

THE DEVELOPMENT OF ACCOUNTING GAMES BASED ON RPG MAKER AS LEARNING MEDIA OF ACCOUNTING MATERIALS FOR SERVICE BASED COMPANY

PENGEMBANGAN GAME AKUNTANSI BERBASIS RPG MAKER SEBAGAI MEDIA PEMBELAJARAN AKUNTANSI PERUSAHAAN JASA

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Abstract: The Development of Accounting Games Based on RPG Maker As Learning Media Of Accounting Materials For Service Based Company. This study aims to 1) develop accounting games based on RPG Maker as media of accounting student learning class X SMK Muhammadiyah 1 Prambanan Klaten 2) know the feasibility of accounting games based on RPG Maker. The feasibility assessment includes the assessment of expert and students. This research and development study applied 4D model. The subject of the research were an expert in learning media of accounting, an accounting teacher, and students of SMK Muhammadiyah 1 Prambanan Klaten. RPG Maker-based accounting games are tested for grade X students of SMK Muhammadiyah 1 Prambanan Klaten . The object in this study is an accounting game based on RPG Maker “Smart Accounting Games”. The results of this study showed that the feasibility level of accounting games based on RPG Maker as media of learning based on first expert judgment was getting 4.81 scores which were included in the Strongly Feasible category, second expert judgment was getting 4.47 scores which were included in the Strongly Feasible category, evaluation from an accounting teacher was getting 4.74 scores get the which is included in the Strongly Feasible category and validation of student test scores get 4.53 Totally Strongly Feasible included in the category.

Keywords: Game Accounting, RPG Maker, Accounting Learning Media

Abstrak: Pengembangan Game Akuntansi Berbasis RPG Maker Sebagai Media Pembelajaran Akuntansi Perusahaan Jasa. Tujuan dari penelitian ini adalah untuk 1) mengembangkan game akuntansi berbasis RPG Maker sebagai media pembelajaran akuntansi perusahaan jasa siswa kelas X SMK Muhammadiyah 1 Prambanan Klaten, 2) mengetahui kelayakan game akuntansi berbasis RPG Maker. Penilaian kelayakan tersebut meliputi penilaian ahli dan respon siswa. Penelitian pengembangan ini dilakukan dengan menggunakan model 4D. Subjek dalam penelitian ini adalah dosen ahli media dan materi, praktisi yaitu guru akuntansi SMK Muhammadiyah 1 Prambanan Klaten serta siswa SMK Muhammadiyah 1 Prambanan Klaten. Objek dalam penelitian ini adalah game akuntansi berbasis RPG Maker yaitu Smart Accounting Games. Hasil penelitian menunjukkan bahwa tingkat kelayakan game akuntansi berbasis RPG Maker sebagai media pembelajaran berdasarkan penilaian ahli I yaitu mendapatkan skor sebesar 4,81 yang termasuk dalam kategori Sangat Layak, penilaian ahli II yaitu mendapatkan skor sebesar 4,47 yang termasuk dalam kategori Sangat Layak, penilaian dari praktisi yaitu mendapatkan skor sebesar 4,74 yang termasuk dalam kategori Sangat Layak dan respon siswa mendapatkan skor sebesar 4,53 yang termasuk dalam kategori Sangat Layak..

Kata Kunci: Game Akuntansi, RPG Maker, Media Pembelajaran Akuntansi

INTRODUCTION

The more rapid satisfied with the development of information technology made significant changes to human life. The daily activities of humans who used to work with technological intervention are now required to be able to adapt and keep up with technological developments. Information technology that is created provides many benefits in human activities such as cooking, working, planting even for learning activities. According to Wina Sanjaya (2012: 198) learning is a process of changing behavior through experience. The experience in question is direct experience or indirect experience From some of the benefits of technology in life, researchers highlighted the use of technology for learning activities, one of which is learning media. Media according to R. Ibrahim and Nana Syaodih S (1993) in Rusman (2012: 64) is everything that can be used to channel messages (learning material), stimulate the mind, everything that can be used to channel messages (learning material), stimulate the mind, feelings, attention and abilities of students, so as to encourage the learning process At present the teaching and learning process uses a lot of laptop/computer media, LCD projectors, audio-videos and is supported by the internet and various digital media to improve the quality of education.

BBC Indonesia launches that based on the latest study results prove that more Indonesian students use technology in the classroom, compared to student in other countries, including in more developed countries. Research conducted by the leading educational organization Cambridge International-part of Cambridge University in the UK - found Indonesian students using technology in classrooms more than many other countries, often defeating more developed countries. Indonesian students are the highest globally in the use of computer space (40%). They are also ranked the second highest in the world in desktop computer use (54%), after the United States.

