

## THE DEVELOPMENT OF MONOPOLY ACCOUNTING GAME TO INCREASE LEARNING MOTIVATION

Herry Achmad Buchory  
Hery Syaerul Homan  
Siska Willy

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### ABSTRACT

*This study aims to develop the learning media of the accounting monopoly game in the introductory accounting course, to determine the feasibility of the game as a learning medium, and to determine the effectiveness of the use of the game in increasing learning motivation. This research is a type of research and development conducted at the Ekuitas School of Business. The data collection technique utilized in this study was a questionnaire with a Likert scale. A descriptive statistical analysis technique was employed to analyze the data. The findings indicated that the monopoly account game might be used effectively as a learning medium. According to media experts' assessment, the feasibility of media engineering aspects received an average score of 4.00 in the "Good" category, individual trials received a score of 4.58 in the "Very Good" category, small group trials received a score of 4.38 in the "Very Good" category, and a field trial received a score of 4.43 in the "Very Good" category. As shown by media experts' assessment, the feasibility of visual communication received an average score of 4.06 in the "Very Good" category, individual trials received a score of 4.0 in the "Very Good" category, small group trials received a score of 4.44 in the "Very Good" category, and a field trial received a score of 4.49 in the "Very Good" category. Based on the most recent material experts' assessment, the feasibility of learning aspects received an average score of 4.27 in the "Very Good" category, individual trials received a score of 4.28 in the "Very Good" category, small group trials received a score of 4.52 in the "Very Good" category, and field trials received a score of 4.56 in the "Very Good" category. Additionally, learning media has been shown to enhance students' motivation to learn from a baseline of 3.33, which goes into the "Enough" group, to 4.27, which comes into the "Very High" category.*

Keywords: Learning motivation, media, monopoly accounting game.

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### INTRODUCTION

Motivation is essential for the successful implementation of the learning process. If students are not motivated to learn, then they will not learn. Without motivation, intelligence becomes meaningless (Hollins, 2021). Motivation can foster passion, passion and pleasure in doing learning activities. Therefore, lecturers are required to be creative to awaken the motivation of their students in the learning process. One way to motivate students in the learning process is to involve them in a game. The learning process can be designed into a game (Hollins, 2021). The principle is that when lecturers make learning fun, then students will naturally do more learning activities and there is no refusal to do it. In fact, it can attract attention because they really care about "gaming."

Games that can be used in accounting learning are the monopoly accounting games (Albrecht, 1995; Knechel, 1989; Shanklin & Ehlen, 2007). This medium was first piloted at The Ohio State University in 1963 and indicates the potential benefits of using it for students. Albrecht (1995:128) suggests that there are six benefits of using simulation games: they can increase motivation, improve cognitive development, enrich affective learning, improve verbal and nonverbal communication, practice flexibility of thinking and response to dynamic environments, and they can be repeated by the same students by adding other learning goals.

The use of monopoly accounting media can be applied to the learning of accounting introductory courses. Introductory Accounting courses are courses taught at all levels of higher education by the faculty of economics in Indonesia, both in undergraduate and D3 programs. This course plays a very important role in delivering students who will study accounting and other related courses. For example, in the accounting bachelor degree, accounting introductory courses become a prerequisite for taking secondary financial accounting courses. While in the management bachelor degree, introduction to accounting becomes a prerequisite for taking cost accounting courses. Therefore, the understanding of accounting that the next student has will be heavily influenced by the success of their learning in the introductory accounting course.

Based on the results of observations conducted at STIE Ekuitas Bandung, especially in the Introductory Accounting course in the management bachelor degree, most students show low motivation. This can be seen from several indicators, including: lack of diligence in doing tasks, easy despair when finding difficulties, less active questioning, and too much time spent on exercise problems. The low motivation of students in the Accounting Introduction course is caused by various factors, including the use of limited and monotonous learning media. Whereas according to Listyarti (2012), the success of education is determined by the learning media by 65%, while teachers/lecturers, stationery and desk chairs in the classroom, textbooks, facilities and environment, and other factors by 35%. Therefore, it is necessary to develop a learning medium that can motivate students, especially in accounting introduction courses.

Various studies on the use of monopoly media in accounting learning have actually been conducted. Knechel (1989) used monopoly media in lieu of exercise in recording and compiling financial statements. Albrecht (1995) showed that monopoly simulations can be used at all levels of financial accounting. Tanner and Lindquist (1998) said that students' attitudes towards accounting and finance learning, attention for fellow students, and achievements felt very positive after the completion of the exercise. On the

other hand, some research in Indonesia has also been conducted. However, how to develop a monopoly media adapted to the achievements of learning and materials in accounting introductory courses is still very rare. Research like this needs to be done because it can provide information on how monopoly media is developed for the learning of accounting introductory courses. In addition, the findings obtained can be the basis for increasing the motivation of students studying accounting. The results can also be used by lecturers who master accounting introductory courses to generate student learning motivation. Therefore, the purpose of this study is to determine the feasibility of developing a monopoly accounting game media and also to determine if this medium can motivate students in the learning process.

## LITERATURE REVIEW

Learning media play a significant role in educational systems as one of the components that influence the quality and success of learning (Daryanto, 2013:7; McKenzie, 2005:45). This is because learning is a communicative process that occurs within a system. Without media, communication would cease to exist, and the learning process, as a kind of communication, would also fail to function efficiently. Monopoly media can be used in the learning process as part of a learning system component. Suwanda (2008) is the best-selling board game in the world (Suwanda, 2008). In this game, players race to accumulate wealth through buying, leasing, and exchanging land using toy money. The history of monopoly games began in 1904 when Lizzie Magie patented a game that was expected to shed light on some of the economic ideas expressed by Henry George. The game was first sold commercially in 1905. Lizzie Magie continued to develop and patent the game until 1924.

