

## DEVELOPING ACCOUNTING GAME FOR VOCATIONAL SCHOOL

**Sukirno<sup>1</sup>, Endra Murti Sagoro<sup>2</sup>, Adetia Ratih Pratiwi<sup>3</sup>, Praptiningsih<sup>4</sup>**

<sup>1,2,3,4</sup>*Accounting Education Department, Yogyakarta State University, Indonesia*

<sup>1</sup>*sukirno@uny.ac.id*, <sup>2</sup>*endra\_ms@uny.ac.id*; <sup>3</sup>*adetiaratih@gmail.com*

### Abstract

The field of information technology (IT) is growing in harmony with the demands of education and business global market. To respon IT roles in education this study was aimed to develop accounting game based on RPG Maker for vocational school accounting students and to investigate its feasibility. Research and Development (R & D) model based on 4D Models was adopted. Questionnaires were distributed to media expert, material expert, practitioner, and accounting students in a vocational school in Purbalingga. A descriptive analysis technique was employed to analyze data and to look for answers for the research questions. An attractive game have finally succesfully been developed and in general it can be concluded that the media was feasible. The findings and limitations are discussed and recommendations are also provided.

**Keywords:** *Accounting Game, Vocational School*

### INTRODUCTION

Data released by the United Nations Educational, Scientific and Cultural Organization (UNESCO) Indonesia Education Development Index (EDI) in 2011 is 0.947. This value puts Indonesia in the 57<sup>th</sup> position of 115 countries in the world. There are many factors that can affect the low quality and education rank in Indonesia. The low quality of educators is one of the factors that give a considerable impact on the learning process, because the task to plan and implement the learning process is an educator itself. Based on the Law of the Republic of Indonesia Number 20 Year 2003 on the National Education System mentioned that an educator has an obligation to create a meaningful educational atmosphere, fun, creative, dynamic and dialogical to improve the quality of education. Besides, school management, learning resources utilization, strategies and learning models, teacher performance, are also among other important components affecting the quality of learning process (Rusman: 2008).

The rapid development of IT nowadays may not be avoided, in education as well as in business institutions. Utilization of IT may be employed by teachers to create a more meaningful educational atmosphere and effectively to achieve efficiently and effectively learning outcomes. Adopting IT correctly in education may facilitate learning strategy and learning media to be more interesting. Therefore, teachers may be equipped with IT to develop a suitable learning media in accordance with their topics they deliver.

Result of interview with a number of tachers and students at SMKN 1 Purbalingga Regency explained that the process of teaching and learning of accounting in SMKN 1 Purbalingga was still using lecturing methods and less facilitated by good learning media. It was also found that students were less motivated in learning accounting material in the class

in general. While interviewing a number of students and teachers found that games motivated better for junior high and high school students, in fact implementation of IT in learning process has not been utilized optimally in SMKN 1 Purbalingga Regency. These issues encouraged researchers to develop a feasible accounting game as media of learning for teachers as well as students at SMKN 1 Purbalingga Regency.

## METHODS

Among 36 students of class X Accounting SMKN 1 Purbalingga Regency and 3 experts (in media, material, and practitioner) were participated during data collection and validation process. Research and development by using 4D model that developed by Tiagarajan and Semmel was employed in this research to develop the accounting game. Four stages in the 4D model are define, design, development, and disseminate (Sugiyono, 2015: 297). Activities are conducted to elaborate each stage as follows.

The first (define) stage aims to define the requirements and needs of the learning process. It is conducted also to know learning objectives and to find constraints of media development. Further development of learner behaviour and learning situation and condition. There are five activities during this stage (1) front end analysis (needs), (2) student analysis, (3) task analysis, (4) concept analysis, and (5) specification of learning objectives.

The design stage aims to design prototype of instructional media. This stage consists of 3 steps, namely (1) preparation of tests, (2) selection of media, (3) selection of format, and (4) initial design. Thirdly development stage consists of two phases, namely expert assessment and development test. Finally, at disseminate stage the accounting education game will go through two stages, namely test validation and dissemination. Students were participated in validation process and dissemination was conducted in two vocational schools in Kulonprogo Regency.

Data we collected using questionnaires. Before distribution, the questionnaire had been validated by three material experts, three media experts, three lecturers from a higher education institution. It was also involved a class of students in Accounting Education Department in Faculty of Economics, Yogyakarta State University. The data then were analyzed and classified based on the following criteria.

