

## Learning Media of Financial Statements Analysis Based on Mobile Learning

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### Abstract

This study aims to develop learning media analysis of financial statements based on mobile learning; and testing the feasibility of learning media developed based on validation / assessment of expert teams and students. Media Validation was carried out by the Media Expert Lecturer Team and was trialed to 40 students of the Medan State University of accounting program 2018. Broadly, the validation results of the media aspects were categorized as Very Eligible at 89.29% and the results of the field trial evaluation were also classified as very feasible by 86.89% .

**Keywords:** *financial statement analysis, mobile learning, learning media*

### Introduction

The application of Information and Communication Technology (ICT) to the Educational Workforce Education Institution (LPTK) has become an duty, because the implementation of ICT can be one of the indicators for these educational institutions, particularly State University of Medan. There are 3 main objectives in integrating ICT in the learning process, namely 1) to build the ability to solve problems, the ability to communicate, the ability to search for, manage information, and turn it into new knowledge, 2) to develop skills using ICT, 3) to improve the effectiveness and efficiency of the learning process (UNESCO,2002). Online learning is one form of ICT progress made by teaching staff in their learning. In other words, the progress of education has been marked by the learning process that is not centered on teaching staff (Sulastrri & Hakim, 2014).

In the era of all-round technology today is known as the term mobile learning, where the use of mobile media / smartphones and tablets to access online learning. Meanwhile, mobile learning is interpreted as an alternative learning service that is carried out wherever and whenever (Aripin, 2018). In this Era, it is also easy for anyone to access the internet with only an Android-based mobile phone, not just technology, but the pattern of human life is now becoming modern and easy. This can be seen from the use of the latest information and communication technology to communicate with each other (Febriani, 2017).

With the high potential of smartphone users lately, it certainly becomes a new breakthrough in the development of learning media for financial analysis based on mobile learning. Especially now, the world of education is faced with the era of the industrial revolution 4.0 which integrates digitalization, optimization, and the use of information technology which is one of the principles of the industrial revolution 4.0, namely physical assistance and visualization(Martikasari, 2018). One of the advantages of this learning media is in terms of form and visualization(Wartomo, 2016). The flexibility in accessing information anytime and anywhere is one of the considerations for the development of mobile-based learning media (Yektyastuti & Ikhsan, 2016). Another advantage of using mobile-based learning media is in terms of price which is relatively cheaper than a Laptop or Desktop PC(Aripin, 2018).

Research on the use of learning media based on mobile learning has been widely carried out, including (Sabiatus, Soibah, Lusia, 2015) showing the use of mobile learning media can improve student understanding of electronic subjects, as well as (El-Mouelhy, Poon, Hui, & Sue-Chan, 2013) shows that the use of tablets in learning also able to increase the understanding of the material in students. Armed with the results of previous studies, it is necessary to re-implement learning media based on mobile learning in financial

statement analysis courses. As we already know that the financial statement analysis course is a subject that deals with a lot about calculation and mathematical economics.

## Methods

The type of the Research and Development which applied is to produce a media or product (Sugiyono, 2010). The development model used in this study is an adaptation of the (Borg, W.R. & Gall, M.D, 1983) consisting of 10 steps, namely: 1. research and information gathering; 2. planning; 3. development of preliminary product forms; 4. preliminary trials; 5. revisions to major products; 6. main trials based on preliminary trial results; 7. revised operational products; 8. operational trials; 9. revision of the final product; and 10. dissemination and implementation. However, in this study the steps were modified into 5 (five) stages: the first stage is the analysis phase; which consists of preparing to analyze the character of students, and analysis of the material, the second stage is the design phase; designing a learning media application flowchart or storyboard, the third is the development phase; this stage is a revision of the design stage where the instructional media that have been designed are validated for their feasibility by a team of media experts, the fourth stage is the implementation phase; the stage of testing the media product to users, in this case is students, and the fifth stage is the evaluation stage; the final stage of assessment of learning media products that have been made.

