

**PENGEMBANGAN PERMAINAN ULAR TANGGA, MEDIA PEMBELAJARAN JURNAL KHUSUS UNTUK MENINGKATKAN MOTIVASI BELAJAR SISWA**

**DEVELOPMENT OF SNAKE AND LADDER GAME, A LEARNING MEDIA IN SPECIAL JOURNAL TO IMPROVE STUDENT MOTIVATION**

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**Abstrak**

*Penelitian ini bertujuan untuk mengetahui: pengembangan Ular Tangga Akuntansi pada materi Jurnal Khusus; kelayakan Ular Tangga Akuntansi berdasarkan penilaian ahli materi dan ahli media; penilaian siswa terhadap Ular Tangga Akuntansi; dan peningkatan motivasi belajar siswa. Penelitian ini merupakan penelitian pengembangan dengan model pengembangan ADDIE. Ular Tangga Akuntansi dinilai kelayakannya oleh 2 ahli materi (dosen dan guru), 1 ahli media, 8 siswa uji coba kelompok kecil, dan 17 siswa uji coba lapangan. Pengukuran motivasi melibatkan 17 siswa kelas X Akuntansi SMK Muhammadiyah 1 Tempel. Teknik pengumpulan data menggunakan angket dan dianalisis secara deskriptif kualitatif. Hasil penelitian menunjukkan lima tahap pembuatan media: Analisis, Desain, Pengembangan, Implementasi, dan Evaluasi. Tingkat kelayakan Ular Tangga Akuntansi berdasarkan penilaian: 1) Ahli Materi, 4,45 (Sangat Layak), 2) Ahli Media, 4,46 (Sangat Layak), 3) siswa uji coba kelompok kecil, 4,75 (Sangat Layak) dan 4) siswa uji coba lapangan, 4,33 (Sangat Layak). Hasil perhitungan gain score: Ular Tangga Akuntansi dapat meningkatkan motivasi belajar siswa sebesar 0,20 (nilai gain < 0,3, kategori rendah).*

**Kata kunci:** Ular Tangga Akuntansi, Motivasi Belajar, SMK, Jurnal Khusus, ADDIE.

**Abstract**

These research objectives were: to develop of Accounting Snake and Ladder (ASAL) in Special Journal Material; to know the feasibility of ASAL based on the assessment of material experts and media expert; to know the assessment of student on ASAL; and to know the improvement of student learning motivation. This research was Research and Development with ADDIE developmental model. The feasibility of ASAL assessed by 2 material experts (lecture and teacher), 1 media expert, 8 students of small group tryout, and 17 students of field tryout. The motivation measurement was done to 17 students of class X Accounting SMK Muhammadiyah 1 Tempel. The questionnaire used to collect the data and analyzed by a descriptive qualitative method. The result showed: the five stages of making ASAL were 1) Analysis, 2) Design, 3) Development, 4) Implementation, and 5) Evaluation. The feasibility of ASAL based on the assessment: 1) Material Experts, 4.45 (Strongly Feasible), 2) Media Expert, 4.46 (Strongly Feasible), 3) students of small group tryout, 4.75 (Strongly Feasible), and 4) students of field tryout, 4.33 (Strongly Feasible). The calculation result used gain score: ASAL could improve students' motivation as 0.20 (the score < 0.3, low-level category).

**Keywords:** Learning Media, Accounting Snake and Ladder, ASAL, Learning Motivation, SMK, Special Journal, ADDIE.

## INTRODUCTION

Education is an effort of human to construct personality appropriate with values and cultures in the society. Education has an important purpose to build, create, and upgrade the quality of human resources until capable of supporting the progress of national development. Indonesia has formulated a noble objective of education which is included in an introduction of Undang-Undang Dasar 1945 in paragraph IV said that "...mencerdaskan kehidupan bangsa". The intelligent and progressive nation life are needed an education as a facility to reach the noble objective.

Education is an interdependent process between two principal elements namely teacher and student. The task of a teacher is organizing learning atmosphere in the class become fun and interesting for the student, it creates education process which guides the student to realize the objective that already decided. Thus, the learning will be effective in fun condition, one method to make learning more fun is developing learning media.

According to Gagne & Briggs in Arsyad (2011: 4), learning media included the tool that physically used to give the content of learning material including the book, tape recorder, cassette, video camera, video recorder, film, slide, photograph, picture, graph, television, and computer. The

variation of learning media are the supporting tools in the studying-teaching process.

According to Sudjana and Rivai (2013: 2), learning media can enhance students' learning process and learning achievement. The appropriate and fun learning media utilization will increase motivation, interest, and comprehension of the student, increase the variation of teaching method, and actually can increase students' activity and learning achievement.

Based on the observation in SMK Muhammadiyah 1 Tempel, in Accounting Skill Program, the availability of learning media in the class was sufficiency enough. The learning media included books and LCD (Liquid Crystal Display), but the using of that learning media was not optimum. The teacher only used one of that media (e.g. LCD for presentation using slide power point or book only) while learning process.

Based on further observations during the learning process in class X Accounting on 30 July 2016, on the subject of Vocational Competency, especially the Competency Standard of Processing Journal Entry, problems have occurred. The teacher had combined group discussion with using the media (i.e. book, module and power point slide). However, that method and media have not been able to increase the students' motivation yet, it was shown

when teacher teaching in the classroom, still met students were sleepy when the teacher explained the material and the participation of students in the class were still low. This problem was shown evidently from 18 students in class X Accounting, only 11% (2 students) who actively asked or expressed the opinions, as 33% (6 students) talked with their friends, 22% (4 students) played mobile phone, 11% (2 students) were sleepy, and 22% (4 students) were silent or passive.

