DEVELOPING AN AR-BASED USBN LEARNING MEDIA FOR ACCOUNTING MATERIALS IN IMPROVING LEARNING MOTIVATION OF XII GRADERS SMKN 2 CIKARANG BARAT

PENGEMBANGAN MEDIA PEMBELAJARAN MATERI USBN PRODUKTIF AKUNTANSI BERBASIS AUGMENTED-REALITY DALAM MENINGKATKAN MOTIVASI BELAJAR SISWA KELAS XII SMKN 2 CIKARANG BARAT

Gea Octaviani
Accounting Education Study Program Yogyakarta State University
gea.octaviani2015@student.uny.ac.id

Rizqi Ilyasa Aghni
Lecturer in Accounting Education Department of Yogyakarta State University
rizqiilyasa@uny.ac.id

Abstract: This study aims to 1) Develop AR-based accounting USBN material learning media, 2) Know the feasibility assessment based on material, media experts, also student responses, and 3) Know the learning motivation level. This research is a R&D study with ADDIE development model procedure with research subjects are students of class XII AKL with research objects is USBN learning media AR-based and student learning motivation. Based on the results, it's known that 1) The development of learning media is carried out through the Analysis, Design, Development, Implementation, and Evaluation stage; 2) Media feasibility from material expert obtained an average score of 3,52 with a percentage of 87,93% and entered into Very Feasible category, based on media experts obtained an average score of 3,66 with a percentage of 91,41% and fell into Very Feasible category, and based on user response obtained an average score of 3,20 with a percentage of 80,05% and entered into Feasible category; while 3) The motivation level before using the media is known by 66,72% which then increases by 7,67% to 74,39% after use the media with the acquisition of T-paired sample Sig-test. (2-tailed) 0.000<0.05, which can be interpreted as a significant difference of increased student learning motivation.
Keywords: accounting, USBN, augmented reality, learning motivation

Abstrak: *Penelitian ini bertujuan untuk 1) Mengembangkan media pembelajaran materi USBN produktif akuntansi berbasis AR, 2) Mengetahui penilaian kelayakan berdasarkan ahli materi, ahli media, dan respon siswa, serta 3) Mengetahui tingkat motivasi dari penggunaan media yang dikembangkan. Penelitian ini merupakan penelitian pengembangan dengan prosedur model pengembangan ADDIE dengan subjek penelitian yakni siswa kelas XII AKL SMK Negeri 2 Cikarang Barat dengan objek penelitian berupa media pembelajaran materi USBN produktif akuntansi berbasis augmented reality (AR) dan motivasi belajar siswa. Berdasarkan hasil penelitian, diketahui bahwa 1) Pengembangan media pembelajaran dilakukan dengan melalui tahap analisis, perancangan, pengembangan, penerapan, dan evaluasi; 2) Penilaian kelayakan media berdasarkan validasi ahli materi diperoleh rerata skor sebesar 3,52 dengan persentase 87,93% dan kategori Sangat Layak, berdasarkan validasi ahli media diperoleh rerata skor sebesar 3,66 dengan persentase 91,41% dan kategori Sangat Layak, serta berdasarkan respon pengguna diperoleh rerata skor sebesar 3,20 dengan persentase 80,05% dan kategori Layak; sedangkan untuk 3) Pengukuran tingkat motivasi sebelum menggunakan media diketahui sebesar 66,72% yang kemudian meningkat sebesar 7,67% menjadi 74,39% setelah adanya penggunaan media dengan perolehan perihtungan uji T paired sample Sig. (2-tailed) 0,000 < 0,05 yang dapat diinterpretasikan bahwa terdapat perbedaan yang signifikan dari perbedaan nilai atau peningkatan motivasi belajar siswa yang terjadi.*
Kata kunci*: akuntansi, USBN, augmented reality, motivasi belajar.*

INTRODUCTION

Education plays an essential role in the efforts to advance a country; according to Prof. H. Mahmud Yunus (1979), education is an effort that is deliberately chosen to influence and help children who aim to improve science, physical and morals so that it can slowly lead the child to the goals and ideals in order to obtain a happy life and what it does can benefit itself, society, nation, country, and religion. It explains that education is one of the aspects that will determine the progress of a country, which coincides with Indonesia preparing for the industrial revolution era 4.0, namely the comprehensive transformation of all aspects of production in the industry through the merger of digital and internet technology with conventional industries described according to Angela Merkel (2014) in (Prajanto & Pratiwi, 2019). The education system in Indonesia is still grappling with the challenges of era 3.0, namely the educational process that is carried out trying to make learners as people who do and learn, actively independently to ask questions and seek information or in other words, the learning process can be done in a student center learning and no longer oriented to teacher center learning.

This industrial era 4.0 will also dominate human activities in the use of information technology in various aspects, especially in science and technology (IPTEK) and education. However, learning activities in schools still tend to be in learning activities using traditional models, namely with lecture methods and learning media that are still not varied to allow saturation and less motivated learners in the learning process. Supported also by the results of research conducted by Anggi Permana (2015), which mentions that in many cases, there are some learning problems such as students who do not interact in the learning process, learning materials delivered less attractive, less precise teaching methods, or teachers less maximize existing learning media. Therefore, educators have an essential role in determining the concept of existing learning activities to be more exciting and optimize teaching and learning activities, carried out by specific methods will later affect the learning process and the type of teaching media needed. According to Arief Sadiman (2011: 7), learning media is everything that can be used to channel messages from the sender to the recipient of the message. According to Arief S. Sadiman (2011: 17), the proper and varied educational media can excite learning and more direct interaction.

At the implementation stage, the learning media used in learning activities is still limited to PowerPoint media provided by teachers. Learning media development using the latest technology is still minimal for

Indonesian education that will enter the industrial era 4.0. Therefore, learning media needs to be developed, especially those that use the latest technology. Especially for 2020, after the Ministry of Education issued circular number 4 of 2020 concerning the cancellation of national education evaluation in Indonesia, namely national examination (UN), then the educational evaluation activities at the end of the school year, either the elementary/MI or SDLB level, SMP/MTs or SMPLB, SMA/MA/SMK or SMALB switched to school exams (US) which became the full authority of the school.