**Table 1 Test Material Assessment Instruments**

Aspect	Indicator	Question Item Number
Concept of truth	Clarity of Learning Objectives	1
		2
	Content Truth Judging from the Scientific Aspects	3
		4
	Use of Language	5
		6
Content preparation	Conformity of Contents	7
		8
	Depth of Content	9
		10
	Contextuality	11
		12
	Completeness of content Support tools	13
		14
Potential for implementation	Content ease to Understand	15
		16
	Clear Logic Flow	17
		18
	Interactivity	19
		20

**Table 2. Instrument of media expert judgment**

Aspect	Indicator	Question Item Number
Interface display	Consistency	1
	Easy to understand	2
	Clear instructions	3
	Navigation presentation	4
	Display arrangement	5
	Clarity of colors, fonts and text	6

Table Cont...

	Interface Quality	7
Multimedia	Image conformity	8
	Appropriate combination of elements	9
	Multimedia presentation	10
	Accuracy of content	11
	Display elements interface	12

This research was conducted at the Accounting Study Program, Medan State University, for all stages of evaluation, namely individual trials. The study was conducted in July to October 2019.

The research subjects consisted of media validation subjects and trial subjects. The subject of media validation includes two media experts. Product trials are field trials. Field trial subjects are students who take the Financial Statement Analysis course in the current semester with details of 40 people. The design of this media application product is carried out using one of the *online builders* available on the internet based on cloud as *AppyPie*.

Data collection in this study used a questionnaire / instrument of media validation and trial instruments. The media validation instrument contains a media validation sheet for instructional media experts while the test instrument is an assessment sheet of the quality of learning material by students (used in field trials). The validation instrument and material assessment instrument were adapted (Dian Anggraeni & Kustijono, 2013). The validation instrument is calculated using a Likert scale. The results of the analysis of the instrument will get a score of each instrument then the average instrument is calculated by the formula :

$$x = \frac{\sum x}{n} \dots\dots\dots (1)$$

- Note :  $x$  = average score
- $\sum x$  = item total score
- $n$  = number of items

After getting an average score of each instrument, then calculate the percentage of eligibility with the formula :

$$\text{percentage of eligibility (\%)} = \frac{\text{observed score}}{\text{expected score}} \times 100 \% \dots\dots\dots(2)$$

The percentage results are then matched with the Likert scale predicate :

**Table 3 Likert rating Scale**

Numb.	Percentage	Interpretation
1	0 – 20 %	Very unworthy
2	21 % – 40 %	Not Feasible
3	41 % – 80 %	Sufficient Eligibility
4	61 % – 80 %	Eligible
5	81 % – 100 %	Very feasible

**Results and Discussion**

The following are the results of the model development stages that have been carried out, consisting of stage 1 the student character analysis stage is carried out to help to create an interesting learning and motivate students in lectures, while in the material analysis stage, there are several subjects that become the main material in learning Financial Analysis courses, including Trend Analysis, Ratio Analysis, Sources Analysis and Use of Working Capital, Analysis of Sources and Uses of Cash, and Analysis of Changes in Income.

On the stage 2, in the product design stage is done by making product designs in the form of *flow-charts* and *storyboards*. Flowchart illustrates the flow of navigation in operating learning media on devices *Android*. *Storyboard* illustrates in detail the arrangement of images, writing, effects, animation, and other components on the learning media display screen. The design of learning media products Financial Analysis is carried out using the *AppyPie Builder* assisted by *Corel PhotoImpact*. On the stage 3, in the development stage, a validation test of the media expert instruments was carried out by 2 (two) Lecturers Supporting the Financial Statement Analysis Course. and at this stage a media product modification is also carried out in accordance with the recommendations of the Media Expert recommendations.



Figure 1 Main Menu Display



Figure 2 Material Document Menu Display



Figure 3 Video Material Menu Display

And oh the stage 4, If it has been validated by a media expert, then the field trial phase is continued for students who number  $\pm 40$  people. Finally on the stage 5, Final Evaluation Phase is carried out by evaluating the trial of products in the field, using instruments / questionnaires about the feasibility of the material. The output of the media product is an apk extension file that can be opened on the appropriate device *Android* and then automatically installs the learning media on the device *Android*.

Product validation is carried out by two media experts namely the Lecturer Supporting Team for Financial Statement Analysis, Product Validation is done using a media assessment instrument that has been validated by validator of research instruments in content and construct. Assessment by media experts is assessed based on 2 (two) aspects, namely the interface aspect of 88.57% and the multimedia aspect of 90%, in other words the validation of the media expert produces a value of 89.29% so that it can be categorized as very feasible. The following figure 6 diagram results from the assessment of media experts.