However, there is a concern, reported by republika.co.id Kemendikbud stated that there are still many schools that have not optimized the use of technology in the learning process. One of the school are less than optimal in the use of technology in the learning process is SMK Muhammadiyah 1 Prambanan Klaten located in Central Java Province. This is indicated by the results of observations made by the author at SMK Muhammadiyah 1 Prambanan Klaten. The factor its less than optimal utilization of Technology in the learning process is still a minimal and less the variety of learning media that can support teaching and

learning in SMK Muhammadiyah 1 Prambanan especially the Accounting Department. Even the accounting learning activities carried out at SMK Muhammadiyah 1 Prambanan Klaten are still verbal and teacher-centered. The learning process that is teacher-centered makes students feel bored quickly because they do not involve students in the learning process. This is because teaching and learning activities are too dominated by teachers. 18 students from 22 students lacked interest in participating in the learning process with teacher-centered learning models. This is evidenced by the attitude of students who do not listen and pay attention when the teacher is delivering the material.

Based on interviews with Grade X Accounting students at SMK Muhammadiyah 1 Prambanan Klaten along with supporting data in the form of a list of scores for the Odd Semester Final Examination, information was obtained that material accounting for service companies was considered difficult by students with evidence of basic accounting subjects containing material for service company stated that 13 out of 22 students did not complete the minimum score. The definition of accounting according to AAA (American Accounting Association) in Kardiman (2009: 2) is a series of processes consisting of the process of identifying,

measuring and delivering all forms of economic activity in an institution or company which will be used as a reference in making taxation decisions that will be set for the future. Accounting services company subjects are considered difficult because they only know these subjects at the secondary school level. Therefore, educators need the development of learning media as a result of innovative engineering that is able to encourage student motivation in learning. The researcher tried to provide a solution by making an educational game based on RPG Maker for accounting services company subjects.

The thing that underlies the researchers in choosing educational games as the right media to solve problems is because the game has become one thing that is in the daily life of students. Arif S. Sadiman, et al. (2014: 75) revealed that Games or Games is a competition that is carried out between players and other players that creates an interaction with each other by following the rules that apply to achieve certain goals. Based on a 2012 survey conducted by one of the most productive game studios in Indonesia, Agate Studio, the game that Indonesian gamers like most now is the RPG (Role Play Game) genre game according to DailySocial . The survey results have shown that the game the genre or type of

RPG occupying the first ranking with a percentage of 46%. Henry (2010: 129) states that feed the RPG game which players will play into a character. Player or user is invited to imagine playing the characters in the game so that players will feel that it is he who performs all the activities in the game.

These problems encourage researchers to conduct research with the title “Development Accounting Games Based on RPG Maker as Learning Media of Accounting Service Company Material for Student of X Accounting Grades SMK Muhammadiyah 1 Prambanan Klaten”. With the learning media in the form of games based on RPG Maker accounting, the Author hope to encourage student motivation in learning accounting. In addition, it can help teachers in make solutions to the selection of appropriate learning media alternatives for material accounting subjects of service companies.

The results of this study are reinforced by the research of Dwi Kartiko Aji (2015) in a study entitled “Pengembangan Game Edukatif “Accounting Life” Sebagai Media Pembelajaran Akuntansi Materi Akuntansi Perusahaan Jasa Pada Kelas XI SMA N 1 Pleret Tahun Ajaran 2015/2016”. The results showed that the values were feasible on the aspects of the quality of the learning material with a score of 3.84 by

accounting material , a decent value for the display aspect and good for the programming aspect with a mean value of 4.08 by media , getting a decent value for the display aspect, both for aspects content, and very good for aspects of learning with a mean score of 3.90 by practitioners of accounting learning, and through the assessment of students on media trials resulted in very good assessments on aspects of appearance, content aspects, and aspects of learning with a mean score of 4.01.

The results of this study also reinforced by the research of Adetia Ratih Pratiwi (2017) in a study entitled “Pengembangan Game Akuntansi Berbasis *RPG Maker* sebagai Media Pembelajaran Akuntansi Siswa Kelas X SMK Negeri 1 Karanganyar Kabupaten Purbalingga”. The results showed very decent values on aspects of the quality of learning material with a score of 4.5 by accounting material , the value was very feasible for the aspect of appearance and good for aspects of programming with a mean value of 4.45 by media , getting very decent values for aspects material, aspects of learning design, aspects of language, aspects of software engineering and aspects of visual communication with a mean score of 4.36 by accounting learning practitioners.

RESEARCH METHOD

Research Design

This research uses a 4D development model which is one model of research and development. This model was developed by Tiagarajan and Semmel and has four stages include a stage Define, Design, Develop, and Disseminate. The purpose of this research and development is to produce certain products and test the effectiveness of these products (Sugiyono, 2015). The product produced is learning media in the form of accounting games based on RPG Maker.