In the learning of productive USBN accounting materials implemented, the school still uses the traditional learning model that is with lecture methods and learning activities carried out, still not wholly moving from teacher center learning to student center learning because the learning resources of students are still dominated by the material delivered by the teacher during the learning process. The learning media used is still limited to the use of PowerPoint media. There has been no learning media development with the latest technology, so it is likely to make students a little saturated and less motivated to learn the material. The amount of material that students must be learn coupled with limited learning time due to the implementation of exams and other practices carried out by XII grade students makes the procurement of learning media that can support this "student center learning" become indispensable.

One development of learning media using the latest technology is augmented reality (AR) based learning media described in Kim, et. Al. (Visualization in Engineering, 2015) according to Azuma, AR is a virtual that we can bring into the real world by camera intermediaries. Based on a survey conducted result from DailySocial.id in collaboration with JakPat to as many as 1,013 respondents of smartphone users in Indonesia stated that 75.72% of respondents stated that AR technology is feasible to be used in formal education/school, with the development of AR-based learning media can reduce the limitations of costs in the procurement of other learning media and more practical to take anywhere. So it is expected that students can be more motivated to conduct learning activities independently wherever and whenever they want, through their smartphones.

Therefore, researchers are encouraged to research with the title ”The Development of National Standardized School Exam (USBN) Learning Media for Accounting Productive Materials Based on Augmented Reality (AR) in Improving The Learning Motivation of XII Graders of SMK Negeri 2 Cikarang Barat”. In this form of media, teachers are expected to develop learning media for productive

USBN accounting materials effectively by finding, determining, and selecting media that meet students' learning needs, attract students, and increase students' learning motivation following the development of maturity and experience of students and students can understand and learn the material better.

LITERATURE REVIEW

Based on Permendikbud No. 4 of 2018, National Standardized School Exam (USBN) is an activity to measure the competency achievements of students conducted by the Education Unit regarding the Graduate Competency Standard (SKL) to obtain recognition for learning achievements. USBN becomes vital because it becomes one of the requirements of students can be declared graduated from the education unit/program as described in chapter VI article 19 paragraph 1 Permendikbud number 4 of 2018. So, to achieve this goals, motivation to learning USBN being an essential thing in USBN learning activity.

According to Hamzah B. Uno (2008: 23), learning motivation is a motivation that comes from internal and external from one's self to make behavior changes, which corresponds to several indicators and supporting elements. Sardiman stated (2011: 83) that several indicators exist in each person, including:

1. Be diligent in facing a task that works continuously for a long time and does not stop before the task is completed.
2. Tenacious to face difficulties, i.e., not quickly despair. As well as not quickly satisfied with the achievements he has achieved.
3. Show interest in various issues, such as politics, religion, justice, and so on.
4. Prefer to work alone.
5. Get bored quickly at the routine tasks that teachers usually give.
6. Can defend his opinion.
7. It is not easy to let go of what they have believed.
8. Love to find and solve problems.

According to Bruner in Arsyad (2014: 7-8), there are three primary levels of learning mode, namely direct experience (enactive), which means to work; pictorial experience/image (iconic), which means labeling, as well as abstract experience (symbolic) which means reading or listening and all three interact with each other.

Figure 1. The Cone of Experience Dale

It can be concluded that the interaction between new experiences and experiences

that have been felt before helps the acquisition of knowledge, skills, and changes in attitudes and behaviors, or the reach of one's abstraction becomes increasing or changing, and vice versa.

So, to give a new experience for students, teacher needs a medium that carries messages or information that is intended for learning or contains learning purposes namely a learning media (Sadiman: 2011, 6). Media has six main functions, namely attention function, motivation function, affection function, compensatory function, psychomotor function, and evaluation function. In addition to these six functions, learning media also has benefits such as clarifying the learning process, improving students' interest and interactivity, and improving the quality of student learning outcomes (Jamil S, 2013: 320-321). It was stated by Arsyad (2014: 183) that the criteria in interactive learning are: 1) focused on the objectives; 2) continuous interactive; 3) branching to adjust the level of ability of learners; 4) relevant to curricular objectives and learning objectives; 5) the presentation format is motivating; 6) proven effective; 7) serving the appropriate images/graphics; 8) the instructions are simple and complete; 9) provide positive reinforcement; and 10) can be used again.

Augmented reality is one of intercative learning media technology that has been developed for various applications, including entertainment, education, medical sciences, engineering, factory science, and so forth (Giraldi, G, 2005: 1). Augmented reality (AR) is a technology related to Virtual Reality (VR) to create an environment where real-world and virtual world objects are combined in one view (Wong, 2011:494).

Based on Gilang Yuda research (2018), it is explained that there are two types or methods of AR commonly used according to Lyu (2012: 18), namely Marker-less Augmented Reality and Marker Augmented Reality (Marker Based Tracking).

Figure 2. Two Types of Augmented Reality

Developing or producing interactive media programs, notwithstanding evaluation activities that will make the media viable and good to use. According to Winarno (2009: 74), the things evaluated are as follows: 1) Subject Matter; 2) Auxiliary Information; 3) Affective Considerations; 4) Interface; 5)Navigation; 6) Pedagogy; 7) Invisible Features; 8) Robustness; and 9) Supplementary Materials.

Research and development (R&D), according to Nana Syaodih (2009:169), is a

process or steps to develop a new product or improve an existing product, which can be accounted for. While according to Sugiyono (2015: 297), research and development is a research method used to produce specific products and test the effectiveness of such products. There are several kinds of R&D:

1. ADDIE Model

   The development research model developed by Dick and Carry (1996) in Endang Mulyatiningsih (2013: 199), commonly referred to as the ADDIE development model, consists of several stages, namely Analysis, Design, Development, Implementation, and Evaluation.

2. 4D Model

   This model was introduced by Thiagarajan and Semmel (1974), which has several stages as follows Define Stage, Design Stage, Develop Stage, and Disseminate Stage.

3. Borg & Gall Development Model

   Borg & Gall (1989: 775) states that the development research procedure is ten steps, namely conduct preliminary research and information collection; planning; developing initial products; conducting preliminary field tests; revise the main product; conduct field tests; revise operational products; conducting field trials; revise the final product; and disseminating and implementing products.

RESEARCH METHODS

Research Design

The researcher uses a Research and Development (R&D) that aims to produce a product that is an interactive learning medium that can facilitate students to learn independently. In this study, the media development model that researchers will use is the ADDIE model developed by Dick and Carry (1996) in Endang Mulyatiningsih (2013: 199), consisting of 5 main stages, namely: 1) Analysis; 2) Design; 3) Development; 4) Implementation; and 5) Evaluation.

