully and take much unimportant information (Hill et al. 2015; Sadaghiani 2012; Chen et al. 2010). Android-Based Interactive E-Modules using Sigil Software are modules in digital form, consisting of text, images, animated videos, experimental videos, simulations, games, and competency tests to make students more interactive in learning activities. Learning media also provides opportunities for teachers to develop learning techniques to produce maximum results (Sugianto 2013).

The interactive learning process is the interaction between students and teachers or students and learning media used to improve the quality of learning (Wiyoko, 2014). The interactive principle implies that teaching is not just a transfer of knowledge from teachers to students, but teachers must manage an environment that can stimulate students to learn (Hupbing, et al., 2012). The current implementation of multimedia techniques is more effective for learning physics concepts than other concepts to achieve conceptual understanding (Chen Z et al. 2010). The use of media in the learning process becomes an essential requirement to deliver information to students. This study aims to: (1) develop android-based interactive e-module learning media using Flip pdf Software on dynamic electrical materials, (2) determine the feasibility level of android-based interactive e-modules using Sigil Software and (3) determine the effectiveness of using e-modules. Android-based interactive module using flip pdf software.

2. Method

This research is a research and development (Research and Development) with the ADDIE model, as shown in Figure 1. The ADDIE model has five stages: Analyze, Design, Development, Implement, and Evaluation (Branch 2009). The development carried out is the manufacture of learning media in interactive e-modules based on Android for Front office subjects in the field of reception and reservation expertise for Hospitality Vocational High School students in Bandung Raya. This development research was piloted at the Subject Teacher Conference in West Bandung Regency, totaling 30 teachers.

Image 1



ADDIE Model Development Stage

Analysis of data on the development of an Android-based interactive e-module using Sigil Software used descriptive analysis.

The data analysis technique from the validation test questionnaire was assessed using a Likert scale rating points 1 to 4 as shown in table 1. ([Sugiyono 2007](#)):

Table 1. Likert Scale for Assessment

Alternative Answers	Score Weights
Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

Validation is calculated in the following way:

Furthermore, the percentage of scores obtained from alternative answers is then measured using the interpretation of scores for the Likert scale as in table 2.

Table 2. Interpretation of Likert Scale

Percentage	Interpretation
0% - 25 %	Very not good
26% - 50 %	Not good
51% - 75 %	Good
76% - 100%	Very Good

Meanwhile, to find out the increase in knowledge competence of teachers in tourism subjects before and after using Android-based interactive e-module learning media using N-Gain calculations. From the N-Gain value, it will be seen the effectiveness of using Android-based Interactive e-module media using Flip pdf Software According to Hake N-Gain calculations as in equation (2) and the classification of the average N-Gain as shown in table 3. below:

Table 3. Average Classification N-Gain

$\langle g \rangle = \frac{\% (G)}{\% (S)_{maks}} = \frac{\% (S_f)\% - \% (S_i)}{\% 100 - \% (S_f)}$	
Average N-Gain Criteria	
$\langle g \rangle \geq 0,7$	$0,3 \leq \langle g \rangle \leq 0,7$
High Medium Low	
$\langle g \rangle < 0,3$	

3. Result and Discussion

The online learning system (in the network) is a learning system without face-to-face directly between teachers and students but is carried out online using the internet network. Teachers must ensure that teaching and learning activities continue, even though students are at home. Teachers are required to design learning media as an innovation by utilizing online media (online). This online learning system (in the network) under the Minister of Education and Culture of the Republic of Indonesia regarding Circular Letter Number 4 of 2020 concerning the Implementation of Education Policies in the Emergency Period for the Spread of Corona Virus Disease (COVID-19). The learning system is implemented through a personal computer (P.C.) or laptop connected to an internet network connection. Teachers can do learning together simultaneously using groups on social media such as WhatsApp (W.A.), telegram, Instagram, zoom applications, or other media as teaching media. Thus, the teacher can ensure that students take part in learning simultaneously, although in different places.

All sectors now are getting the impact from this COVID-19 pandemic. The world of education is one of them. Judging from the Surrounding events, both students and parents who do not have cellphones to support online learning activities feel confused, so the school is looking for solutions to anticipate this. Some students who do not have mobile phones study in groups to carry out learning activities together. Start learning through video calls connected with the teacher in question, asked questions one by one, and took attendance through VoiceNote available on Whatsapp. The materials provided by the teachers in the form of videos are less than 2 minutes long. The problems that occur are not only in the learning media system but the availability of quotas that require a reasonably high cost for students and teachers to facilitate online learning needs. The percentage purchased for internet needs has soared, and many parents are not ready to increase the budget for providing internet networks.