Place and Time of Research

This research was conducted in the X Accounting class of SMK Muhammadiyah 1 Prambanan Klaten located at Jalan Perkutut 06, Tlogo, Prambanan, Klaten, Central Java. This research was conducted in stages from January - May 2019

Research Subject

The research subjects were students of class X Accounting 1 at SMK Muhammadiyah 1 Prambanan Klaten. The selected servants consisted of 22 students , 2 media and material experts (Lecturer at the Faculty of Economics, Yogyakarta State University), and 1 Practitioner (Accounting Teacher at Muhammadiyah 1 Prambanan Klaten). The object in this

study is the Accounting Games “Smart Accounting Games” as a learning media for accounting for vocational services company material.

Research Procedure

Based on the research procedures and development of the 4D model, there are four main stages, including:

a. Define

The define stage is the stage for defining and defining learning conditions, namely by making initial observations about the condition of the school. In determining learning needs, things that need to be considered include: the suitability of learning needs with the applicable curriculum, the level or stages of student development, school conditions, and problems in the field. This stage aims to find out the basic problems that arise in the learning process in accounting subjects for service companies in class X Accounting of SMK Muhammadiyah 1 Prambanan Klaten. At the defining stage, it is carried out to obtain an overview of facts, obstacles, needs and alternatives for solving basic problems that occur in the learning process. This will facilitate the determination and selection of learning media to be developed. At this stage consists of 5 steps, namely 1) Front and Analysis, 2) Students Analysis, 3) Task

Analysis, 4) Concept Analysis, and 5) Specifying instructional objectives.

b. Design

The design stage is intended to design learning devices according to the analysis carried out at the define stage. The process of preparation of the test, the selection of media, format selection and preliminary design of product stage the main basic. The design was carried out with discussions between researchers and supervisors. The results of this design are in the form of questions and accounting material for service company, storyboards, characters and maps in accounting game learning media. This stage consists of 4 steps, namely:

1) Test Preparation

Preparation of tests is the first step that connects between define and design stages. The preparation of the test was carried out based on the results of the defining stage by paying attention to the basic competent and competency standards of the accounting services company subjects at SMK Muhammadiyah 1 Prambanan Klaten.

2) Media Selection

Media selection is made after passing the test preparation stage. In order to comply with product development purposes, then media selection needs to be adapted to the material results of the analysis at the stage

of preparation of the test is the accounting services company.

3) Media Format Selection

Format selection is based on the results of the preparation of tests and media selection. The chosen media format is a format that focuses on the presentation of interesting material and questions and packages in the form of games. Therefore, the format chosen is the RPG Maker format.

4) Initial Design

The initial design or initial design is the initial result of the product design that will be developed. The initial design is in the form of storyboard, designing characters and maps in accounting games.

c. Develop

At the stage of development of research learning devices develop learning media in accordance with the initial design that has been made. Learning media that have been developed need to pass the validation test by media and material experts, accounting teacher practitioners and student responses to learning media to get input and suggestions so that the learning devices developed become better so they are ready to be disseminated. The development phase consists of two phases, including:

1) Expert Appraisal

Expert judgment is carried out to improve the quality of the initial product or media

prototype that has been developed in the previous stage based on advice and input from experts. At this stage using input from 2 media and material expert lecturers and 1 practitioner (accounting teacher) as a validator.

2) Development Test

The development test was carried out on 22 students of SMK Muhammadiyah 1 Prambanan Klaten Class X Accounting Department. This trial was used to determine students responses to the Accounting Game.

d. Disseminate

Disseminate is the last step in the 4D model. The aim of this stage is to disseminate research products that have been produced on a broader scale. Dissemination of learning media is the way of doing hosting on google drive and spread the link Google Drive via Facebook , Twitter and Whatsapp Group in order to make the learning media downloads . In addition, the results of this study will be published in the accounting education journal electronic.

Data, Instruments, and Data Analysis Technique

Data

The data collected in this study includes qualitative and quantitative data with explanations as follows:

- 1) Qualitative data is used to obtain advice and input from media and material experts and accounting teacher practitioners about the media being developed.
- 2) Quantitative data is used to obtain the value of media feasibility developed in the form of figures from media and material experts, accounting teacher practitioners and student responses.

Data Collection Instrument

Instruments used to collect data using questionnaires. Data collection with questionnaires in this study aims to determine the feasibility of the media by learning media experts as a guide to repair the media. Before being tested in the field, the instrument was validated with a construct validity test, namely using expert opinion (expert judgement) so that valid instruments were tested (Eko Putro Widoyoko, 2015).