Place and Time of Researcher

This research was conducted at SMK Negeri 2 Cikarang Barat, Jl. Fatahillah No.1A, Kalijaya, Cikarang Barat, Kab.Bekasi, West Java 17530. Research conducted in the 2020/2021 school year.

Subject and Object of Research

The subjects in this study were material validators, media validators, and students of Financial Accounting and Institutions (AKL) XII graders of SMK Negeri 2 Cikarang Barat consisting of 3 classes with each class numbering +36 students. At the same time, the object in this study is the learning media

of USBN accounting productive material based on augmented reality (AR) and student learning motivation. Determination of test class in this study using a simple random sampling technique.

Research and Development Procedure

In this development research, the ADDIE development model is used, which stands for Analysis, Design, Development or Production, Implementation or Delivery, and Evaluation.

Data Collection Method and Technique

The method of data collection used are by observation method, interview method, and questionnaire method that is done by giving a set of questions or written statements to respondents to answer (Sugiyono: 199) which is a list where respondents only need to put a check sign (√) on the available column. There are 4 (four) instruments in the form of questionnaires in this study, namely the validation questionnaire of material experts; media expert validation; questionnaire of media users; as well as learning motivation questionnaires to find out the level of learning motivation of students before and after using learning media based on augmented reality (AR) to study USBN accounting productive materials. Then, the instrument's validity is intended to ensure that the instrument that has been made is feasible to use and can measure what to measure. Alternative answers using the Likert scale consisting of positive statements (+) or negative statements (-).

Data Analysis Technique

The result of research data collection will be analyzed as by as qualitative data consist of criticism and advice from expert and quantitative data is numbers or numbers obtained from the number of measurements (Mohammad Ali: 2010, 324). In this study, for quantitative data the answer of instrument grains was classified into 4 Likert scale options with indicators score: 4= Very Agree/Very Feasible, 3= Agree/ Feasible, 2= Disagree/Infeasible, and 1= Very Disagreeable/Very Unfeasible.

1. Then, calculate the average score of material experts, media experts, and student response questionnaires using the formula:

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

   Description:

   X = average score

   ∑X = score count

   N = number of assessors

2. Perform a percentage feasibility calculation with a formula:

$$\text{Feasibility Percentage (\%)} = \frac{\text{Observed score}}{\text{Maximum score}} \times 100\%$$

3. After the average score and percentage of eligibility have previously been calculated, then proceed with determining the category of eligibility classified by the reference of the value conversion table as follows:

Table 1. Feasibility Category by Rating Scale

Score in percent (%)	4 scale score	Feasibility Category
25% - 43,75%	1,0 < X < 1,75	Very Unfeasible
>43,75% - 62,50%	1,75 < X < 2,50	Infeasible
>62,50% - 81,25%	2,50 < X < 3,25	Feasible
>81,25% - 100%	3,25 < X < 4,00	Very Feasible

Source: Eko Putro Widoyoko (2013)

To know the feasibility of media development conducted by researchers, "Feasible" becomes a minimum category used by researchers in order to present media that is worthy of use by students in learning activities

4. A normality test is conducted to find out if the pre-test and post-test data used are normally distributed or not. The type of normality test used is the Kolmogorov-Smirnov normality test using SPSS because the sample data in the study amounted to more than 50, with the following formula:

$$Z_1 = \frac{(x_1 - \overline{X})}{S}$$

Description:

Xi = data/values

X = value average (mean)

S = standard deviation

5. Do a t-Test with the formula paired sample (Paired T-Test). If the calculated t value matched with table t at a significant level is 5% greater, there is a significant difference. Tested by using the following formula:

$$t = \frac{\bar{D}}{\left(\frac{SD}{\sqrt{N}}\right)}$$

Description:

D = Average difference from 2 scores

SD= Standard deviation from D value

N = many pairs

RESULT AND DISCUSSION

Research Description

This research was conducted at SMK Negeri 2 Cikarang Barat, which is located at Fatahillah Street No.1A, Kalijaya, Cikarang Barat, Bekasi District, West Java 17530 for Financial and Institutional Accounting (AKL) competencies. Product development in this study requires validation of media feasibility in terms of materials and media involving 4 material experts and 2 media experts and was conducted in Financial Accounting and Institutions (AKL)

department, especially XII graders for the school year 2020/2021, consisting of 3 classes. The selection of class as a research subject is conducted randomly (simple random sampling) so that the results of the motivational instrument trial class are XII AKL 1 and large-scale trial class XII AKL 2 and XII AKL 3.

Description of Research Result

The research procedure used in this development research is an ADDIE model consisting of 5 (five) stages, as follows:

1. Analysis

   In this stage, researchers can find out and explore various information needed to support the research. The learning process of productive USBN accounting materials that became the main focus of the department of financial accounting and institutions (AKL). Based on the observations made, it is known that the learning media used by students and teachers is a module containing a collection of training questions that are adapted to the existing USBN grid in material addition activity. Researchers also conducted further interviews; it is known that there are no other learning media provided by teachers other than modules at the time of the material addition activities. Lack of time to discuss because there are still other subjects in the activities of adding materials that await students, as well as the existence of student activities in addition to USBN preparation such as the collection of subject assignments, practical exams, and other activities that make the learning time of USBN accounting productive materials is increasingly limited to be carried out in the hours of material addition.

   Based on the analysis of the learning environment that has been done, researchers analyze the need of the situation is the need for variations in learning media to help students learn USBN accounting productive materials independently. Based on the question grid given by the school, there are 20 (twenty) essential competencies, 40 (forty) indicators of competency achievement and 5 (five) scopes of materials that must be studied by students of class XII AKL in USBN accounting productive material learning activities. Then, students of SMK Negeri 2 Cikarang Barat, especially class XII AKL have learning facilities in the form of gadgets such as smartphones, laptops, and tablets. Known gadgets with the highest level of ownership owned by students are smartphones, with the percentage of android users of 92% of 107 students or as many as 99 students. Therefore, researchers chose to develop

android-based learning media so that it can be used on students' smartphones so that it can provide a variety of learning media that is easily accessible to students and with this learning medium is expected to increase the learning passion of students of class XII AKL in learning USBN accounting productive materials.

