

## **DEVELOPING CHART OF ACCOUNT BASED ON FINANCIAL ACCOUNTING STANDARD**

### **PENGEMBANGAN MOBILE LEARNING ANDROID UNTUK CHART OF ACCOUNT BERDASARKAN STANDAR AKUNTANSI KEUANGAN (SAK)**

**Oleh:**

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#### **Abstract**

The research aims to know the developing process of Chart of Account, to know its feasibility, and to know the students of SMAN 1 Kalasan class XII IPS opinion about the utilization of Chart of Account as a learning media. The type of research is Research and Development with following the ADDIE research model. Media was tested in 27 students of SMAN 1 Kalasan class XII IPS 1. The result of this research presented that the media is feasible to use, and proven by validation from material expert got score 4,27 with “Totally Feasible” category, from a media expert got score 4,33 with “Totally Feasible” category, and from accounting learning practitioner got score 4,81 with “Totally Feasible” category. Responses from students of this media were interesting, practical and really helpful in learning the accounting subject.

Keyword: Mobile Learning, Chart of Account, Android

#### **Abstrak**

*Penelitian ini bertujuan untuk mengetahui pengembangan Chart of Account, kelayakannya, dan mengetahui pendapat siswa SMAN 1 Kalasan kelas XII IPS mengenai penggunaan Chart of Account sebagai media pembelajaran akuntansi. Penelitian ini merupakan jenis penelitian dan pengembangan (Research and Development) dengan mengikuti model penelitian pengembangan ADDIE. Media yang dikembangkan diujicobakan pada 27 siswa kelas XII IPS 1 SMAN 1 Kalasan. Hasil penelitian ini menunjukkan bahwa media layak untuk digunakan, terbukti dengan validasi oleh ahli materi yang mendapat nilai rata – rata 4,27 dengan kategori “Sangat Layak”, ahli media yang mendapatkan nilai rata – rata 4,33 dengan kategori “Sangat Layak”, dan praktisi pembelajaran akuntansi yang mendapat nilai rata – rata 4,81 dengan kategori “Sangat Layak”. Siswa berpendapat bahwa media dikemas dengan menarik, praktis, dan sangat membantu dalam belajar akuntansi.*

Kata Kunci: Mobile Learning, Chart of Account, Android

## **INTRODUCTION**

Accounting is one kind of applied science in economic field. It is clear enough that it is very important. The accounting actors have to know the content of those statements. Not only in accountant, researcher, educator, and financial labour circle but start from the student.

So far transfer of knowledge and science to the students is conducted in the school. It is actually a part of education. Education is one thing very important in human life. Education absolutely need to be done to increase the value and quality of human resource itself. One of the aims of education has been mentioned in the law exposure (*pembukaan Undang – undang Dasar 1945*)

which states “educate the nation and also do execute the world orderliness” (“*mencerdaskan kehidupan bangsa dan ikut melaksanakan ketertiban dunia*”). The law number 20 year 2003 (*Undang-undang No.20 Tahun 2003*) about National Education System (*Sistem Pendidikan Nasional*) states that:

Education is the planned conscious effort so that the student can actively develop their potential to have the power of spiritual religion, self controlling, personality, brightness, noble character, and skill that be needed by themselves, people, nation, and state. With aimed for developing student potential so that they can be the devout human with God, having good character, healthy, bookish, skillful, creative, autonomous, and be a democratic and responsible nation.

*(Pendidikan adalah usaha sadar terencana agar peserta didik secara aktif mengembangkan potensi dirinya untuk memiliki kekuatan spiritual keagamaan, mengendalikan diri, kepribadian, kecerdasan, ahlak mulia, serta keterampilan yang diperlukan dirinya, masyarakat, bangsa dan negara. Dengan tujuan untuk mengembangkan potensi peserta didik agar menjadi manusia yang beriman dan bertakwa kepada Tuhan Yang Maha Esa, berakhlak mulia, sehat, berilmu, cakap, kreatif, mandiri dan menjadi warga negara yang demokratis serta bertanggung jawab.)*

According to Deni Darmawan (2013: 1) Information and communication technology (ICT) is all about technology which is related with taking, collecting, processing, keeping, scattering, and presenting of information. ICT-based learning media is a necessity in this new era and it will be useful for improving the quality of education. Learning media usually use electronic devices because it can be used as student centered-based learning media. This kind of learning media considered to be

more effective and efficient and it also can help in human life.