Questionnaire for the feasibility of accounting learning media using a Likert scale with five alternative answers, which are very agree, agree, sufficient disagree, disagree, strongly disagree. Furthermore, in order to obtain quantitative data, then the five alternative answers are given a score, namely very agree = 5, agree = 4, sufficient disagree = 3, disagree = 2, strongly disagree = 1.

Data Analysis Technique

Data analysis techniques used are descriptive quantitative to obtain the value of media feasibility based on media and material experts, accounting teacher practitioners and student responses. Quantitative data obtained from the questionnaire were converted to qualitative data with a scale of 5 (scale Likert) to determine the feasibility of the media developed through the rare following:

- 1) Determine to score on media feasibility

Table 1. Provisions for Granting Scores

Criteria	Score
Strongly Agree	5
Agree	4
Sufficient Disagree	3
Disagree	2
Strongly Disagree	1

- 2) Conduct tabulation / recapitulation of research data

- 3) Calculate the average score of each aspect (indicator) with the formula:

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

\bar{X} = average score

$\sum X$ = number of scores

N = number of items in question

- 4) Adds the average score for each aspect

Table 2. Guidelines for Converting Quantitative Data to Five-Scale Qualitative Data

Score	Score Interval	Value	Category
5	$\bar{X} > 4.2$	A	Strongly Feasible
4	$3.4 < \bar{X} \leq 4.2$	B	Feasible
3	$2.6 < \bar{X} \leq 3.4$	C	Moderately

2	$1.8 < \bar{X} \leq 2.6$	D	Unfeasible
1	$\bar{X} \leq 1.8$	E	Strongly unfeasible

Information:

\bar{X} : Actual score

\bar{X} : ideal ideal score

= 1/2 (ideal maximum score + minimum score ideal)

= 1/2 (5 + 1)

= 3

(Eko P. Widoyoko, 2013: 112)

RESEARH RESULT AND DISCUSSION

Research Result

a) Research Description

The study was conducted at SMK Muhammadiyah 1 Prambanan Klaten located at Jalan Perkutut 06, Tlogo, Prambanan, Klaten, Central Java, Accounting Skills Program. The subject of this study was the tenth grade student in Accounting. Research on the development of accounting *games* as an accounting learning media is carried out for 6 months from January to June 2019

b) Research Data

1) Define

This definition phase includes analysis of barriers and needs in service company accounting learning in class X Accounting in SMK Muhammadiyah 1 Prambanan Klaten. In the definition phase is divided into 5 defining steps, namely:

(a) Front and Analysis

Based on the results of interviews obtained on January 9, 2019 with accounting teachers at the SMK Muhammadiyah 1 Prambanan Klaten, accounting teachers explained that the accounting learning process carried out at SMK Muhammadiyah 1 Prambanan Klaten was still verbal and teacher-centered. The learning process that is teacher-centered makes students feel bored quickly because they do not involve students in the learning process. This is because teaching and learning activities are too dominated by teachers. 18 students from 22 students lacked interest in following the Accounting process. The media used are handbooks and provide problem training to students regarding the material being taught and using power points. Teachers claimed have not been able to develop instructional media learning media especially engineered audio-visual technology even though the school already providing infrastructure such as computer labs for use as a medium of learning accounting that can be used as an alternative accounting learning media selection. Based on problem is then required developing accounting learning media, especially the learning media engineered audio-visual technology interesting that the media can assist

teachers in presenting the material which make students do not feel bored.

(b) Student Analysis

In this study the characteristics of students who were analyzed were students of SMK Muhammadiyah 1 Prambanan Klaten in class X Accounting for 2018/2019 academic year totaling 22 people. Based on the results of observations, the characteristics of students at the SMK Muhammadiyah 1 Prambanan Klaten I in Accounting class X have a passive response. Some students are not enthusiastic in participating in learning activities. Students do not focus on the material delivered by the teacher and tend to feel bored because the teacher uses teacher-centered learning methods that are dominated by the teacher so that students are less active

(c) Task Analysis

In the task analysis a standard analysis of competencies and basic competencies was carried out and then explained the indicators of learning. Task analysis will help determine the form and format of the media to be developed. In the analysis of the task it is also obtained concept analysis and formulation of objectives.

(d) Concept Analysis

Concept analysis is the identification of the main concepts that will be taught and systematically compiles and details relevant concepts and links one concept to another relevant concept so that it forms a concept map. Following is the accounting concept map for material services companies.