2. Design

The design stage is needed to develop a product description that will be developed by researchers based on previous analysis. First, researcher prepare the materials, questions and answers for USBN accounting productive materials consist of financial accounting, service accounting, trade accounting, manufacturing accounting, fixed assets, tax administration, and computer accounting. Second, formulation or creation of a storyboard that can facilitate researchers in the process of media development because it contains an overview of the appearance and function of the learning media. The next step is to draw up a grid of instruments for media feasibility assessment, refer to the theory of evaluation activities put forward by Winarno (2009) with aspects such as subject matter, auxiliary information, affective considerations, interfaces, navigation, pedagogy, invisible features, robustness, and supplementary materials and draw up an instrument for students learning motivation refer to motivational theory by Sardiman (2011).

3. Development

The product is named AR.co (Augmented Reality for Accounting), a USBN accounting productive materials learning application based on android with the main features in augmented reality technology and accompanied by AR cards/ books as scanning objects. This learning media was created with the developer's help by programming using Unity 3D software to create android-based applications and Vuforia software to create markers in the form of images as scanning objects on ar cards/books. For the creation of assets contained in the learning media and cards/books, AR researchers use design software Corel Draw X9, while learning video content that appears when scanning cards/books AR using video maker software Wondershare Filmora 9.

The result of the assessment of material experts and media experts, among others:

a. Materials Expert was conduct feasibility test/material validation to 4 material experts due to the many types of USBN material. The materials expert got score 408 with an average score of 3,52 and a

percentage of 87,93% and falls into the category of Very Feasible.

Table 2. Recapitulation of Material Expert Validation Results

Aspect	Score	Average	Percentage	Feasibility Category
Subject Matter	151	3,43	85,80%	Very Feasible
Auxiliary Inform.	59	3,69	92,19%	Very Feasible
Interface	74	3,70	92,50%	Very Feasible
Pedagogy	124	3,44	86,11%	Very Feasible
Overall Rating	**408**	**3,52**	**87,93%**	**Very Feasible**

Source: Processed Quantitative Data

b. Media Expert was conduct feasibility tests/validation of media due to 2 experts from theoretical side and technology practitioners for better media development. The media expert got score 234 with an average score of 3,66 and a percentage of 91,41% and fell into the Very Feasible category.

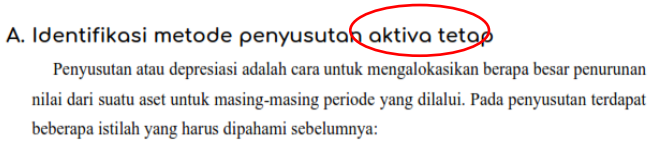
Table 3. Recapitulation of Media Expert Validation Results

Aspect	Score	Average	Percentage	Feasibility Category
Auxiliary Inform.	21	3,50	87,50%	Very Feasible
Interface	92	3,54	88,46%	Very Feasible
Naviga-tion	30	3,75	93,75%	Very Feasible
Pedagogy	39	3,90	97,50%	Very Feasible
Robustness	28	3,50	87,50%	Very Feasible
Invisible Feature	24	4,00	100%	Very Feasible
Overall Rating	**234**	**3,66**	**91,41%**	**Very Feasible**

Source: Processed Quantitative Data

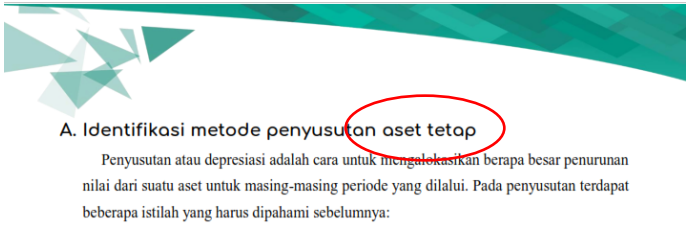
Based on validation activities that have been conducted from both material experts and media experts, several revisions were obtained, among others:

1) The alternative answers on the validation questionnaire instrument become very agree, agree, disagree, and disagreeable.
2) The term asset is no longer used in financial accounting standards (SAK), so it is replaced with the term asset.


A. Identifikasi metode penyusutan aktiva tetap

Penyusutan atau depresiasi adalah cara untuk mengalokasikan berapa besar penurunan nilai dari suatu aset untuk masing-masing periode yang dilalui. Pada penyusutan terdapat beberapa istilah yang harus dipahami sebelumnya:

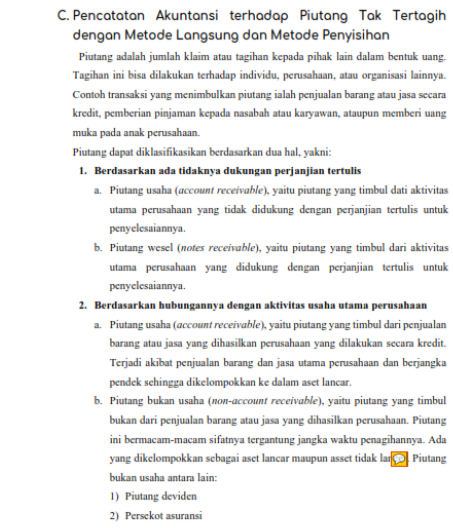
Figure 3. The Materials before Revision


A. Identifikasi metode penyusutan aset tetap

Penyusutan atau depresiasi adalah cara untuk mengalokasikan berapa besar penurunan nilai dari suatu aset untuk masing-masing periode yang dilalui. Pada penyusutan terdapat beberapa istilah yang harus dipahami sebelumnya:

Figure 4. The Materials after Revision

3) Improve the layout of PDF documents for materials where it is impossible to be presented in forms other than PDF documents.