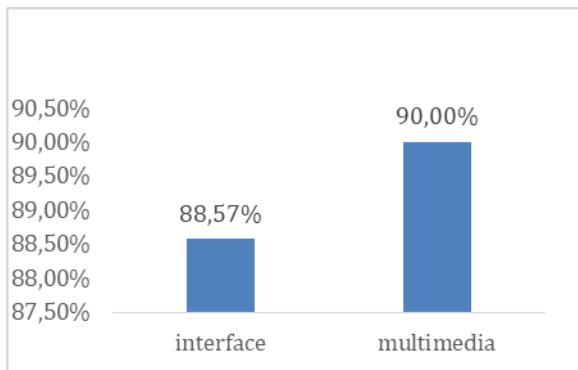


Figure 4 Media Expert Rating Diagram

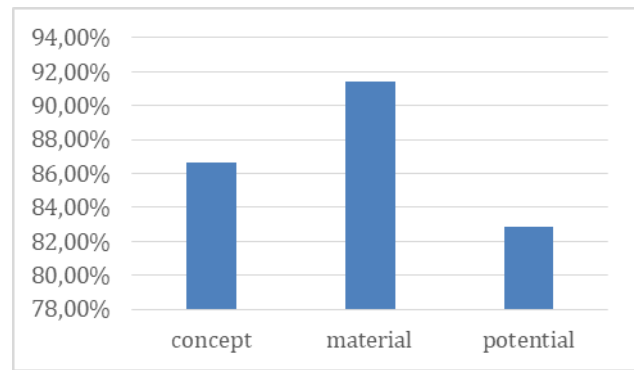


Figure 5 Field Trial Assessment Diagram

Figure 7 above explains the results of the assessment of field trials to students of learning media products developed were assessed at the validation stage consisting of the concept the truth aspect of 86.67%, preparation of material by 91.43% and aspects of the potential for implementation of 82.86%. The results of this trial evaluation were stated at 86.89% so that they could also be categorized as very feasible.



Figure 6 Display Menu Video Material

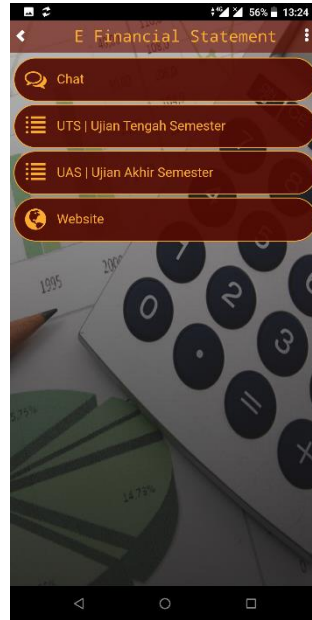


Figure 7 Display Discussion Forum Menu

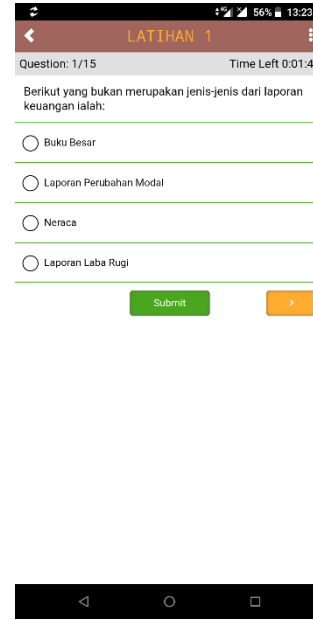


Figure 8 Display Menu Test / Exercise

## Conclusions

The development of learning media based on mobile learning in the Financial Statement Analysis course for the Accounting Study Program at the State University of Medan has been successfully developed using the AppyPie application and assisted with other programs such as the program Corel photoimpact. Based on the assessment by media experts, a percentage score of 89.29% was obtained so that it was included in the very feasible category.

Likewise with the acquisition of the results of the student field trial assessment resulted in a percentage of 86.89% and was also categorized as very feasible, therefore, the development of learning media Analysis of Financial Statements based on mobile learning was worthy of being used as a learning medium and a source of independent learning.

The research of learning media analysis of financial statements based on mobile learning has not yet reached the measurement level of student learning outcomes and also has not yet reached the marketing level via Google Play Store, only rated as limited to the feasibility of the media by the validator, so that it is expected to be further developed in the future.

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