In addition, based on the observation during a practice of teaching from July until September 2016 showed that the students' motivation in doing the task were still low. This was evident when students were given a structured task only 22% students who completed and submitted the assignments on time, especially when students were given the unstructured task, 89% students did not perform the task. The student protest and complain when asked to do exercises. Students were lack the confidence to do the exercises by themselves and the initiative of students to do exercises were still lacking. The activities of students that have been mentioned are reflected that Students' Motivation in the classroom was still low.

The school also did not provide or develop learning media totally in accordance with the conditions of the students but to rely more on each teacher's creativity in packaging materials by using

media in the classroom. However, the teachers who teach in Accounting Skill Program was still not optimum in implementing the innovative learning media, so that the learning process was monotonous. In Processing Journal Entry Competency Standard, a teacher only provided a question and answer sheet to work as an exercise. Question sheets were the transactions and cases in the form of narrative and then students were asked to keep a journal of the question sheet on the answer sheet. This learning makes students feel burdened and saturated.

Processing journal entry is one competency standard of Vocational Competency subject for the student in class X Accounting of Vocational High School. The material of that competency standard is general ledger and special journal. Based on the syllabus that is used in SMK Muhammadiyah 1 Tempel, the general ledger is the material that more easy to understand than the special journal. The material of general ledger is still simple. The student learns to identify the transaction data and record/enter the data on one journal only, the general ledger. Whereas, the special journal material is more complex because the student must learn to identify the homogeneous transactions and enter the data to four journals e.g. purchase, sales, cash receipt, and cash payment journal, There are the

additional journals, it is the general ledger for keeping the transactions that can not record in the four special journals e.g. the transactions of sales return and purchases return. While the motivation of students is still low, if the teacher only uses a book or slide power point when sending the material about the special journal, it will make the student feel bored. The teacher needs learning media that can improve student motivation in learning Special Journal. The learning media that can be an alternative is a learning media which have to learn with playing concept to make the student does not bored during learning. Using that media, students hoped to have a high spirit to study, so that will grow an enjoyable atmosphere in the class.

The game is an activity that has done by someone who wants to reach a happiness, or gladness and satisfaction. Students in class X Accounting are between 15-16 years old, generally, have an eagerness to play and enjoy, they will averse to think and analyze problem during learning accounting. Snake and ladder game can be an exact learning media for Vocational Competency Subject especially in the Competency Standard of Processing Journal Entry.

Snake and ladder game is a game that is familiar and often played by students. Students will be happy when they play and the material will be accepted. Games can give direct feedback, games enable to apply

the concept or play the role of the real situation in society, games are attractive, and games can be made and multiplied easily (Sadiman et. al., 2012:78). Using snake and ladder as a learning media, the student will have more activities and learning will be fun.

Snake and ladder game is developed as a learning media because it has superiority than another learning media. Snake and ladder game is a fun and entertains game. Snake and ladder game has some advantages for student i.e. knowing win and loose, learn to cooperative and shifting, develop imagination and remember the rule of games, stimulate the student to learn pramathematic (e.g. when calculate step in snake and ladder game and calculate points in a dice), and student learn to solve the problem.

The research objectives are developing snake and ladder game as a learning media in special journal material to improve student motivation of class X Accounting SMK Muhammadiyah 1 Tempel, knowing the feasibility of snake and ladder game, and knowing the improvement of student motivation after using snake and ladder game as a learning media in special journal material.

Theoretically, this research can be a contribution theory about the development of snake and ladder game as a learning media in special journal material for the

student in class X Accounting of Vocational High School. Practically, the researcher can apply and increase knowledge, the teacher can be more creative in using accounting learning media especially in a special journal, the student gets different learning experience and student motivation can improve.

## **RESEARCH METHOD**

### **Type of Research**

The type of this research is *Research and Development* (R&D). According to Sugiyono (2015:407), research and development method is the research methods used to produce a specific product and test the effectiveness or feasibility of products. This research was focused on the development of a product in form of Snake and Ladder game as a learning media.

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

This research conducted in SMK Muhammadiyah 1 Tempel which is located at Street Gendol Km 0,5 Sanggrahan, Tempel, Sleman. This research conducted in two steps. The first is preparation stage from November 2016-February 2017. The second is implementation stage until reporting stage from March-May 2017.

### **Variable Operational Definition**

Learning motivation. Learning motivation is internal and external encouragements which are actuating

student to learn, so the learning objectives are achieved. The motivation was measured by these indicators: desire and willingness to succeed, an encouragement and needs of learning, hopes and aspiration in the future, appreciation in learning, interesting learning activities, and a learning environment that conducive which allowing student to learn well.

Snake and Ladder game as a Learning Media in Special Journal Material. Learning media of Snake and Ladder game is a board game which has done by two persons or more. Snake and ladder game designed as a game with the learning material about Special Journal with a periodic method. Components in the snake and ladder game are a wooden board of game consists of 100 plots size 33 cm x 46 cm, four colored pawns (red, yellow, green, blue) for players, one dice with six sides, 16 Material Cards, 30 Motivation Cards, 50 Question Cards, 65 Point Cards, one sheet Game Rules, one set handout of material and question, and one set student answer paper.

### **Research Subjects**

The subjects of this research were one media expert (Accounting lecturer who expert in media aspect), two material experts (Accounting lecturer and teacher), eight students of class X Accounting SMK Muhammadiyah 2 Yogyakarta in small group tryout and 17 students (all students)

of class X Accounting SMK Muhammadiyah 1 Tempel in field tryout.