This issue is also crucial for students, what time they have to study and what data (quota) they have, while their parents are low-income or from the lower middle class (underprivileged). Finally, things like this are charged to parents who want their children to continue following online learning. Internet network is a core element that online learning systems need to operate. An Internet network connection is one of the obstacles faced by students whose residence is difficult to access the internet, especially those students who live in rural, remote, and disadvantaged areas. Even if someone uses a cellular network, sometimes the network is unstable because the geographical location is still far from the cellular signal coverage. This signal coverage is also a problem that often occurs in students who take part in online learning so that its implementation is not optimal.

The solution to this problem is to create interactive e-modules online to make it easier for students to get materials, quizzes, and practice guidelines, especially in front office subjects in reception and reservation expertise. The main result of this development research is an Android-based interactive e-module using Flip PDF Software to support dynamic electricity learning media in high school. This Android-based interactive e-module is a medium for front

office learning. The detailed results of each stage of the development procedure are as follows: The analysis stage is the first stage of the ADDIE model. This stage consists of needs analysis and curriculum analysis. The purpose of this analysis is to identify the needs of students and teachers in hospitality learning, to find out the problems in the field felt by students and teachers in the area of expertise related to learning media. A needs analysis was conducted utilizing observation and a questionnaire instrument via google form to 30 teachers' conferences for hospitality subjects. The results of the recapitulation of the needs analysis questionnaire can be seen in table 4 and table 5 ([Solihudin T.J.H 2018](#)).

Table 4. Results of Needs Analysis with Respondents of Teacher Deliberations Subjects

No.	Indicators	Questionnaire Results
1.	Android-based learning media	Good category with a total of 55.6%
2.	Knowledge of the learning medium	Very good category 44.4%
3.	Developed of interactive e-module based on android using Flip Pdf Software	Category Very Good 44.4%
4.	Hopes of developing interactive e-module based on android using Flip Pdf Software	55.6% added more video and photo content
5.	Students' elusive Front Office material	Reception

Table 5. Results of Needs Analysis with Student Respondents

No.	Indicators	Questionnaire Results
1.	Learning methods in Front office subjects	61.1% very good
2.	Learning support facilities	44.4% very good
3.	Development of interactive e-module based on android using flip pdf Software	100% very good
4.	Hopes of android-based interactive e-module development using flip pdf Software	More innovative again

Based on the results of the needs analysis above, it is known that the West Bandung Regency Teacher Deliberation requires a learning media that can overcome the problem. Based on the needs analysis results above, it is known that the West Bandung Regency Subject Teacher Conference requires a learning media that can overcome the problem from the lack of learning resources, student's difficulties in dynamic learning electrical materials, and cognitive learning outcomes that are less than optimal. This Android-based interactive e-module is easy to use, easy to access anytime and anywhere, both online and offline. The front office material presented is integrated with simulations/animations/learning videos to help students face the competency test held by LSP. The design stage (design) consists of compiling material content, selecting media by indicators of competency achievement, collecting or making images, videos, animations, compiling competency tests. After compiling the concept map, the next step is to design the cover using the Microsoft Office PowerPoint program created with the JPG extension. Pictures and videos are taken online via the internet or manually through a scanner. And then customize the images and videos for developing the content. The next step is to prepare reference sources either in reference books or quotations from the internet to facilitate making and creating Android-based interactive e-modules. The development of this Android-based interactive e-module media was then consulted with material experts and media experts to be given input about the material content and design to

be developed. The android-based interactive e-module design uses the format of the Directorate of High School Development (Directorate General of PSMA, 2017) as follows:

Table 6. Android-based interactive e-module framework using Flip pdf Software

No.	Early Part	Contents section	End Section
1	Cover	Material Title	Quiz
2	Foreword	Concept Map	Bibliography
3	Table of Contents	Perception/ Motivation	Chord Keys and Guidelines
4	Glossary	Material Description (Video)	
5	Competence (KD/GPA)	Assignment	
6	Learning Objectives	Problem Training	
7	Usage Instructions	Summary	

The development stage includes activities to combine material content, images, and tables into one file using the Microsoft Office Word program and then save it in doc format to make it easy to edit if an error occurs. The next step is to keep the word file in a filtered web page with the extension HTML 5 to be read when opened with the flip pdf program. Video editing can use any converter software or factory format software. The video format must be in MP4 form so that Android smartphones can read it. After all the required files are complete, the next step with the HTML extension is inserted into the flip pdf program to be used offline. At this stage, validation, revision, and small group testing are carried out. Product validation is carried out to obtain the validity and feasibility of the resulting media. Suggestions in the form of comments, input, weaknesses, and product strengths are assessed by experts. Based on the learning media validation test results by media experts, experts, and MGMP teachers in the hospitality sector, the results are shown in Table 7.