Related to the previous explanation that students also need to learn the Financial Accounting Standard (*Bahasa Indonesia: SAK*) since right now because of its necessity.

Based on the observation, the problem had found. The main problem which student of SMAN 1 Kalasan class XII have was that difficulty in classifying the accounts while students were not interested to learn *SAK* because of did not practice forms of the book. It was really ironic. If the main problem had not solved yet, it had probably happened the other problem which was followed. As a student, they have to solve any cases in accounting. But it can be imagined when they have the problem at the core of study. So, the main problem that students have should be solved to decrease the rising of another problem. Based on the observation too about 99% of students had the cell phone based android and they used their mobile phone for sending messages and having fun by accessing any social media and game applications. According to that thing, through this final assignment, this research is motivated to develop the learning media based android in a mobile learning form that contain chart of account based on Financial Accounting Standard (*Bahasa Indonesia: SAK*). So that, learning will be more practical to do anywhere and anytime through the media so that students can do learn easier.

So from the background, it can be concluded that the problems are the students' difficulty in classifying account when doing an accounting subject assignment as a main problem of their learning process. So far *SAK* is formed as the thick book, the students of SMAN 1 Kalasan class XII IPS feel that it is so heavy to be brought so it arised the lack of students in SMAN 1 Kalasan class XII IPS interest to learn *SAK*, and lack of students in SMAN 1 Kalasan class XII IPS awareness about the

importance of SAK because of did not practice formed.

This research is restricted in the learning media development that is android mobile learning for Chart of Account based on Financial Accounting Standard. The research focused on measuring the fairness of learning media, not until the influence of study achievement explanation in SMAN 1 Kalasan class XII IPS.

Based on the problem background, problem identification, problem restriction which has been explained, problem formulation in this research are: How is android mobile learning for Chart of Account based on Financial Accounting Standard developed for students of SMAN 1 Kalasan class XII IPS?; How is the feasibility android mobile learning for Chart of Account based on Financial Accounting Standard in SMAN 1 Kalasan class XII IPS?; How do the students of SMAN 1 Kalasan class XII IPS response to the android mobile learning for Chart of Account based on Financial Accounting Standard?

Based on the problem formulation above, the research objective of this research is to know the developing process and feasibility of android mobile learning for Chart of Account based on Financial Accounting Standard in SMAN 1 Kalasan class XII IPS which is validated by material expert, media expert, and accounting practitioner or accounting teacher. Besides that, this research also objected to know the students of SMAN 1 Kalasan class XII opinion about the utilization of android mobile learning for Chart of Account based on Financial Accounting Standard.

## **RESEARCH METHOD**

### **Design of Research**

Developing android mobile learning for Chart of Account based on Financial Accounting Standard (SAK) used the research and development type. Research and development model can be defined as a kind of research which result in the products

and ended with an evaluation process (Sugiyono, 2015:297). So, Research and Development (R & D) is a process or steps to develop a new product or to improve existing products that can be accounted.

According Sukmadinata (2011), the product is not always in the form of objects or hardware such as a book, a module as a learning tool in the classroom or in the laboratory, but it can also be a form of media software Android or computer-based learning. It can be concluded that research development is a process to develop or make software and hardware products that can be used in educational activities.

### **Place and Time of Research**

Research was conducted in SMAN 1 Kalasan class XII, which is located in Bogem, Kalasan, Sleman, Yogyakarta. The research stage was carried out over a period of August 2016 – January 2017 which included planning, research, and reporting stages.