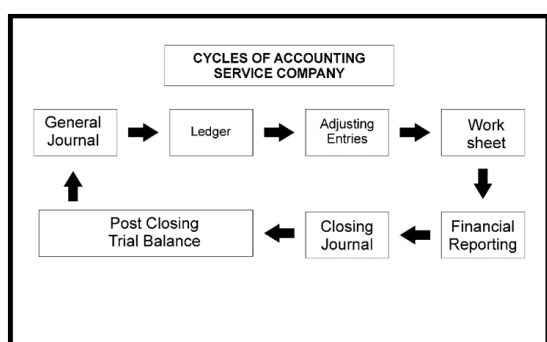


Figure 1. Cycles of Accounting Service Company

(e) Specifying Instructional Objectives

The formulation of learning objectives is based on Standard Competencies and Basics Competencies concerning accounting for service companies. The expected goals of developing accounting game learning media are :

- (1) Students can understand the recording of company transactions in a journal
- (2) Students can understand the form of a journal
- (3) Students can identify accounts that are debited and on credit
- (4) Students can identify the journal for recording transactions
- (5) Students can identify the classification of ledger accounts
- (6) Students can identify coding ledger accounts
- (7) Students can post journal data into a ledger
- (8) Students can identify the adjusting journal entries
- (9) Students can book an adjustment journal
- (10) Students can understand the purpose of work sheet
- (11) Students can find out the data source of the lane balance sheet
- (12) Students can find out the form of the lane balance
- (13) Students can make a balance sheet
- (14) Students can understand the types of financial statements
- (15) Students can find out the forms of financial statements
- (16) Students can make income statements, balance sheets, capital change reports or retained earnings reports, cash flow reports, and other additional reports needed by the company
- (17) Students can identify the closing journal document
- (18) Students can identify accounts that are debited and on credit

(19) Students can book a closing journal

2) Design

The media design phase is carried out to facilitate the process of developing the media. The media that will be developed are accounting games based on RPG Maker . In the design stage include:

(a) Test Preparation

The test in this study is intended to evaluate student learning through accounting games.

(b) Media Selection

Results from needs analysis, student analysis, concept analysis, task analysis, and specification of underlying objectives in media selection. The media chosen is media that can contain accounting services company material and contain practice questions in it. In addition, media selection is based on the need for accounting learning media, especially audio-visual technology-engineered learning media that can motivate students to learn accounting. Therefore the chosen media is accounting game media.

(c) Media Format Selection

After choosing the media, which is game-shaped media, researchers chose the format and software used in making

accounting games. The choice of this format works so that accounting games can be utilized in the education sector especially in learning with features that can be utilized. Then the selected format is an RPG Maker based game with RPG Maker VX Ace Software as an application for making games.

(d) Initial Design

The initial design of the game starts with making this accounting learning media storyboard. Storyboard can be seen in the attachment. After making the story board, it was followed by making characters, background music and maps, along with the steps that must be taken in creating characters, creating maps and creating events:

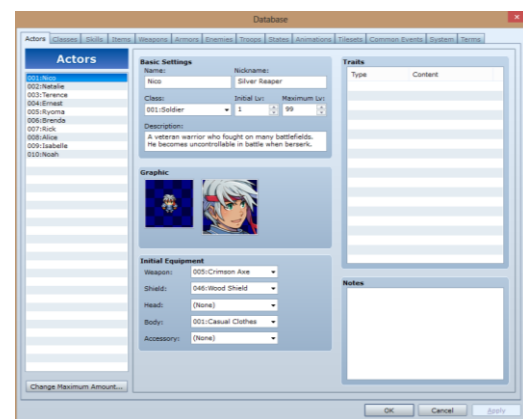


Figure 2. Display Database Menu in RPG Maker

Faculty of Economics lecturers and evaluations by practitioners were carried out by accounting teacher at SMK Muhammadiyah 1 Prambanan Klaten. The names of validator the assessment of media by experts can be seen in Table

Table 2. Names of validator in the Media Assessment

No.	Name	Position
1.	Ani Widayati, S.Pd., M.Pd., Ed.D.	Media and material experts I
2.	Ponty Sya'banto Putra Hutama, SE, M.Sc.	Media and material experts II
3.	Nurhayati, S.Pd.	Accounting Teacher Practitioner

The following are the results of the assessment of experts and practitioners (teachers):

Accounting *game* based on *RPG Maker* as an accounting learning media for students of class X SMK with accounting services company material assessed and reviewed by media and material experts . Media and material experts who assess this media are Ms. Ani Widayati, S.Pd., M.Pd., Ed.D. , FE UNY Accounting Education lecturer, Mr. Ponty Sya'banto Putra Hutama, SE, M.Sc., lecturer in Accounting Education FE UNY and Mrs. Nuhayati, S.Pd., as accounting teacher at SMK Muhammadiyah 1 Prambanan Klaten. The three assessors were chosen as media validators because the three

understood the concepts of learning media and mastered accounting services companies, so that the background of the expertise was appropriate to assess the development of media, namely accounting games based on *RPG Maker*. The assessment by media experts are prioritized on the aspects of the display, aspects of content, and aspects of learning that exist in the accounting game learning media . The results of the assessment are in the form of quantitative data scores for each item aspect and description of suggestions. Recapitulation The results of media assessment can be seen in appendix II (page 277). Feasibility assessments by media and material experts and accounting teacher practitioners provide criticism and suggestions for improving the media. In summary the recapitulation of values is presented in the following table.