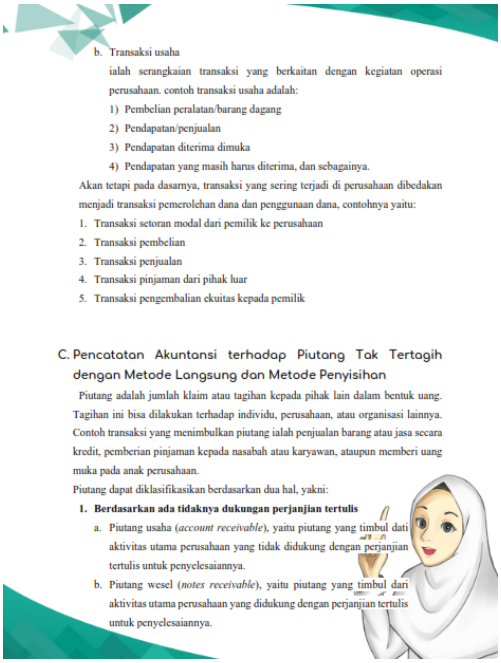
C. Pencatatan Akuntansi terhadap Piutang Tak Tertagih dengan Metode Langsung dan Metode Penyisihan

Piutang adalah jumlah klaim atau tagihan kepada pihak lain dalam bentuk uang. Tagihan ini bisa dilakukan terhadap individu, perusahaan, atau organisasi lainnya. Contoh transaksi yang menimbulkan piutang ialah penjualan barang atau jasa secara kredit, pemberian pinjaman kepada nasabah atau karyawan, ataupun memberi uang muka pada anak perusahaan.

Piutang dapat diklasifikasikan berdasarkan dua hal, yakni:

1. **Berdasarkan ada tidaknya dukungan perjanjian tertulis**
   a. Piutang usaha (*account receivable*), yaitu piutang yang timbul dati aktivitas utama perusahaan yang tidak didukung dengan perjanjian tertulis untuk penyelesaiannya.
   b. Piutang wesel (*notes receivable*), yaitu piutang yang timbul dari aktivitas utama perusahaan yang didukung dengan perjanjian tertulis untuk penyelesaiannya.
2. **Berdasarkan hubungannya dengan aktivitas usaha utama perusahaan**
   a. Piutang usaha (*account receivable*), yaitu piutang yang timbul dari penjualan barang atau jasa yang dihasilkan perusahaan yang dilakukan secara kredit. Terjadi akibat penjualan barang dan jasa utama perusahaan dan berjangka pendek sehingga dikelompokkan ke dalam aset lancar.
   b. Piutang bukan usaha (*non-account receivable*), yaitu piutang yang timbul bukan dari penjualan barang atau jasa yang dihasilkan perusahaan. Piutang ini bermacam-macam sifatnya tergantung jangka waktu penagihannya. Ada yang dikelompokkan sebagai aset lancar maupun asset tidak lancar. Piutang bukan usaha antara lain:
      1) Piutang deviden
      2) Persekot asuransi

Figure 5. Layout View before Revision



b. Transaksi usaha
ialah serangkaian transaksi yang berkaitan dengan kegiatan operasi perusahaan. contoh transaksi usaha adalah:
1) Pembelian peralatan/barang dagang
2) Pendapatan/penjualan
3) Pendapatan diterima dimuka
4) Pendapatan yang masih harus diterima, dan sebagainya.

Akan tetapi pada dasarnya, transaksi yang sering terjadi di perusahaan dibedakan menjadi transaksi pemerolehan dana dan penggunaan dana, contohnya yaitu:
1. Transaksi setoran modal dari pemilik ke perusahaan
2. Transaksi pembelian
3. Transaksi penjualan
4. Transaksi pinjaman dari pihak luar
5. Transaksi pengembalian ekuitas kepada pemilik

C. Pencatatan Akuntansi terhadap Piutang Tak Tertagih dengan Metode Langsung dan Metode Penyisihan

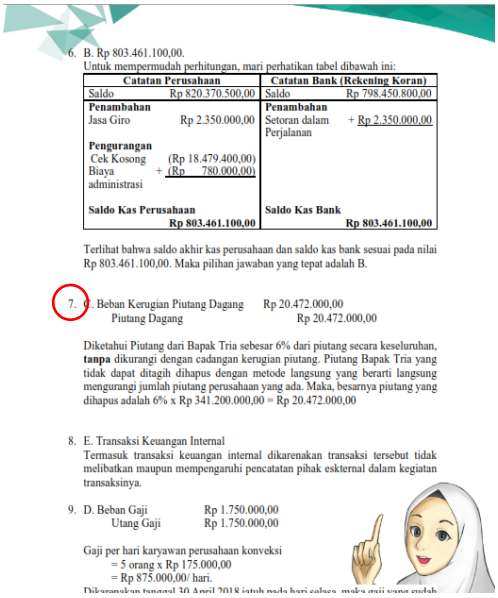
Piutang adalah jumlah klaim atau tagihan kepada pihak lain dalam bentuk uang. Tagihan ini bisa dilakukan terhadap individu, perusahaan, atau organisasi lainnya. Contoh transaksi yang menimbulkan piutang ialah penjualan barang atau jasa secara kredit, pemberian pinjaman kepada nasabah atau karyawan, ataupun memberi uang muka pada anak perusahaan.

Piutang dapat diklasifikasikan berdasarkan dua hal, yakni:

1. **Berdasarkan ada tidaknya dukungan perjanjian tertulis**
   a. Piutang usaha (*account receivable*), yaitu piutang yang timbul dati aktivitas utama perusahaan yang tidak didukung dengan perjanjian tertulis untuk penyelesaiannya.
   b. Piutang wesel (*notes receivable*), yaitu piutang yang timbul dari aktivitas utama perusahaan yang didukung dengan perjanjian tertulis untuk penyelesaiannya.

Figure 6. Layout View after Revision

4) In the discussion section of the question, it is best not to present the answers and discussions directly. It would be better if there is another question review to know the question from the answers and discussions.



6. B. Rp 803.461.100,00.
Untuk mempermudah perhitungan, mari perhatikan tabel dibawah ini:

Catatan Perusahaan		Catatan Bank (Rekening Koran)	
Saldo	Rp 820.370.500,00	Saldo	Rp 798.450.800,00
Penambahan		**Penambahan**	
Jasa Giro	Rp 2.350.000,00	Setoran dalam Perjalanan	+ Rp 2.350.000,00
Pengurangan			
Cek Kosong	(Rp 18.479.400,00)		
Biaya administrasi	+ (Rp 780.000,00)		
Saldo Kas Perusahaan	**Rp 803.461.100,00**	**Saldo Kas Bank**	**Rp 803.461.100,00**

Terlihat bahwa saldo akhir kas perusahaan dan saldo kas bank sesuai pada nilai Rp 803.461.100,00. Maka pilihan jawaban yang tepat adalah B.