**Procedure**

The type of this research is *Research and Development* (R&D). According to Sugiyono (2015:407), research and development method is the research methods used to produce a specific product and test the effectiveness or feasibility of products. This research was focused on the development of a product in form of Snake and Ladder game as a learning media. This research was used research and development model of ADDIE. According to Dick and Carry (1996) in Endang Mulyatiningsih (2012: 200-202), there are five stages in ADDIE model (i.e. Analysis, Design, Development or Production, Implementation or Delivery, and Evaluation). The summary of those stages with modifications as follows:

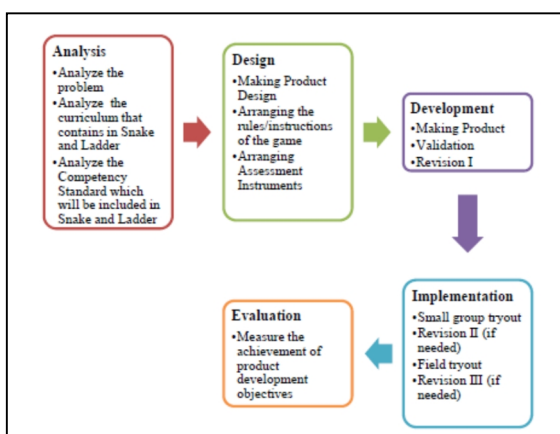


Figure 1. ADDIE Development Model

**1. Data Types**

There are two types of data that were collected in this research including qualitative and quantitative data.

Qualitative data are the data about the learning media development process that takes from criticisms and suggestions from material experts and media expert. The data has represented the quality of Accounting Snake and Ladder. Quantitative data is the main data in the research which formed of the data about students’ motivation and the assessment of snake and ladder as a learning media from the material experts, media expert, and students in the questionnaires.

**2. Data Collections Techniques**

The questionnaire was used to collect the data in this research. The questionnaire is data collection technique which has done by giving a set of question or the written statement to answer by the respondent. (Sugiyono, 2015:199). Questionnaires in this research were the questionnaires to assess the feasibility of the developed media and students’ motivation.

**3. Research Instrument**

The instrument that used in this research was the questionnaire. The questionnaire was used to measure the feasibility of the development media based on several aspects adapted from Wahono (2006): learning, media engineering, and visual communication. The feasibility of learning media questionnaire used Likert Scale with five alternative answers such as excellent, good, fair, poor, very poor (Sugiyono, 2015: 135). Furthermore to get quantitative data, five alternative answers have scores:

excellent = 5, good = 4, fair = 3, poor = 2, very poor = 1. The measurement of student motivation used questionnaire with adapted the indicators from Uno (2014), (i.e. a passion and desire to succeed, an encouragement and a need to learn, hopes and aspirations in the future, an interesting learning activity, An appreciation in learning, and a conducive learning environment that allowing student to learn well).

#### 4. Validity and Reliability of Instrument

This research used product moment correlation formula by Pearson. The value of rcount consulted with rtable of product moment at a significance level of 5%. If the value of rcount is greater than or equal to 5% rtable, the item of the instrument in question is valid and if known the value rcount is smaller than rtable the instrument is not valid. The instrument was tested with 32 students outside of research subject (students of class X Accounting 1 SMK Muhammadiyah 1 Yogyakarta), to know the validity of the instrument. The data processing results by used SPSS 22 showed that 27 items stated valid, and 11 items stated invalid.

The calculation of reliability test is accepted if the calculation result of rcount is larger than rtable 5%. Based on the result of instrument test by used SPSS 22, reliability test of questionnaire score is  $0,860 > rtable$

$0,349$ . According to Arikunto (2013: 89) research instrument has high reliability if the coefficient value (Cronbach's Alpha)  $0,600$ . The result of reliability test indicated the instrument is reliable and has high reliability.

#### Data Analysis Techniques

##### a. The feasibility of Snake and Ladder Game

The data from the material expert, media expert and small group tryout was analyzed by using descriptive analysis technique. This technique was done by using descriptive statistics. The result of data analysis used as a basis to revise the development of media product. The steps were changing the qualitative assessment to be a quantitative, calculating average scores for every indicator, adding the average scores of every aspect, and interpreting qualitatively total average scores of every aspect by using conversion score five-scale formula. Here is the table of conversion scores to the feasibility grade.

Table 1. Directive Conversion Score to the Feasibility Grade

Score	Formula	Gra..	Classification
5	$X > 4,2$	A	Strongly Feasible
4	$3,4 < X < 4,2$	B	Moderately Feasible
3	$2,6 < X < 3,4$	C	Enough
2	$1,8 < X < 2,6$	D	Unfeasible
1	$X < 1,8$	E	Strongly Unfeasible

b. Measuring The Student Motivation

Students' motivation questionnaire was using Likert Scale with alternative answer and assessment criteria as follows.

Table 2. Assessment Criteria by Likert Scale in Student Motivation Questionnaire

Alternative Answer	Positive Statement	Negative Statement
Very agree	5	1
Agree	4	2
Doubt	3	3
Disagree	2	4
Very disagree	1	5

Source: Sugiyono (2015: 135)

The improvement of students' motivation was analyzed by using gain score. The calculation result by using gain score formula interpreted into the category of gain value criteria at the table as follows.

Table 3. Gain Value Criteria

g Value	Criteria
$g > 0,7$	High
$0,7 < g < 0,3$	Medium
$g < 0,3$	Low

Source: Hake (2012:1)

**RESEARCH RESULTS AND DISCUSSIONS**

**Research Result**

This research used the developmental model by Dick and Carry (1996). The procedures to obtain Accounting Snake and Ladder Game were five stages (i.e. Analysis, Design, Development, Implementation, and Evaluation).

1. Analysis Stage

Analysis stage was the analysis of the learning process in the classroom, learning media needs, standard and basic

competencies, indicators of basic competency, and the objectives of the developed learning media.