Table 3. Media Assessment Results

No .	Aspect	Tota I Scor e	Average Score	Categor y
1	Display	149	4.52	Strongly Feasible
2	Content	127	4.70	Strongly Feasible
3	Learning	144	4.80	Strongly Feasible
	Tota l	420	4.67	Strongly Feasible

Based on table. Average Evaluation Results of media and material

experts and accounting teacher practitioners about the conversion of quantitative data and qualitative data, it is known that the average score (\bar{X}) 4.67 is located at $\bar{X} > 4.2$ which means that the product developed gets a “A” Value in the “**Strongly Feasible**” category. The results of media assessment show that the aspects of display, content aspects and aspects of learning are worthy of being tested according to the criticisms and suggestions were given by media and material experts and accounting teacher practitioners. Recapitulation of the results of media assessment if presented in the diagram can be seen in Figure:

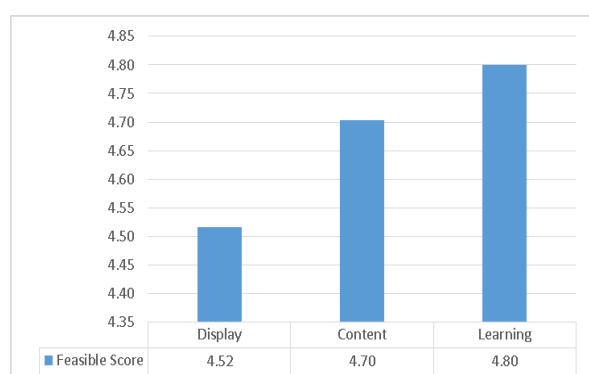


Figure 7. Recapitulation of Media Assessment

The results of media assessment are used to find out the material mixtures and the design of media for learning media to be used. Media and material experts and accounting teacher practitioners have provided suggestions and comments that will be used for evaluation material. Figure 40 Results of the Recapitulation of

Media Assessment Scores, it can be seen that the learning aspect has a first rank score of 4.80 which makes this media in accordance with the learning objectives so as to encourage students to learn independently. The lowest aspect is seen in the display aspects, namely 4,52 due to lack of layout and other appearance in the accounting game learning media, therefore revisions are needed to adjust the layout and appearance in this learning media to make it better.

(b) Development Test

Before accounting *games* were disseminated, development tests were needed to show the results of their use. The development test was carried out in the X Accounting class of Muhammadiyah 1 Prambanan Klaten Vocational School with 22 students. The results of this development test are shown in table

Table 4. Development Test Results

No.	Aspect	Total Score	Average Score	Category
1	Display	1.174	4.45	Strongly Feasible
2	Content	692	4, 49	Strongly Feasible
3	Learning	614	4.65	Strongly Feasible
	Total / Average	2480	4.53	Strongly Feasible

Based on table 11 Development Test Results, about the conversion of quantitative data and qualitative data, it is

known that the average score (\bar{X}) 4.53 is located at $\bar{X} > 4.2$ which means that the product developed gets the “A” value with the “Strongly Feasible” category . The results of the development test show that the aspects of display, aspects of the content and aspects of learning are worthy of being tested according to the criticism and suggestions given by students. The recapitulation of the results of the development test if presented in the diagram can be seen in figure

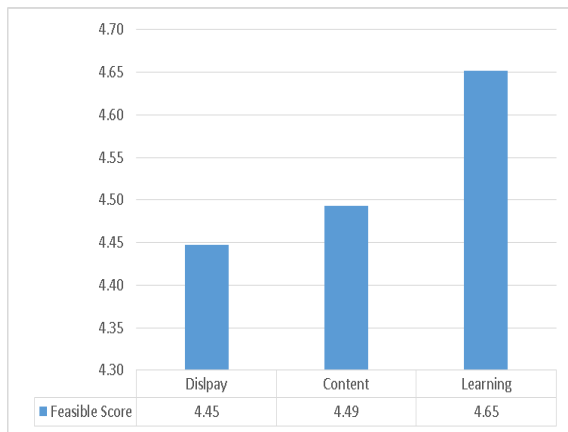


Figure 8. Recapitulation of Development Test

The results of the development test are the final results of the stages of developing accounting games learning media. Figure 43 The results of the development test show the highest rating, namely the average learning aspect of the score of 4.65 with the “Strongly Feasible” category, because the learning media of accounting games make students motivated to study accounting. The lowest position is obtained by the display aspect

with a mean score of 4.45 because some of the views are not appropriate

4) Disseminate

After the media is tested for development, the next step is the spread of accounting game media by hosting through Google Drive. The original link of Google Drive then reduces short website bit.ly/SmartAccountingGames for make simplify the input link. The next step is to make a post about the introduction of accounting games along with the link and share it on Muhammad Adjie Santoso's social media facebook, Twitter @adjiecation and via Whatsapp Group. The results of this study are also made in the form of scientific articles and be published in online in the e-journal managed by FE UNY accounting education department.