7. C. Beban Kerugian Piutang Dagang Rp 20.472.000,00
Piutang Dagang Rp 20.472.000,00

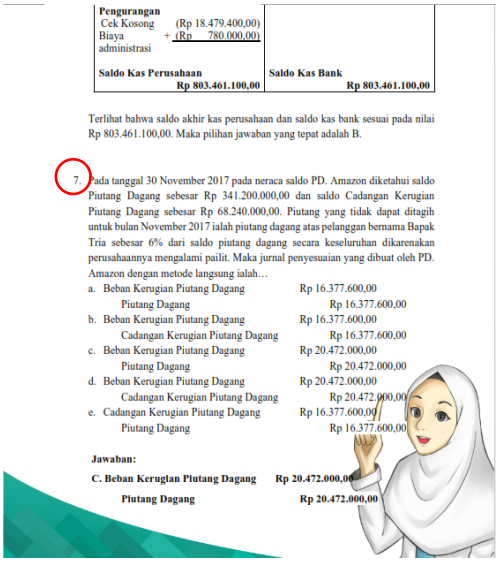
Diketahui Piutang dari Bapak Tria sebesar 6% dari piutang secara keseluruhan, **tanpa** dikurangi dengan cadangan kerugian piutang. Piutang Bapak Tria yang tidak dapat ditagih dihapus dengan metode langsung yang berarti langsung mengurangi jumlah piutang perusahaan yang ada. Maka, besarnya piutang yang dihapus adalah 6% x Rp 341.200.000,00 = Rp 20.472.000,00

8. E. Transaksi Keuangan Internal
Termasuk transaksi keuangan internal dikarenakan transaksi tersebut tidak melibatkan maupun mempengaruhi pencatatan pihak eksternal dalam kegiatan transaksinya.

9. D. Beban Gaji Rp 1.750.000,00
Utang Gaji Rp 1.750.000,00

Gaji per hari karyawan perusahaan konveksi
= 5 orang x Rp 175.000,00
= Rp 875.000,00/ hari.

Figure 7. Discussion without questions



Pengurangan		
Cek Kosong	(Rp 18.479.400,00)	
Biaya administrasi	+ (Rp 780.000,00)	
Saldo Kas Perusahaan	**Rp 803.461.100,00**	**Saldo Kas Bank** **Rp 803.461.100,00**

Terlihat bahwa saldo akhir kas perusahaan dan saldo kas bank sesuai pada nilai Rp 803.461.100,00. Maka pilihan jawaban yang tepat adalah B.

7. Pada tanggal 30 November 2017 pada neraca saldo PD. Amazon diketahui saldo Piutang Dagang sebesar Rp 341.200.000,00 dan saldo Cadangan Kerugian Piutang Dagang sebesar Rp 68.240.000,00. Piutang yang tidak dapat ditagih untuk bulan November 2017 ialah piutang dagang atas pelanggan bernama Bapak Tria sebesar 6% dari saldo piutang dagang secara keseluruhan dikarenakan perusahaannya mengalami pailit. Maka jurnal penyesuaian yang dibuat oleh PD. Amazon dengan metode langsung ialah…

a. Beban Kerugian Piutang Dagang	Rp 16.377.600,00	
Piutang Dagang		Rp 16.377.600,00
b. Beban Kerugian Piutang Dagang	Rp 16.377.600,00	
Cadangan Kerugian Piutang Dagang		Rp 16.377.600,00
c. Beban Kerugian Piutang Dagang	Rp 20.472.000,00	
Piutang Dagang		Rp 20.472.000,00
d. Beban Kerugian Piutang Dagang	Rp 20.472.000,00	
Cadangan Kerugian Piutang Dagang		Rp 20.472.000,00
e. Cadangan Kerugian Piutang Dagang	Rp 16.377.600,00	
Piutang Dagang		Rp 16.377.600,00

Jawaban:

C. Beban Kerugian Piutang Dagang	**Rp 20.472.000,00**
Piutang Dagang	**Rp 20.472.000,00**

Figure 8. Discussion with questions

c. Small-scale Trial Result

The trial was conducted by installing the application on each student's smartphone, then allowing students to use the application for 5–

7 days to find out the response of media usage by students through a user response questionnaire conducted by putting a checkmark (√) on the questionnaire. The results of these small-scale trials include:

Table 4. Recapitulation of Small-Scale Trial Results

Aspect	Score	Average	Percentage	Feasibility Category
Subject Matter	428	3,06	76,43%	Feasible
Auxiliary Inform.	323	3,08	76,90%	Feasible
Affective Cons.	313	2,98	74,52%	Feasible
Interface	850	3,04	75,89%	Feasible
Naviga-tion	327	3,11	77,86%	Feasible
Pedagogy	1129	3,23	80,64%	Feasible
Robust-ness	423	3,02	75,54%	Feasible
Overall Rating	**3739**	**3,09**	**76,31%**	**Feasible**

Source: Processed Quantitative Data

Then the overall assessment for media feasibility based on user response scored 3.739 with an average score of 3,09 and a percentage of 76,31% fall into the Feasible Category.

There are several validity testing steps for motivational instruments made, including:

a. Validity of the construct. At this stage, the researchers compiled several statements that reflected the indicators of learning motivation to be measured. The construct validity for this motivational instrument involves 2 expert lecturers.
b. Validity of content result 27 statements of motivational instruments.
c. External validity to test the instrument to fit the empirical conditions of the field using product-moment correlation with SPSS v.22 with simple random sampling techniques. The test results showed that 6 items of statements fell into invalid and then researcher conducted reliability test using the Cronbach's Alpha formula with result of reliability is 0,872 with the remaining 21 valid items, which means that the instrument has very high reliability.