2. Design Stage

Design Stage was making product design and arranging the game rules. The preliminary design of Accounting Snake and Ladder was made more different than general snake and ladder game. The components were wooden game board, pawns, dice, material cards, question cards, motivation cards, point cards, game rules, handout materials and questions, and student answer paper. The rules were made to help students play Accounting Snake and Ladder easily.

3. Development Stage

Development stage was making a product, validation, and revision stage I. The product making was started with designing a product using Corel Draw X5 applications then printed out and packaged. Validation was the stage which conducted after the initial media has been made. The media was validated by material experts and media expert.

Validation by material experts was conducted by Accounting lecturer and teacher whose qualification of Special Journal Material. Mrs. Adeng Pustikaningsih, S.E., M.Sc. Akt., Accounting Lecturer, Faculty of Economics, Yogyakarta State University and Mrs. Erma Wulandari, S.Pd.,



Accounting Teacher of SMK Muhammadiyah 1 Tempel. Validation was done by the material experts in term of the learning aspect. This validation was using a Likert scale questionnaire with five alternative answers (excellent, good, fair, poor, very poor). Questionnaire for material experts consists of 20 assessment indicators. The results of the assessment by material experts could be seen in the following table.

Table 3. Recapitulation of Validation Results by Material Experts

No	Aspect	Scores		
		Lect..	Teach..	Aver..
1.	Learning Aspect	4.80	4.10	4.45
	Category	Strongly Feasible	Feasible	Strongly Feasible

Source: Primary data are processed

The feasibility of developed media in terms of learning aspects by material experts (lecturer and teacher) obtained the average score of 4.45. Based on the conversion of scores into five scale value, validation results by material experts on learning aspect are in the range of  $X > 4.20$ , so that got an "A" in the category of "Strongly Feasible". The mean score by each material expert is different. The mean score of lecturer assessment is 4.80 that include into the category of "Strongly Feasible", while the mean score of teacher assessment is 4.10 that include into the category of "Feasible".

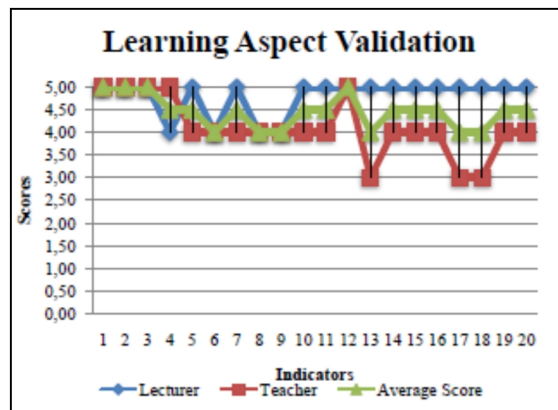


Figure 1. Line chart of Learning Aspect Validation by Experts

In addition, to provide the assessment, material experts were given the suggestions as a basis for improving the developed products at the revision stage. The results of validation from the lecturer shows that the media is "Feasible to be tested with a corresponding revision suggestion". Meanwhile, the results of validation from the teacher indicated that media "Feasible to be tested".

Media expert validation conducted by Mr. Rizqi Ilyasa Aghni, S.Pd., M.Pd. (Lecturer of Accounting Education Faculty of Economics, Yogyakarta State University). Validation was done by media expert in terms of the media engineering aspect and visual communication aspect. Researchers used the questionnaires Likert-scale type with five alternative answers (excellent, good, fair, poor, very poor). Questionnaire for media expert has 21 assessment indicators. The following table is a recapitulation of the assessment on media engineering and visual communication aspects by media expert.

Table 4. Recapitulation of The Media Expert Validation

No.	Aspects of Assessment	Scores
1.	Media Engineering Aspects	4.60
2.	Visual Communication Aspects	4.31
Category		Strongly Feasible

Source: Primary data are processed

The feasibility of Accounting Snake and Ladder in terms of media engineering aspect obtained the mean score of 4.60, while the feasibility in terms of visual communication aspect obtained a mean score of 4.31. Based on the conversion of scores into five scale value, media expert assessment on the media engineering and visual communication aspects are in the range of  $X > 4.20$ , so it got grade "A" in the category of "Strongly Feasible". The average score on a media expert assessment in terms of the media engineering and visual communication aspects presented in the form of a diagram as follows:

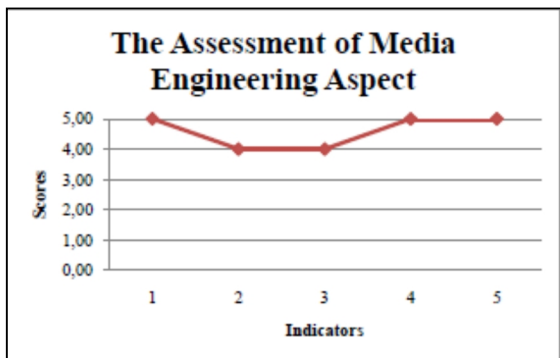


Figure 2. Line Chart of Media Engineering Aspect Assessment

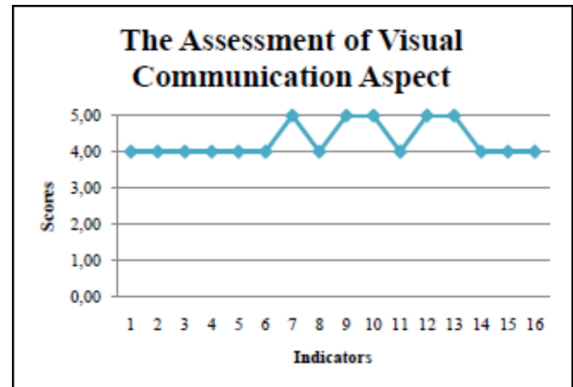


Figure 3. Line Chart of Visual Communication Aspect Assessment

Media expert also provided comments and suggestions that served as a basis for improving developed product at a revision stage. Media expert validation results showed "Feasible to be tested with a corresponding revision suggestion".