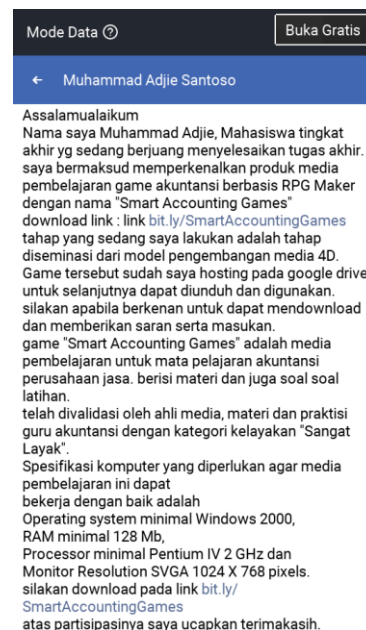


Figure 8. Disseminate using facebook account



Figure 9. Disseminate using twitter account

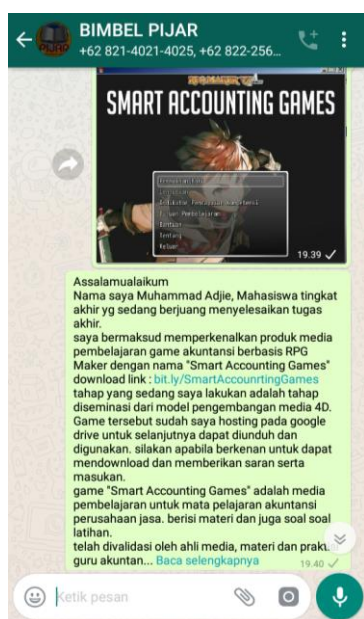


Figure 10. Disseminate via Whatsapp Group

Discussion

a) Development Accounting Games based on RPG Maker as Learning Media of Accounting

The accounting game Smart Accounting Games as a medium for accounting learning with service company

accounting materials was developed using the Four-D model developed by Thiagarajan and Semmel in 1974. This development research was carried out through four stages according to Endang Mulyatiningsih (2012), four stages including define, design, develop, and dissemination. Consideration of the use of this model is because the Four-D model is structured systematically and in accordance with the media development plan, from the definition stage to the deployment stage.

Accounting game development begins with the defining stage which consists of several things that are done, namely needs analysis, student analysis, task analysis, concept analysis, and specification of objectives. The researcher decided to develop accounting services accounting firm services for the tenth grade students of SMK Muhammadiyah 1 Prambanan Klaten accounting expertise program. The design phase includes the design of tests, media selection, format selection, initial design and making accounting games. The media that will be developed are accounting games based on RPG Maker. The design of the test is based on competency standards and basic competencies taken from the syllabus of SMK Muhammadiyah 1 Prambanan Klaten. Based on the standards of competence and new competencies

indicators are made to make evaluations or questions in learning. after being analyzed it produced 3 competency standards, 7 basic competencies and 14 indicators in the accounting game . The story board is made as an overview of the game development plan that will be carried out.

The next stage of development, accounting games based on RPG Maker will be assessed by media and material experts and practitioners (accounting teacher). Media and material experts as well as practitioners (accounting teacher) conduct an assessment of the aspects of display, aspects of content and aspects of learning in accounting games. the results of the assessment of experts and learning practitioners get a Strongly Feasible category. The researcher revised according to the input of experts so that the RPG Maker -based accounting game was obtained as an accounting learning media that was feasible to be applied in the learning process at SMK Muhammadiyah 1 Prambanan Klaten. Before heading to the deployment stage, accounting games must go through development tests. The development test was carried out in the Accounting X class 1 of SMK Muhammadiyah 1 Prambanan Klaten. Based on the development test of the accounting game learning media, a score of 4.53 which was included in the stongly feasible category was obtained .

The last step in this study is disseminate. disseminate of accounting game media by hosting via Google Drive . The original link of Googledrive then reduces to bit.ly/SmartAccountingGames in order to facilitate the input link. The next step is to make a post about the introduction of accounting games along with the link and share it on Muhammad Adjie Santoso's social media facebook, Twitter @adjiecation and via Whatsapp Group.