4. Implementation

At this stage, large-scale trials were conducted on students of grade XII AKL 2 and XII AKL 3 with a total of 68 students to find out the feasibility of products in the form of learning media

developed judging by the user's response. The acquisition of media feasibility assessment results based on user response as follows:

Table 5. Recapitulation of Small-Scale Trial Results

Aspect	Score	Average	Percentage	Feasibility Category
Subject Matter	888	3,26	81,62%	Very Feasible
Auxiliary Inform.	660	3,24	80,88%	Feasible
Affective Cons.	642	3,15	78,68%	Feasible
Interface	1723	3,17	79,18%	Feasible
Navigation	673	3,30	82,48%	Very Feasible
Pedagogy	2175	3,20	79,96%	Feasible
Robustness	860	3,16	79,04%	Feasible
Overall Rating	**7621**	**3,20**	**80,05%**	**Feasible**

Source: Processed Quantitative Data

5. Evaluation

After measuring media feasibility based on user response in large-scale trials, the researchers also measured accounting learning motivation for XII grade AKL students before and after using the developed learning media. The recapitulation of the calculation of student learning motivation measurement results is as follows:

Table 6. Recapitulation of Student Learning Motivation Measurement Result

Aspect	Before	After	Increases
Diligently facing the task	617	660	5,27%
Tenacious to face difficulties	750	806	5,15%
Have an interest in lesson	531	630	12,14%
Prefer to learn independently	558	610	6,37%
Get bored quickly on routine tasks	337	407	12,87%
Can maintain an opinion	546	584	4,66%
Not easy to let go of what you believe in	190	201	4,05%
Love finding and solving problems	282	351	12,68%
Overall Rating	**3811**	**4249**	**7,67%**

Source: Processed Quantitative Data

Based on the calculations above, it is known that there was an increase in student learning motivation by 7,67%, which has initially been 66,72% to 74,39%. However, researchers must first ascertain whether the pre-test and post-test data used have been distributed normally or not using normality tests using the Kolmogorov-Smirnov test and known Asymp. Sig. (2-tailed) of 0.200 >

0.05. Then it can be concluded that the data used is normally distributed.

The correlation between the two variables is 0.629 with Sig. 0.000 which means there is a relationship between the total score and the Sig column. (2-tailed) we can see that the t-test score is at a Sig.2-tailed value of 0.000 < 0.05 then it can be interpreted that "there are significant differences in student motivation before and after using learning media".

Discussion

The Development of Learning Media

This learning media was developed with ADDIE model procedure by Dick and Carry (1996) in Endang Mulyatiningsih (2013: 199) consisting of 5 (five) stages, namely Analysis, Design, Development or Production, Implementation or Delivery and Evaluation. Researchers chose the research procedure with this model because it is rational, complete, and following the purpose of research to develop learning media and then assess and evaluate the feasibility of media developed both in terms of experts, users, and improving students' learning motivation. The large variety of materials that students have to learn from different learning sources/books, limited time of adding materials with teachers, and the lack of innovation of available learning media make students feel less motivated to learn USBN accounting productive materials. Therefore, this analysis shows a need for variations and innovations in learning media that contain both material and USBN accounting exercises. Furthermore, researchers also analyzed existing resources in the form of learning facilities such as gadgets or internet networks owned by students, known to most students, namely as many as 92% have android-based smartphones. Thus, researchers chose to develop android-based learning media to be used on students' smartphones and conduct media feasibility assessments developed and innovate the addition of augmented reality features in the delivery of materials to increase the learning passion of XII AKL students in studying USBN accounting productive materials.

The next stage is the design stage needed to develop the product description. Researchers began this stage by compiling materials, questions, and answers in the media based on a grid of USBN accounting productive materials. Then, formulating a storyboard containing an overview of the application. After that, prepared the instruments consist of material expert validation questionnaire instruments, media expert validation questionnaires, user response questionnaires, and student learning motivation questionnaires. After going

through those stage, the next stage is to do the development based on the storyboard, from design the media display and components such as assets for buttons using Corel draw X9 design software. Some of the assets and characters displayed in the app were created with the help of illustrators, which were then further designed by researchers. After the media display design has been created, proceed to the stage of product creation made with the developer's help through programming using Unity 3D software to create android-based applications. To create video content recaps of the material to be displayed with augmented reality (AR) technology, researchers used video creation software Wondershare Filmora 9.

Developed media needs to go through the validation process first before being tested directly to the user involving 2 expert lecturers to obtain suggestions for improvement the instruments, 4 material experts in improving the accuracy of validity due to the different types and scopes of the material, and 2 media expert for media validation. Next, a small-scale media trial was conducted with assessment results with a score of 3.739, an average score of 3,09 and a percentage of eligibility of 76,31% fall into the category of "Feasible". The next stage is process of external validity before media ready to use in Big-scale media trial.

Media Feasibility Assessment

In this study, the feasibility of learning media developed was assessed based on material expert validation, media expert validation and user response with a total of 68 students participating using indicators of media evaluation activities put forward by Winarno (2009: 74).

For validate material with 4 experts, the result obtained for each aspect of eligibility measured among others subject matter with an average score of 3,43 and a percentage of 85,80% fall into the category of Very Feasible. Aspects of auxiliary information with an average score of 3,69 and a percentage of 92,19% fall into the Very Feasible category. Aspects of the interface with an average score of 3,70 and a percentage of 92,50% fall into the Very Feasible category. Pedagogy aspect with an average score of 3,44 and a percentage of 86,11% fall into the Very Feasible category. So the overall assessment for media feasibility is seen in terms of material, obtaining an average score of 3,52 with a percentage of 87,93% and fall into the category of "Very Feasible".

For validation of media expert, validation scores for each aspect of eligibility measured include auxiliary information aspects with an average score of 3,50 and a percentage of 87.,0% in the Very Feasible

category. Aspects of the interface with an average score of 3,54 and a percentage of 88,46% fall into the Very Feasible category. Navigation aspects with an average score of 3,75 and a percentage of 93,75% fall into the Very Feasible category. Pedagogy aspect with an average score of 3,90 and a percentage of 97,50% fall into the Very Feasible category. The robustness aspect with an average score of 3,50 and a percentage of 87,50% fall into the Very Feasible category. Aspects of invisible feature with an average score of 4,00 and a percentage of 100% fall into the Very Feasible category. Thus the overall assessment for media eligibility obtained an average score of 3,66 with a percentage of 91,41% and fell into the category of "Very Feasible".

For media feasibility, judging by the user's response, researchers conducted large-scale trials of 68 respondents. They obtained assessment results including aspects of subject matter with an average score of 3,26 and a percentage of 81,62% fall into the category of Very Feasible. Aspects of auxiliary information with an average score of 3,24 and a percentage of 80,88% fall into the Feasible Category. Affective consideration aspect with an average score of 3,15 and a percentage of 76,68% fall into the Feasible Category. Interface aspects with an average score of 3,17 and a percentage of 79,18% fall into the Feasible Category. Navigation aspects with an average score of 3,30 and a percentage of 82,48% fall into the category of Very Feasible. Pedagogy aspect with an average score of 3,20 and a percentage of 79,96% fall into the Feasible Category. The robustness aspect with an average score of 3,16 and a percentage of 79,04% fall into the Category Feasible. So the overall assessment for media feasibility based on user response scored 7.621 with an average score of 3,20 and a percentage of 80,05% fall into the "Feasible" category.