The recapitulation of all experts' validation in shows that the feasibility of media engineering aspect with the average score in the first rank is 4.60. Ranked second was obtained on the feasibility of learning aspect is 4.45 and the lowest position is on the feasibility of visual communication aspect with the average score of 4.31. The total average score ( $X$ ) is 4.45 which is in the range of  $X > 4.20$  with the category of "Strongly Feasible". In conclusion, Accounting Snake and Ladder got an "A" in the category of "Strongly Feasible". Recapitulation of all experts' validation presented in the bar chart as follows:

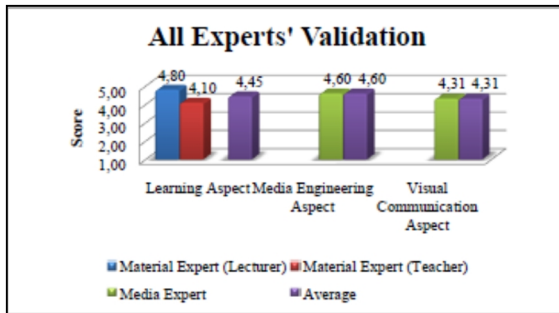


Figure 4. Line Chart of All Experts Validation Product revision stage I was done based on comments and suggestions from experts at the validation stage.

#### 4. Implementation Stage

This stage, the products after revision are implemented to the students conducted through two test phase were small group tryout and field tryout.

The small group tryout was a test of products intended to identify the shortcomings of the products developed before tested on a larger group (field tryout). The small group tryout conducted in class X Accounting SMK Muhammadiyah 2 Yogyakarta on Thursday, March 23, 2017 (09:20 to 11:20 GMT). In the execution of this tryout, the researcher involved eight students selected at random. Following the grouping, students who selected then formed two groups to try to use the developed media. Here is the recapitulation about the duration of the game, the answered questions and the points that are obtained by each group.

Table 5. Duration of The Game and Points Obtained in Small Group Tryout

Time	Group	Questions	Points
60 minutes	1	35	56
	2	22	19
Average Points			37.50

The table above shows that the average points obtained by students during 60 minutes were 37.50, with the number of answered questions by each group 22 and 35 questions. The points calculated based on the additional rules of points that obtained from answering the questions correctly (70%), the steps of the pawn (15%), and the bonus from treasure chests (15%).

After implementing the product, the product was assessed in term of the media engineering aspects, visual communication aspects, and learning aspects. Based on the results of student assessment at the small group tryout recapitulation obtained as follows:

Table 6. Recapitulation Results of Student Assessment on Small Group Tryout

No.	Assessment Aspect	Mea.	Gra.	Cat..
1.	Media Engineering Aspect	4,81	A	Strongly Feasible
2.	Visual Communication Aspect	4,73	A	Strongly Feasible
3.	Learning Aspect	4,71	A	Strongly Feasible
Average Score		4,75	A	Strongly Feasible

Source: Primary data are processed

According to the table knowing that the developed media in terms of the media engineering, visual communication, and

learning aspects obtained the average score of 4.75 which is in the range of  $X > 4.20$  is "Strongly Feasible". Accounting Snake and Ladder media conclusion got an "A" in the category of "Strongly Feasible".

The recapitulation result of students' assessment on small group tryout is presented in a bar chart as follows:

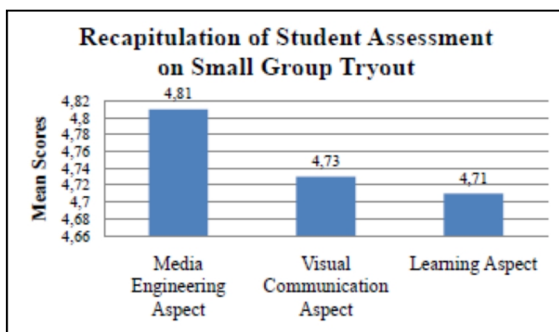


Figure 5. Bar Chart of Recapitulation Results of Student Assessment on Small Group Tryout

Product revision stage II was did not conduct because 1) the conclusion based on the assessment of student in small group tryout shows that Accounting Snake and Ladder is Strongly Feasible to be used, and 2) mostly students give a positive response to the snake and ladder media.

The field tryout conducted in class X SMK Muhammadiyah 1 Tempel on Friday, March 31, 2017 (07:10 to 09:25 GMT). On the implementation of these tryout involved 17 students. Students were divided into four groups to try using the developed media. According to the grouping, three groups consist of four students and one group contains five students. The groups namely Group 1, Group 2, Group 3, and Group 4. The duration of the game, the answered

questions and points that obtained by each group are presented in the following table.

Table 7. The Duration of Game and Points Obtained in Field Tryout

Time	Groups	Questions	Points
65 minutes	Group 1	36	46
	Group 2	28	37
	Group 3	43	82
	Group 4	32	40
Average Points			51.25

The table above shows that the average points obtained by students during 65 minutes were 51.25, with the answered questions were 28-43 questions. The points calculated based on the additional rules of points that obtained from answering the questions correctly (70%), the steps of the pawn (15%), and the bonus from treasure chests (15%).

In this tryout, the media was assessed in term of the media engineering, visual communication, and learning aspects. Based on the results of the assessment of students on field tryout, recapitulation was obtained as follows:

Table 8. Recapitulation Results of Student Assessment on Field Tryout

No	Assessment Aspect	Ave. .	Gra ..	Cat..
1.	Media Engineering Aspect	4.38	A	Strongly Feasible
2.	Visual Communication Aspect	4.30	A	Strongly Feasible
3.	Learning Aspect	4.31	A	Strongly Feasible
Average Score		4.33	A	Strongly

Feasible

Source: Research development data were processed

According to the table 20 known that the developed media in terms of the media engineering, visual communication, and learning aspects of the student on-field tryout were obtained that the average score of 4.33 which is in the range of  $X > 4.20$  is "Strongly Feasible". In conclusion, Accounting Snake and Ladder media got an "A" in the category of "Strongly Feasible". In addition, to provide an assessment, students also provided comments and suggestions.