### **Subject of Research**

The subject in this research were one person of learning media experts (Lecturer of Accounting Education, UNY), one person of material experts (Lecturer of Accounting Education, UNY), learning practitioner (Accounting teacher in SMA N 1 Kalasan), and students of SMA N 1 Kalasan class XII social science department. The object of this research was feasibility of learning media.

### **Procedure of Research**

This research procedure adopted ADDIE model of development. The development model consists of five steps that include analysis, design, development, implementation, and evaluation. However, this research was restricted till implementation only. ADDIE developed by Dick and Carry (1996) to design a learning system (Endang, 2011; 200). Research was modified based on necessity.

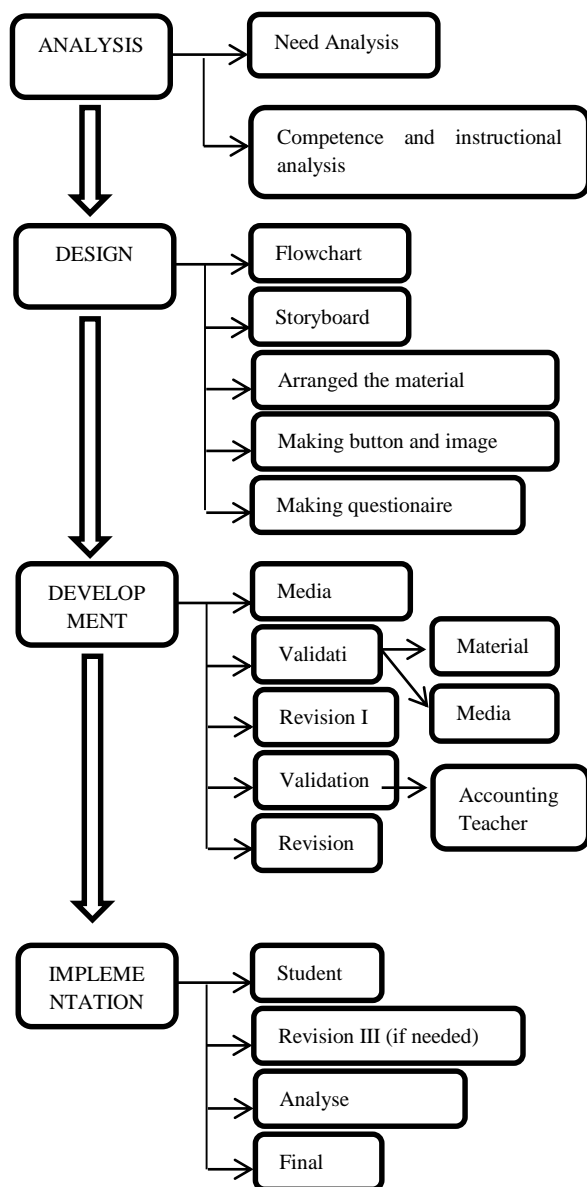


Figure 1. ADDIE Model

**Data, Instrument, and Data Collection Technique**

a). Data

The data collected in this research include quantitative and qualitative data, which are qualitative data are the data about the process of developing learning media and critics, suggestion, opinion of material experts, media experts, accounting learning, teacher and students. Quantitative data are the main data in this research of this media about assessment of feasibility from material experts, media expert, teacher and

students. Instruments which were used to collect data was questionnaire.

b). Data Analyze Technique

The data that had been collected, then went to be analyzed to find out the assessment and the opinion of learning media.

1) Process Data of Developing Media

This data was descriptive data that contain the workflow of media till the last product. Data obtained from the material expert, media expert, accounting learning practitioner, and students in the form of corrections and feedback.