Measurement of Student Learning Motivation Level

After obtaining a feasibility assessment based on expert validation and user response, researchers measured the learning motivation of XII AKL students in USBN accounting productive learning activities. Obtained motivation level before using media by 66,72% and increased to 74,39% after using media. Then conducted a normality test of the data obtained to find out if the data has been distributed normally before conducting a significance test, known Asymp. Sig. (2-tailed) of 0.200 > 0.05. Then it can be concluded that the data used is normally distributed. Furthermore, the researchers measured the significance of the increase by 7,67% with the T-Test paired sample and obtained the sig calculation. (2-tailed) 0.000 < 0.05, which can be interpreted

as a significant difference in value or increased motivation that occurs. This follows the theory put forward by Azhar Arsyad (2014: 29) that learning media is useful in the learning process, one of which is increasing students' interest and attention to generate learning motivation. The results of this test are also in line with research conducted by Ridho Dedy Arief (2016) with the title "Developing Learning Media Based on Augmented Reality (AR) to Improve Learning Motivation", which states that the level of motivation in students who use AR-based learning media is higher compared to students who do not use AR-based learning media in their learning activities.

CONCLUSION AND SUGGESTION

Conclusion

Based on result and discussion on the research activities conducted, it can be concluded:

1. This learning media was developed with ADDIE model procedure consisting of 5 (five) stages, namely Analysis, Design, Development or Production, Implementation or Delivery and Evaluation which is then named AR.co (Augmented Reality for Accounting). This media is an android-based application accompanied by ar card/book as a scanning object in AR feature.
2. This learning media obtains a feasibility assessment with a very feasible category of material expert validation and media expert validation. While based on user response, this media obtained a feasibility assessment with a feasible category so that the media can be used in USBN accounting productive learning activities for XII AKL SMK Negeri 2 Cikarang Barat students.
3. This learning media effectively increases students' learning motivation in USBN accounting productive learning activities because there is an increase in the percentage of motivation measured, and the results of the increase are expressed significantly through the T paired sample Test.

Suggestion

After knowing the results and limitations of development research that occurred, there are several points of advice to be submitted for further utilization and development of products, including:

1. Creation of back-office to be able to update the material periodically so that the media can be used for the long term to follow the development and adjustment of existing materials and curriculum.

2. Further development of AR models using 3D objects for a better user experience.
3. Teachers still accompany students when using learning media.
4. Teachers must increase creativity and innovation in developing learning media so that students' learning motivation is maintained.

REFERENCES

Arikunto, S. (2009). Prosedur Penelitian Suatu Pendekatan Praktik. Jakarta: Bumi Aksara.

Arsyad, A. (2014). Media Pembelajaran. Jakarta: Rajawali Press.

Azuma, R. T. (1997). A Survey of Augmented Reality. Journal Presence: Teleoperators and Virtual Environment vol.6 no.4 http://www.cs.unc.edu/~azuma/ARresence.pdf, 356-357.

Borg, W. R., & Gall, M. D. (1989). Educational Research: An Introduction, Fifth Edition. New York: Longman.

Departemen Pendidikan Nasional. (2005, Mei). Peraturan Pemerintah (PP) Nomor 19 Tahun 2005 tentang Standar Nasional Pendidikan. Jakarta, Indonesia.

detikNews.com. (2020, Januari). USBN Diganti US Mulai 2020, PGRI: Harus Ada Standardisasi di Sekolah. Retrieved from detikNews: https://news.detik.com/berita/d4868810/usbn-diganti-us-mulai2020-pgri-harus-ada-standardisasidi-sekolah?_ga=2.165960633.683145814.1602667571-1671687805.1587378226

Dunser, A. C. (2012). An Interactive Augmented Reality Coloring Book. in 2012 IEEE Symposium on 3D User Interfaces (3DUI).

Giraldi, G., Rodrigo L.S. Silva, Paulo S. Rodrigues, et.al. (2005). Augmented Reality for Engineering Application: Dynamic Fusion of Data Sets and Real World. Journal Universidade Estacio de Sa, 1.

Kemendikbud. (2016). Permendikbud No. 20 Tahun 2016 tentang Standar Kompetensi Lulusan. Jakarta.

Kemendikbud. (2018). Permendikbud No. 4 Tahun 2018 tentang Penilaian Hasil Belajar oleh Satuan Pendidikan. Jakarta.

Kemendikbud. (2020). Surat Edaran Kemendikbud No. 4 Tahun 2020 tentang Pelaksanaan Kebijakan Pendidikan dalam Masa Darurat Penyebaran Coronavirus Disease (COVID-19). Diambil kembali dari

Lyu, M. R. (2012). iDigitable. A Handbook of Software Reliability Engineering.

Departement of Computer Science and Engineering.

Sadiman, A. (2011). Media Pendidikan: Pengertian, Pengembangan, dan Pemanfaatannya. Jakarta: PT Grafindo Persada.

Sardiman. (2011). Interaksi & Motivasi Belajar Mengajar. Jakarta: PT Rajawali Pers.

Sugiyono. (2010). Statistika Untuk Penelitian. Bandung: Alfabeta.

Sugiyono. (2014). Metode Penelitian Pendidikan. Bandung: Alfabeta.

Sugiyono. (2015). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Jakarta: Alfabeta.

Sukiman. (2012). Pengembangan Media Pembelajaran. Yogyakarta: Pustaka Insan Madani.

Tosti H. C. Chiang, S. J. (2014). An Augmented Reality-based Mobile Learning System to Improve Students' Learning Achievements and Motivations in Natural Science Inquiry Activities. Educational Technology & Society, 352-365.

Uno, H. B. (2008). Teori Motivasi dan Pengukurannya, Analisis di Bidang Pendidikan. Jakarta: Bumi Aksara.

Winarno, dkk. (2009). Teknik Evaluasi Multimedia Pembelajaran. Yogyakarta: Genius Prima Media.

Wong, L. H., & Looi, C. K. (2011). What Seams Do We Remove in Mobile Assisted Seamless Learning? A Critical Review of the Literature. 494.