Recapitulation results of student assessment on the field tryout can be presented by this following chart:

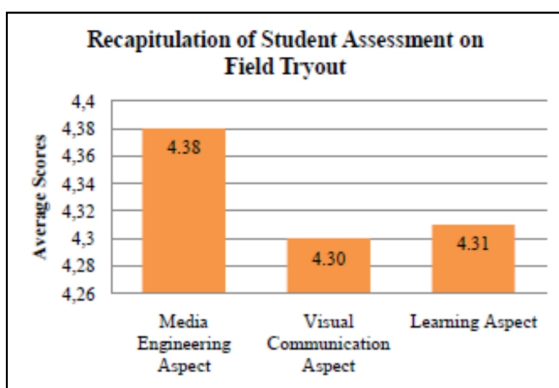


Figure 6. Bar Chart of Recapitulation Results of Student Assessment on Field Tryout

Product Revision Stage III was did not conduct because 1) The conclusion based on the assessment of students in field tryout shows that Accounting Snake and Ladder is Strongly Feasible to be used, 2) The duration of the game is suitable with the duration of learning activities in the classroom which for one meeting lasts for

3×45 minutes, and 3) Students' comments relate to their subjective point of view and does not represent the majority students in field tryout.

## 5. Evaluation Stage

Evaluation stage was obtained the final product and measure the achievement of developed product objectives. The improvement of student motivation can be seen from the measurements before and after the learning motivation using a questionnaire Likert-scale. The questionnaire contains 27 items which assessed as the valid statements with details of 24 items are positive statements and 3 items are negative statements. Questionnaires have been through an empirical test with Cronbach's Alpha value of 0.860 with instrument reliability criteria 0.600.

Students asked to fill the motivation questionnaire twice. First, students fill the questionnaire before the students use Accounting Snake and Ladder as a learning media. Second, the students fill the questionnaire after the students use Accounting Snake and Ladder as a learning media. The questionnaire used in the measurement of learning motivation is a questionnaire with the same item statements. Furthermore, the measurement results of motivation before and after using the learning media will be compared. Then,

it can be seen the improvement of students' learning motivation.

Based on the measurement of students' learning motivation before and after using the learning media, it can be concluded that the development of Accounting Snake and Ladder can improve the students' learning motivation 2.79% that is from 83.27% to 86.06%. The calculation result using gain score is indicated that the Accounting Snake and Ladder as a learning media can improve the learning motivation in the class X Accounting as a size of 0.20. The improvement of learning motivation is categorized as low as a gain value  $< 0.3$ .

## **6. Discussion**

### **Development of Accounting Snake and Ladder as A Learning Media in Special Journal Material**

The procedure was adapted research and development activities ADDIE model of Dick and Carey (1996) in Endang Mulyatiningsih (2011: 185-186). ADDIE Model consists of five stages as follows:

#### **Analysis**

The appropriate product to be developed as a learning media in the competency standard of processing special journal entry is snakes and ladders. Snakes and ladders are a traditional game that is familiar to students and easy to play. Accounting Snake and Ladder media can be the right media on competency standard of processing special journal entry for this

game are a great game to the learning while playing concept. With the existence of this concept, students can learn in a fun feel so that the students' motivation increases.

#### **Design**

The Researcher making the game concepts and design of Accounting Snake and Ladder game. Accounting Snake and ladder game modified by adding some components. Components in the game of Accounting Snake and Ladder include a game board (1), dice (1), colored pawns (4), game rules (1), material cards (16), question cards (50), motivation cards (30), point cards (65), student answer sheet (1) and handout materials and questions (1).

#### **Development or Production**

The Accounting Snake and Ladder was created by using Corel Draw X5. The Accounting Snake and Ladder media which has been printed out are validated by material experts and media expert to know the feasibility of media. Material experts are an Accounting Lecturer in Faculty of Economics, Yogyakarta State University and Accounting teacher of SMK Muhammadiyah 1 Tempel. Media expert is an Accounting Lecturer in Faculty of Economics, Yogyakarta State University. The researcher chose those lecturers and teachers as the experts because they are competent in their fields.

#### **Implementation or Delivery**

This stage consists of a small group tryout and field tryout. The small group tryout conducted by the students to know the response of students about Accounting Snakes and Ladders as a learning media. The small group tryout involved eight students of class X Accounting SMK Muhammadiyah 2 Yogyakarta.

The field tryout involved all students at class X Accounting SMK Muhammadiyah 1 Tempel. At the time of execution of the field tryout, the students were very enthusiastic during learning by using the Accounting Snake and Ladder. Students tried to understand the learning material about the special journal and asked when encountering problems. Accounting Snake and Ladder recognized by the students could make learning more fun and the material becomes more easily understood.

### **Evaluation**

The main objective of the development of Accounting Snake and Ladder is to improve students' learning motivation. Based on this research, Accounting Snake and Ladder can improve students' learning motivation even in the low category. At this stage, it can be concluded that the development of Accounting Snake and Ladder can be said effectively to use as a learning media.

- a. The Feasibility of Accounting Snake and Ladder

The feasibility of media is gained based on the assessment of material experts (lecturer and teacher) and media expert. The explanation is as follows.