2) Media Feasibility Data

Media assessment data obtained from the questionnaire results by material experts, media experts and teachers. Then the data were analyzed with this following steps:

- i. Changed the qualitative assessment to be quantitative. The data which are obtained after the questionnaire answered was changed in the quantitative data based on the scoring rules with Likert Scale in Table 1.
- ii. Calculated the average value of the whole and every aspect the formula:

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

Descriptions:

$\bar{X}$  = average score

$\sum X$  = total score

N = item field subject

(Eko Putro Widyoko, 2011: 237)

- iii. Interpreted the qualitative value of the overall average and each aspect used the following criteria.

**Table 1. Conversion Criteria Values into The Scale 5.**

Formula	Range	Classification
$X \geq Xi + 1,8$ S <sub>Bi</sub>	4,21 – 5,00	Totally feasible
$Xi + 0,6$ S <sub>Bi</sub> $< X < + 1,8$ S <sub>Bi</sub>	3,41 – 4,20	Feasible
$Xi - 0,6$ S <sub>Bi</sub> $< X \leq Xi +$ $0,6$ S <sub>Bi</sub>	2,61 - 3,40	Moderately feasible
$Xi - 1,8$ S <sub>Bi</sub> $< X \leq Xi -$ $0,6$ S <sub>Bi</sub>	1,81 – 2,60	Not feasible
$X \leq Xi - 1,8$ S <sub>Bi</sub>	0 – 1,80	Totally unfeasible

Description:

Maximum value = 5

Minimum value = 1

Maximum ideal value = number of indicators x highest value

Minimum ideal value = number of indicators x lowest value

X = The average value obtained

XI =  $\frac{1}{2}$  (maximal ideal value + minimal ideal value)

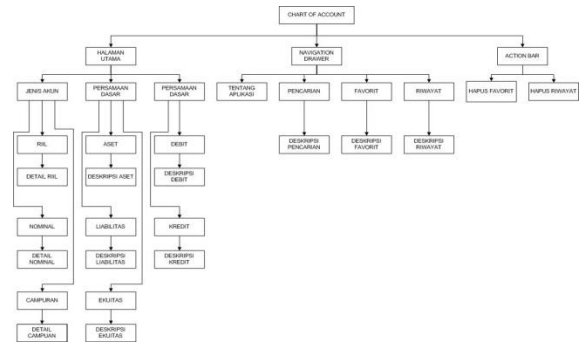
S<sub>Bi</sub> = Ideal standard deviation  
=  $\frac{1}{6}$  (maximal ideal value + minimal ideal value)

(Sukardjo, 2012;98)

**RESULT AND DISCUSSION**

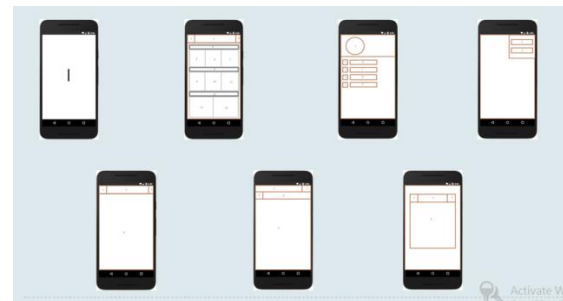
The development of this android mobile learning was using ADDIE development models which are Analysis Stage, Design Stage, Development Stage, Implementation Stage, and Evaluation Stage. But in this research only stopped at implementation Stage. The kind of research had been done by some researchers. The research are also producing the mobile learning with android based application and were done with ADDIE model too. The difference with this research are the subject and the materials that were presented in the media. While the advantage of the product of research is that the materials that is presented can be a problem solver of the main problem that

student of SMAN 1 Kalasan have. Analysis stage was done by analysing of literature study and field study, analysis of competence and analysis of instructional. Design stage was done by making flowchart, storyboard, arranging materials and instrument of media feasibility assessment.



**Figure 2. Flowchart**

Flowchart is chart consist some symbol to show steps in a procedure or programs so it can ease in the media development process.