The research entitled "Development of Accounting Games based on RPG Maker as a Media for Accounting Learning Services in Class X of Prambanan Klaten 1 Muhammadiyah Vocational School " implies that media can be developed using the Four-D model because it is systematically structured and in accordance with media development plans.

b) Feasibility of Accounting Games Based on RPG Maker as Learning Media of Accounting

Development Accounting Game Based on RPG Maker as a Service Learning Accounting Media Service Company assessed its feasibility by media and material expert lecturers and accounting teachers. Media assessment conducted by Mrs. Ani Widayati, S.Pd., M.Pd., Ed.D. , FE UNY Accounting Education lecturer, Mr. Ponty Sya'banto

Putra Utama, SE, M.Sc., lecturer in Accounting Education FE UNY and Mrs. Nuhayati, S.Pd., as accounting teacher at SMK Muhammadiyah 1 Prambanan Klaten.

From the recapitulation of assessment, instructional media to get the score 4.52 with the category of "Strongly Feasible" to aspects of the display, the score 4.70 with "Strongly Feasible" category to aspects content and score 4.80 with the "Strongly Feasible" category for the learning aspect. So as a whole get a score of 4.67 with the category "Strongly Feasible".

c) Student Assessment of Accounting Games Based on RPG Maker as an Accounting Learning Media

Student assessment of RPG Maker-Based Accounting Games is carried out at the development test stage. Accounting methods are valued by students as product targets. Based on the overall assessment of the students obtained a score (\bar{X}) 4.53 located at $\bar{X} > 4.2$, which means that the product developed gets a value of "A" with the category "Strongly Feasible". Accounting games based on RPG Maker are thus worthy of being used as learning media.

The study entitled "Development of Accounting Games based on RPG Maker as a Media for Accounting Learning

Services in Class X of Prambanan Klaten 1 Muhammadiyah Vocational School " gives the implication that after the media is very feasible to be implemented then the media is reassessed by students as product targets. The media can be said to be eligible to apply if get student assessment with a minimum value obtained is a decent B category, such as accounting games based on RPG Maker getting student assessment mean score on the test development that is 4.53 with a strongly feasible categories included in the category is feasible so that the media can be applied as a learning media.

d) The Final Product

The final product in this research is an accounting game "Smart Accounting Games" based on RPG Maker. The Accounting Game "Smart Accounting Games" is a role playing game about the life of a little boy named Nico who runs a mission from his grandfather. Nico will be the main actor in this game. Smart Accounting Games is a game that contains accounting services companies and there are practice questions.

This game takes place in 7 zones that match KD in Accounting services companies such as General Journal Entry, General Ledger Posting, Adjustment Journal, Lane Balance Sheet, Financial Statement Making, Closing Journal and

Balance Sheet after closing. Each zone has a different mission but are interrelated because these zones are a complete cycle of service company accounting. Nico's adventures in the Smart Accounting Games will begin with the provision of material in accordance with KD and if deemed sufficient will proceed with carrying out a mission in the form of answering exercises related to the material that was presented at the outset.

Limitations of Development Research

The limitations of the use of accounting games as a medium for accounting learning based on the research that has been done are

- a) The product quality test in this study is limited to the development test, but not to the effectiveness test.
- b) Limitations in processing scripts in applications so that some features cannot be used.
- c) Media implementation is limited to only one class and one school.
- d) The standard of a feasibility assessment is only limited to aspects of Display, Content Aspects, and Learning Aspects.

CONCLUSIONS AND SUGGESTION

Conclusion

Based on research and development can be summarized several things as follows:

- a) The development of Accounting Games Based on RPG Maker as a learning media for Accounting Services Company Class X of SMK Muhammadiyah 1 was developed with the Four-D model which was carried out through 4 stages, namely Define, Design, Develop, and Disseminate.
- b) The results of the development of Accounting Games Based on RPG Maker as a learning media for Accounting Services Company Class X of SMK Muhammadiyah 1 are assessed by media and material expert lecturers and accounting teacher practitioners: based on first expert judgment was getting 4.81 scores which were included in the strongly feasible category, second expert judgment was getting 4.47 scores which were included in the strongly feasible category, evaluation of practitioners was getting 4.74 scores get the which is included in the strongly feasible category and validation of student test scores get 4.53 totally strongly easible included in the category.

Suggestion

Based on the quality of the product, the weaknesses and competencies of the research discussed earlier, the researcher gave suggestions as

following:

- a) learning media need to be developed more broadly for other accounting material.
- b) Learning media need to be developed more with add a video feature.
- c) Further research should also measure the effectiveness of the use of instructional media.
- d) The standard of a feasibility assessment is only limited to aspects of Display, Content Aspects, and Learning Aspects.
- e) Further research should also do media implementation is limited not just to only one class and one school.

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