Table 7. Validation Test Results

Validation test	Percentage	Interpretation
Media expert	87,30 %	Excellent
Materials expert	86,15 %	Excellent
Master of Hospitality	87,00 %	Excellent

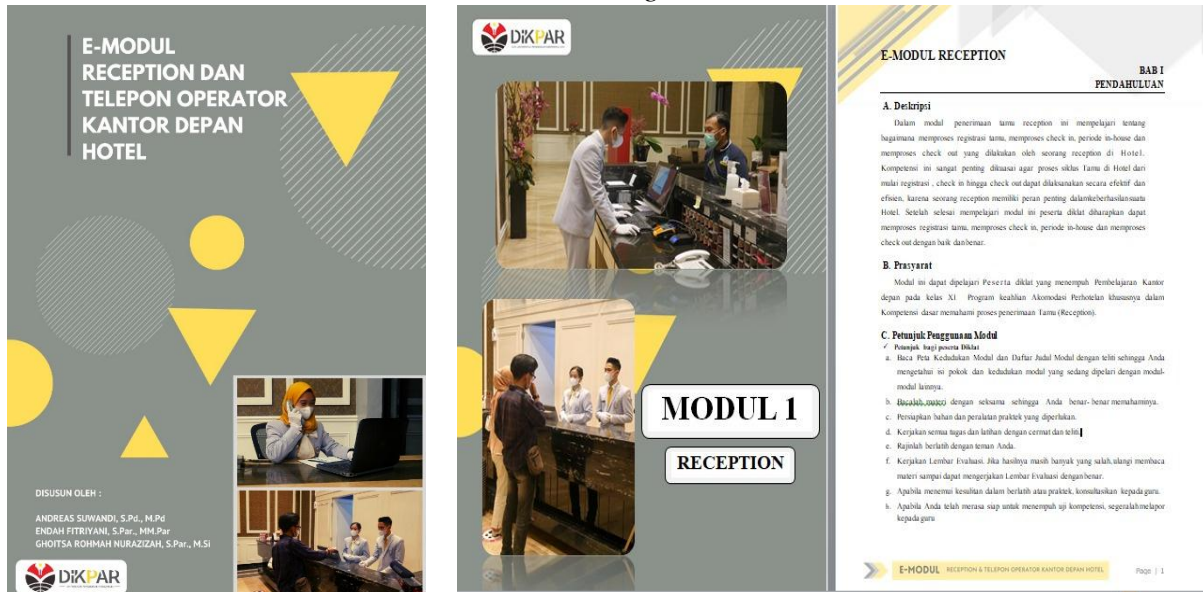
The results of the android-based interactive e-module validation test using flip pdf software dynamic front office material by media experts showed an achievement percentage of 87.30% with excellent interpretation on all aspects of the media. The results of the E-Module Interactive Module Validation Test Based on Android front office material by material experts showed an achievement percentage of 86.15% with excellent interpretation on all aspects of the material, and the results of validation tests by teachers of front office areas of expertise showed an achievement percentage of 87.00% with excellent interpretation on all aspects of the material.

The next step is implementing. Android-based interactive media e-module using Sigil Software which media experts have validated, material experts, and front office teachers is piloted to students. The trial was conducted on students of class XII SMKN 1 Cisarua to find out its effectiveness. Field tests are conducted by handing out android-based interactive e-modules using flip pdf Software to each student. Then students study the interactive module for one week, and students fill out a questionnaire to assess the wisdom, ease, and usefulness of interactive modules.

The last stage is evaluated. In this stage, android-based interactive e-modules using Sigil Software have been implemented to get feedback in the form of comments and suggestions from both students and from front office teachers. Then revise it back to become a decent and better

product. Android-based Interactive e-module learning media display using flip pdf Software as shown in figure 2(image 2).

Image 2



Android-based interactive e-module using flip pdf Software

The final stage of this development research is an android-based interactive e-module using flip pdf dynamic electrical material software that has undergone several previous evaluation stages. The results of external product tests related to student response and assessment of product use can be used to assess the level of product efficacy, ease, and usefulness according to the user's view shown in table 8.

Table 8

Assessment Indicator	Score	Interpretation
Ministry	83,33 %	Pull
Ease	95,83 %	Pull
Benefits	91,67 %	Useful

External test results showed that the product of the interactive module is considered attractive, easy to use, and valuable for students as a source of learning dynamic electrical concepts. This can be seen from the quality score of the interactive modules reaching 83.33%, ease of use 95.83%, and usefulness 91.67%. This shows that android-based interactive e-modules using flip pdf software are considered attractive, easy to use, and valuable for students in improving understanding of front office subjects from theory to practice.

4. Conclusion

The results of external product tests related to student response and assessment of product use can be used to assess the level of product efficacy, ease, and usefulness according to the user's. External test results showed that the product of the interactive module is considered attractive, easy to use, and valuable for students as a source of learning dynamic electrical concepts. This can be seen from the quality score of the interactive modules reaching 83.33%, ease of use 95.83%, and usefulness 91.67%.

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