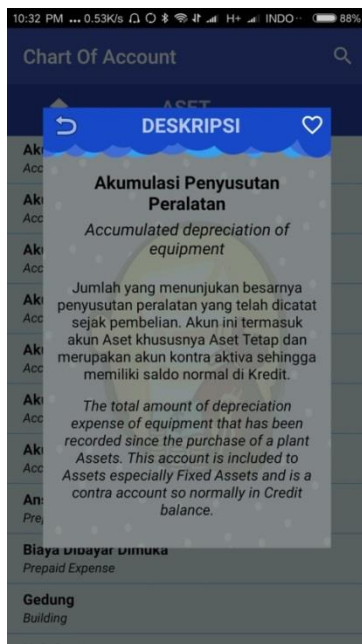


**Figure 3. Storyboard**

Storyboard covers all about the internal media. The storyboard was made to ease the next process of media production and it function like map for the pilot project in the media production.



**Figure 4. Material seen in format .png**  
Material arranged in media from some reference. The material can be seen in media made in html format using Microsoft excel.



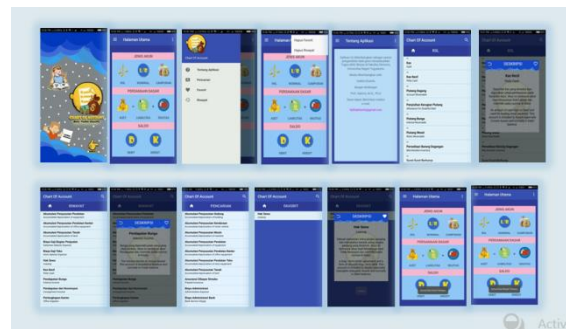
**Figure 5. Background, Image, and Button seen in format .png**

The image displayed in learning media was designed by media maker. Some images were made by combining images from download in the internet. Production and combination of some image was done using Adobe Photoshop CS 3. All of the images

are in png format because this format is smaller than JPEG. Furthermore, background in this media has blue color.

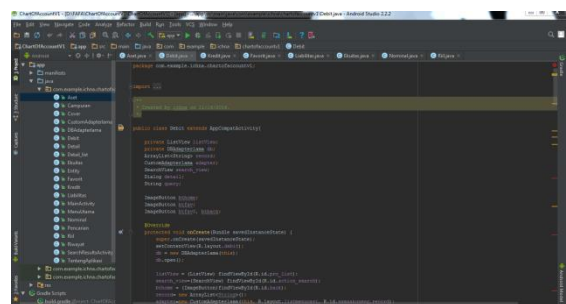
Design stage also arranged the instrument needed for media quality and feasibility assessment such as the questionnaire check list for materials expert, media expert, Accounting practitioner (accounting teacher), and students.

After that, development stage was done by making the media by programmer then the media was validated and was revised based on the assessment by some experts and accounting learning practitioner before was implemented. The production of media was done using Android Studio software.



**Figure 6. Production of media based on storyboard**

The production of media consists of production, coding, testing and deploying.



**Figure 7. Java Class**

Coding is the process of translating application design into the programming language. This step is a very important step in order make the media can be used such as it have been planned previously. This application have class and it has functioned differently. This media have 21 classes.

Then, the testing stage were using Xiaomi Redmi 2, Xiaomi Redmi 3, Xiaomi Redmi Note 2, Smartfren Andromax, Samsung Note 3, Asus Zenfone 4, and Asus Zenfone 5. Testing had to be done in order to know whether the application can function correctly after coding process ran. Moreover, it has purpose to find the weakness and mistake that must be repaired, which can be seen from what is wrong and what can be repaired.

The Deploying Stage is about transferring files Android Package (.apk) to smartphone for the implementation process. The file can be moved to smartphone and connected in USB Debugging mode in order to build the project in Android Studio. The smartphone will do the application debugging automatically.

After the media produced, then through validation I stage. This stage was validated by a lecturers of Accounting Education FE UNY as a material expert and a media expert. The comment and suggestion from material and media expert become the basis of media revision. then continued by Validation II that was done by an Accounting Teacher of SMAN 1 Kalasan as an accounting learning practitioner, and second revision was done based on her suggestion but still consider experts suggestions.