Table 1. Feasibility Categorization Guideline

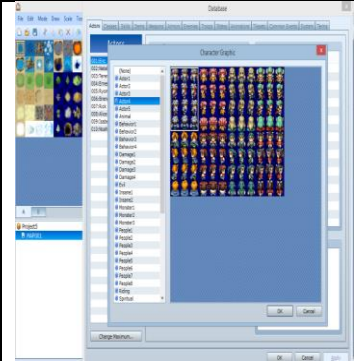

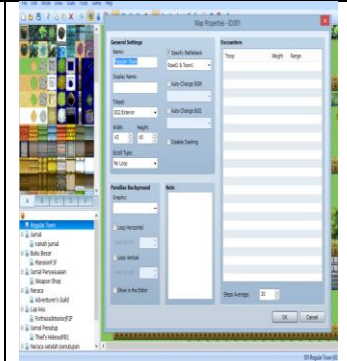
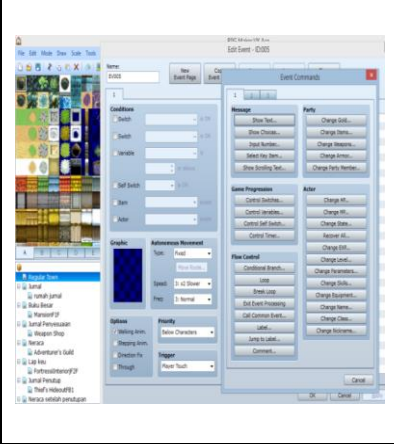
Interval score	Category	Range
Strongly feasible	$X > \bar{X} + 1,80 S_{bi}$	$X > 4,20$
Feasible	$\bar{X} + 0,60 S_{Bi} < X \leq \bar{X} + 0,60 S_{bi}$	$3,40 < X \leq 4,20$
Enough	$\bar{X} - 0,60 S_{bi} < X \leq \bar{X} + 0,60 S_{Bi}$	$2,60 < X \leq 3,40$
Low	$\bar{X} - 1,80 S_{bi} < X \leq \bar{X} - 0,60 S_{Bi}$	$1,80 < X \leq 2,60$
Strongly low	$X \leq \bar{X} - 1,80 S_{bi}$	$X \leq 1,80$

Source: Widoyoko (2011: 236)

## RESULTS AND DISCUSSION

During defining stages analysis, it was concluded that students urgently needed a learning media and as they had used to able to use a computer in finishing their tasks though still in Excel, PPT, or Word. Subject syllabus was also explored in determining model and content of learning media. Step to the second stage, in the design stage, RPG Maker was chosen to develop accounting game (Seno, 2013). Accounting game in this research contains accounting material for service companies. Started from preparing story board then the following steps were executed.

Table 2. Design Phases

		
<p>Characters</p>	<p>Maps</p>	<p>Songs</p>
		
<p>Filling story</p>		

In the developing stage, media was proposed to be validated by experts. Experts judgments will be used to conclude whether the media was already feasible or it still needs to be revised. Result of this validations are presented in the following tables:

Table 3. Material Expert Validation

No.	Aspect	Total Score	Average	Category
1	Material	49	4,5	Strongly Feasible
2	Design Learning	23	4,6	Strongly Feasible
3	Language	17	4,25	Strongly Feasible
Total		89	4,5	Strongly Feasible

Table 4. Media Expert Validation

No.	Aspect	Total Score	Average	Category
1	Software Engineering	38	4,75	Feasible
2	Visual Communication	50	4,17	Feasible
Total		88	4,45	Feasible

Table 5. Practitioner Validation

No	Aspect	Total Score	Average	Category
1	Material	41	4,56	Strongly Feasible
2	Learning Design	22	4,4	Strongly Feasible
3	Language	9	4,5	Strongly Feasible
4	Software Engineering	26	4,33	Strongly Feasible
5	Visual Communication	32	4	Feasible
Average			4.36	

Before the accounting game was disseminated, an empirical test has also been conducted by inviting students in SMKN 1 Purbalingga Regency to evaluate the media. Below is the result of student evaluation on the media.

Table 6. Student Evaluation

No	Aspect	Total Score	Average	Category
1	Learning	191	4,34	Strongly Feasible
2	Software Engineering	140	4,24	Feasible
3	Language	48	4,36	Strongly Feasible
4	Visual Communication	328	4,26	Strongly Feasible
Average		707	4,3	Strongly Feasible

Finally, in disseminating stage, students from two vocational schools in Kulonprogo Regency (SMKN 1 Jogonalan and SMK Ma'arif 1 Temon) were participated. Below table depicts the result of evaluation during the dissemination stage.

Table 7. Validation Test Result

No	Aspect	Total Score	Average	Category
1	Learning	655	4.42	Strongly Feasible
2	Software Engineering	486	4.54	Feasible
3	Language	153	4.58	Strongly Feasible
4	Visual Communication	1.110	4.40	Strongly Feasible
Average			4.49	Strongly Feasible

## CONCLUSION AND RECOMMENDATION

Based on the data analysis it can be concluded that developing an accounting game with Four-D model can result a feasible media based on the students, teachers and experts. Further the results show the average of feasibility score among experts, teachers, and students are more than 4 meaning that the media can be categorized in feasible level and it implies that the media may be used by students or teachers to learn service company materials in accounting class.

It is recommended for the teachers and researchers to develop not only using other better applications but also for the different materials related to accounting classes in vocational school. Finally, to measure the level of effectiveness in developing a new learning media for the future researchers is also motivated.

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