### **Material Experts**

Material experts assess the feasibility of the media in terms of learning aspects. The feasibility assessment of the learning aspect consists of 20 statements. From those statements, there are 14 items that received the highest average score in the category of Strongly Feasible. They are the suitability of the material with the basic competence, compliance of the material with the indicators of learning, suitability of material with the objectives of learning, growth motivation to learn, The material in accordance with the context of the trading company, Adequacy of the number of questions, The depth of the questions in accordance with the materials, the material is easy to understand, Systematical of mindset, Clarity of the question explanation, Clarity of study guide, Problem in accordance with the theories and concepts, and The answer keys in accordance with the questions. Assessment of the six statements others is feasible. The table below presents the average score of the results of the material experts' assessment of learning aspects is converted into a five scale value.

The assessment of snake and ladder that developed as a learning media from the

learning aspect by all material experts obtained the average score of 4.45. According to the conversion of scores into five scale value, the assessment of the material experts on the learning aspect lies in the range of  $X > 4.20$  so that got an "A" in the category of "Strongly Feasible". This category has been eligible to the Accounting Snake and Ladder appropriate to use as a learning media for vocational high school students.

### **Media Expert**

Media expert assesses the feasibility of the media in terms of the media engineering and visual communication aspects. The Feasibility of media engineering aspects, 5 point statements obtained the mean score of 4.60 that is included in the category of "Strongly Feasible". Feasibility of visual communication aspects of 16 statements obtained the mean score of 4.31 that is included in the category of "Strongly Feasible". Total average score from media expert obtained 4.46 which categorized "Strongly Feasible".

The developed snake and ladder media in terms of the media engineering and visual communication aspects of the media expert obtained average score of 4.46, According to the conversion of scores into five scale value, the assessment on the media engineering and visual communication aspects is in the range of  $X > 4.20$  so that got an "A" grade which includes in the category

of "Strongly Feasible". The category is already qualified on the feasibility of the developed accounting snake and ladder media. Thus accounting snake and ladder media fit for use as a learning media of students in vocational high school.

### **b. Students Assessment on Accounting Snake and Ladder**

The subjects of small group tryout and field tryout in this development research were eight students of class X Accounting SMK Muhammadiyah 2 Yogyakarta and 17 students of class X Accounting SMK Muhammadiyah 1 Tempel. Assessment of students to the snake and ladder media aims to determine the feasibility of snakes and ladders media in terms of material and media aspects. Students undertake an assessment of the media engineering, visual communication, and learning aspects.

### **Student Assessment on Small Group Tryout.**

The feasibility assessment of media engineering aspect consists of four statements obtained the mean score of 4.81 with the category of "Strongly Feasible". All statements rated Strongly Feasible, can be managed/ stored easily (maintainable), easy to use (usability), the clarity of the instructions for use of media, and the media packaging (board, card, dice, and pawns). The Feasibility assessment of visual communication aspects consists of 10 statements obtained a mean score 4.73 with



the category of "Strongly Feasible". All statements rated Strongly Feasible, namely communicative (using proper, correct, and effective grammar), the simplicity look of the game, the attractiveness of the media, the harmony of color selection, the attractiveness of the picture presented in the game, setting the layout (pictures and texts), the selection of letter types and font size, the text readability, the attractiveness of the design, and the neatness of the design. The feasibility assessment of learning aspect consists of six statements obtained the mean score of 4.71 with the category of "Strongly Feasible". All statements rated Strongly Feasible, namely the suitability of the material with the basic competency, growing the learning motivation, actuality (conformity of media with the current conditions), the question language is easy to understand, the clarity of the question description, and completeness of coverage questions.

#### **Student Assessment on Field Tryout**

The feasibility assessment of media engineering aspect consists of the four statements obtained the mean score of 4.38 in the category of Strongly Feasible. One point statement rated Feasible, which is can be managed/stored easily (maintainable) and three other statements rated Strongly Feasible, easy to use (usability), the clarity of game instructions and the media packaging (board, card, dice, and pawns).

The feasibility assessment of visual communication aspect consists of 10 statements obtained a mean score of 4.30 with the category of Strongly Feasible. Nine statements rated Strongly Feasible, those are communicative, the simplicity look of the game, the attractiveness of media, the harmony of color selection, the attractiveness of the picture presented in the game, setting the layout, the selection the letter types and font size, the text readability, and the neatness of the design. One statement rated Feasible, namely the attractiveness of the design. The feasibility assessment of learning aspect consists of six statements obtained the mean score of 4.31 in the category of Strongly Feasible. Three statements declared Strongly Feasible, namely the suitability of the material with the basic competency, growing the learning motivation, and actuality (conformity of media with the current conditions). Three statements expressed Feasible, namely, the question language is easy to understand, The clarity of the question's description, and the completeness of coverage questions.

Based on recapitulation of student assessment test overall small group obtained a mean score of 4.75 and the assessment of students field tryout obtained an average overall score of 4.33 based on a conversion table score on a scale of five value, the student assessment test small group tryout and field tryout, lies in the

range of  $X > 4.20$  so that got an "A" in the category of "Strongly Feasible". Thus, Accounting Snake and Ladder media appropriate to use as a learning media for students in vocational high school.

c. The Improvement of Students' Learning Motivation after Using Snake and Ladder Media

The objective of this study was to determine the improvement in student motivation after using Accounting Snake and Ladder as a learning media. Based on the results the conducted research, it can be concluded that the Accounting Snake and Ladder media can improve students' learning motivation 2.79% that is from 83.27% (before learning by using the media) to 86.06 % (after learning by using the media). Based on the calculations using the gain score, the improvement of students' learning motivation is 0.20. The improvement is included in the category of low due to the gain  $< 0.3$ .