**Tabel 1. Recapitulation Score of Assessment by Material Expert, Media Expert, and Accounting Teacher**

Subject	Total Score	Average Score	Criteria
Material Expert	88	4.27	Totally Feasible
Media Expert	69	4.33	Totally Feasible
Accounting Teacher	109	4.81	Totally Feasible

Source: Primary Data that has been processed.

The table shows the average score and interpretation that was obtained from the experts and accounting learning practitioner assessment. It can be seen that the average scores are more than 4.21, such as the assessment from material expert, it obtained score 4,27. From media expert was 4,33. And from accounting teacher as an accounting learning practitioner was 4,81 that were included in “Totally Feasible” criteria for overall.

Implementation stage was conducted on December 3<sup>rd</sup>, 2016 with 27 students in class XII IPS 1 SMA Negeri 1 Kalasan. Before the media was used, the students were asked to install this media in their smartphone. Media used by researcher and be seen in front of the class while student also practice by themselves. After finished, students asked to respond or to give an opinion by filling out a questionnaire that has been given.

**Table 2. Recapitulation of Student Response for Each Aspect**

No.	Assessment Aspect	Average Score
1	Learning Strategy Effect	4,31
2	Language	4,22
3	Material Organizing	4,15
4	Visual Display	4,15
Average overall aspect		4,21
Media assessment category by student		Totally Feasible

Source: Primary Data that has been processed

Based on the conversion formula by Sukardjo, response from student for media got average score 4,21 and can be categorized as “Totally Feasible”.

Final media of this research is an Android Mobile Learning for Chart of Account based on Financial Accounting Standard. This mobile learning contains the material about account and its classification called “Chart of Account”. The materials are appropriate with core competence that use

for student in senior high school, especially about service company and merchandise company.

There are also limitations in the research and development, which are:

1. This media only contain the chart of account with the restricted description and restricted field, so the users will only get restricted information too.
2. Implementation of media only in SMA Negeri 1 Kalasan class XII IPS 1. Total respondents are 27 students. It did because researcher limiteds by time. So the result of research is not really representing for all student opinion yet.
3. Mobile learning “Chart of Account” is android based learning media used in smartphone at least android 4.4 (Kitkat), it can not be installed in lower android version.
4. The media was not made directly by researcher, but a programmer that has been graduated from AMIKOM, so there are some consideration that reseacher did by following the programmer

## **CONCLUSION AND SUGGESTION**

### **Conclusion**

The development model of Android mobile learning “Chart of Account” as a learning media of accounting for senior high school students was done using ADDIE Model without Evaluation Stage. After it validated and revised, the media was implemented with 27 students in class XII IPS 1 SMA Negeri 1 Kalasan.

Based on the assessment by material expert, the media obtained the average score 4,27 for overall aspects that was considered to be “Totally Feasible” as a learning media used for accounting subject. From media expert, the media obtained the average score 4,33 for overall aspects that was considered to be “Totally Feasible” as a learning media used for accounting subject. And from accounting learning practitioner (accounting teacher) 4,81 for overall aspects that was

considered to be “Totally Feasible” as a learning media used for accounting subject.

While, based on student response, the the feasibility of the android mobile learning “Chart of Account” obtained the average score 4,21 for overall aspect. This result presented that Chart of Account was considered to be “Totally Feasible” as a learning media used for accounting subject.

### **Suggestion**

Research provides some suggestion for utilization further development teacher and students of media as follows. Chart of Account can be added more account or information about each account itself, the description of each account is better if added by example in real implementation in accounting, the application will be better if it is can be installed in all versions of the Android operation system and also all types of PC, for next research, it is better if the dissemination of media through Play Store so that every student in the world can download it, it is better if the media was made directly by researcher, so that consideration and design of media can be done by researcher.

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