Despite the increase in student motivation is still relatively low, but the results of this study in accordance with the theory described by Sanjaya (2013: 169) that one of the functions and roles of the media is to add student learning enthusiasm and motivation. Use of the media can increase students' learning motivation so that the students' attention to the learning material can be further increased. The results of this study are also consistent with

the theory mentioned by Arsyad (2011: 15) One of the impressed, functions of a learning media is as an aid teaching that also affects the learning climate, conditions, and environment which organized and created by teachers. In the learning process, the media can enhance and direct the child's attention so that it can generate the motivation to learn, a more direct interaction between the students and the environment, and the possibility of students to learn on their own according to their ability and interest.

It is also in accordance with the theories has proposed by Suprihatiningrum (2013: 320-321) that the learning media has the main function are the function of attention, motivation, affection, compensatory, psychomotor, and evaluation. The attentional function has attracted the attention of students to show something interesting from the media. The motivation function is awareness of students to study harder. The affection function is emotional awareness, and attitudes towards the subject matter and others. The compensatory function is accommodated students who are weak in accepting and understanding the lessons presented in text or verbal. The psychomotor function, allows students to perform an activity in the motor. The evaluation function is able to assess the student's ability to respond to learning.

## CONCLUSION AND RECOMMENDATION

### Conclusion

The development of Accounting Snake and Ladder through five stages (i.e. Analysis, Design, Development, Implementation, and Evaluation). *Analysis*. The analysis is a stage to analyze the learning process, learning media requirements, standards and basic competencies, indicators of basic competence, and the purpose of learning media. *Design*. This stage is making a product design, arrange rules of the game, arrange media assessment instruments, and student's learning motivation instruments. *Development or Production*. The step has done when the media is started to be made. The media is validated by material experts and media expert and revised based on the suggestions from the experts. *Implementation*. This stage aims to determine students' assessment of the developed snake ladder media. This stage is testing the product which involved 8 students of SMK Muhammadiyah 2 Yogyakarta in the small group tryout and 17 students of SMK Muhammadiyah 1 Tempel in the field tryout. *Evaluation*. Evaluation stage is the final stage of the development procedure of Accounting Snake and Ladder which measured the achievement of product development goals to improve Learning

Motivation of class X Accounting SMK Muhammadiyah 1 Tempel.

The feasibility of Accounting Snake and Ladder. *Material Experts*. Based on the assessment from the lecturer as is strongly feasible with a mean score of 4.80. While the assessment of teacher as a material expert is feasible with a mean score of 4.10. Total assessment by material experts obtained the average score of 4.45 with a strongly feasible category. This means that from the learning aspect, Accounting Snake and Ladder that developed is "Strongly Feasible" to be used as a learning media and applied to students. *Media Expert*. Based on the assessment from media expert is strongly feasible with an average score of 4.46. The score of the media engineering aspect is 4.60 and the mean score of visual communication aspect is 4.31. Both aspects are included in the category of strongly feasible. This means that from the media engineering and visual communication aspects, Accounting Snake and Ladder that developed is "Strongly Feasible" to be used as a learning media and applied to students.

Student's response known from the small group tryout in class X Accounting SMK Muhammadiyah 2 Yogyakarta and field tryout in class X Accounting SMK Muhammadiyah 1 Tempel based on the media engineering, visual communication, and learning aspects: 1) Obtained score from the small group tryout is 4.75 which is

included in "Strongly Feasible" category. 2) Obtained score from field tryout is 4.33 which is included in "Strongly Feasible" category.

The Accounting Snake and Ladder can improve students' learning motivation 2.79% that is from 83.27% to 86.06 %. Based on the calculation using the gain score, Accounting Snake and Ladder can improve students' learning motivation of 0.20. The improvement is included in the category of low due to the gain < 0.3.

### **Recommendation**

Here some recommendations for the next research. The observation will be better by using the guidelines of problem indicators, so that can prove the real problems before conducting research. The improvement of snake and ladder game can be used on more learning material/subject. The implementation should be done on the larger sample testing to get a better result. The questions that are written on questions cards should be validated to determine its quality.

### **REFERENCES**

- Arsyad, Azhar. (2011). *Media Pembelajaran*. Jakarta: PT Rajagrafindo Persada.
- Arikunto, Suharsimi (2010). *Prosedur Penelitian Suatu Pendekatan Praktik*. Jakarta: Rineka Cipta.
- Hake, Richard. (2012). *Analyzing Change/Gain Scores*. USA: Indiana University.
- Mulyatiningsih, Endang. (2012). *Metode Penelitian Terapan Bidang Pendidikan*. Bandung: Alfabeta.
- Sadiman, Arief S. et. al. (2012). *Media Pendidikan: Pengertian, Pengembangan, dan Pemanfaatannya*. Depok: Rajawali Pers.
- Sanjaya, Wina. (2013). *Strategi Pembelajaran: Berorientasi Standar Proses Pendidikan*. Jakarta: Kencana Prenadamedia Group.
- Sudjana, Nana & Rivai, Ahmad. (2013). *Media Pengajaran*. Bandung: Sinar Baru Algensindo.
- Sugiyono. (2015). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R&D*. Bandung: ALFABETA.
- Suprihatiningrum, Jamil. (2013). *Strategi Pembelajaran: Teori & Aplikasi*. Jogjakarta: Ar-Ruzz Media.
- Undang-Undang Republik Indonesia No. 20 Tahun 2003 tentang Standar Pendidikan Nasional.
- Uno, Hamzah B. (2014). *Teori Motivasi dan Pengukurannya: Analisis di Bidang Pendidikan*. Jakarta: Bumi Aksara.
- Wahono, Romi Satrio. (2006). Aspek dan Kriteria Penilaian Media Pembelajaran. <http://romisatriawahono.net/2006/06/21/aspek-dan-kriteria-penilaian-media-pembelajaran/> accessed on 19<sup>th</sup> October 2016.