Monopoly accounting games were first piloted at The Ohio State University in 1963 and indicated the potential benefits of using such media for students. According to Knechel (1989), initially the medium of accounting games was used as a substitute for exercising in financial accounting so as to allow each student to solve problems that were different from other students. Albrecht (1995: 128) suggests that there are six benefits of using simulation games, one of which is increase motivation.

Albrecht (1995:128) says that monopoly accounting games are one type of simulation game that generates transactions for practice in the accounting process, where each transaction is recorded and summarized into a financial statement. His research concluded that there are several advantages to the use of a monopoly. First, students use financial accounting information to make investment decisions in a similar way to real-world processes. Second, they are actively involved because they are the ones who make their own financial statements that will be used later. Third, the cognitive development of students can be stimulated because this exercise provides a stimulus at a high level of cognitive, namely: analysis, evaluation, and synthesis. Fourth, the use of this game provides students with the opportunity to develop a greater appreciation for and appeal to financial accounting. Fifth, students are made to interact in group activities.

## RESEARCH METHODS

This research used research and development methods. Research and development methods are used to develop accounting learning media, namely monopoly accounting game media. According to Borg & Gall (1983:772), educational research and development is a term that refers to the processes that are utilized to create and validate educational goods. This research approach is aimed at producing new products or refining existing products (Sukmadinata, 2008:60).

The research and development procedure refers to the procedure developed by Borg & Gall (1983), but the procedure was modified to:

1. Needs Analysis Stage

At this stage, a need analysis is carried out to determine the purpose of the product to be developed. The product, in this case, is in the form of monopoly accounting game media.

2. Planning Stage

At this stage, the sub-achievement of the course or the final ability is planned and material in the introductory accounting courses that are in accordance with the use of monopoly accounting game media.

3. Early Product Development Stage

At this stage, the initial product design is based on the planned final capabilities and materials that are in accordance with the learning plan of the accounting introductory course. Once the design is determined, the design is printed on digital printing media.

4. Validation and Evaluation Stage

Validation is conducted by media and material experts. As a result, recommendations, comments, and feedback can be used to improve the generated media and to conduct product trials with students. The trial is conducted in three stages, namely individual trials (one-on-one trying out), small group tryouts, and field tryouts. From the trial, analysis and revision are carried out if needed for product refinement.

5. Final Product Stage

At this stage, products have been produced in the form of media monopoly accounting games that have been revised based on field trials.

The instrument used to collect the data is a questionnaire. Questionnaires are used to measure the quality of developed media. In development research, questionnaire instruments are used to elicit data from media specialists, material experts, lecturers, and students using the Likert scale. To get quantitative data, each option answer is given a very good score = 5, good = 4, enough = 3, less = 2, and very less = 1. Questionnaires for media experts and students are used to obtain data in the form of media quality reviewed from the aspects of media engineering and visual communication. Meanwhile, questionnaires for material experts and students are used to obtain data in the form of media quality reviewed for the learning aspect.

Media engineering indicators include media selection accuracy, reliability, documentation, effectiveness, efficiency, maintainability, usability, and reusability. Indicators of aspects of visual communication include: communicative; creative; innovative; simplicity; typography; images; layout; color; and design. While indicators of aspects of learning engineering include: conformity with the material, growth of motivation, interactivity, actuality, language and clarity of the problem, Indicators of student learning motivation include: interest in lessons; perseverance in doing tasks; tenacity to face difficulties; pleasure in working independently; boredom of doing routine tasks; the ability to maintain opinions; ease of letting go of things that are believed; and pleasure in finding and solving problems.

The descriptive analytic approaches were used to examine data collected from material experts, media experts, lecturers, and field experiments using questionnaire sheets. The steps taken in analyzing data regarding the feasibility of monopoly accounting game media are as follows:

1. Convert qualitative assessment to quantitative with conditions:

Table 1. Scoring Rules

Classification	Scoreee
Very Good	5
Good	4
Enough	3
Less	2
Very Less	1

2. Calculates the average score of each indicator with a formula:

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

Information:

x = average score,  $\sum X$  = total score, N = number of test subjects

3. Sum the average score of each aspect
4. interpret qualitatively the average number of scores per aspect using the following 5-scale score conversion formula:
- 5.

Table 2. Average Number Of Score Conversion Formulas on a Scale of Five

Score	Formula	Value	Category
5	$M_i + 1,50S_{b_i} < X$	A	Very Good
4	$M_i + 0,50S_{b_i} < X \leq M_i + 1,50S_{b_i}$	B	Good
3	$M_i - 0,50S_{b_i} < X \leq M_i + 0,50S_{b_i}$	C	Enough
2	$M_i - 1,50S_{b_i} < X \leq M_i - 0,50S_{b_i}$	D	Less
1	$X \leq M_i - 1,50S_{b_i}$	E	Very Less

Source: Azwar (2007:163)

Information:

X = Average number of scores

Ideal maximum score = Total indicators x highest score

Ideal maximum score = Total indicators x lowest score

$M_i$  (Mean Ideal) =  $1/2$  (ideal max scores + ideal min scores)

$S_{b_i}$  (Ideal Raw Deviation) =  $1/6$  (ideal max scores + ideal min scores)

Table 3. Assessment Results Score Conversion Guidelines

Score	Formula	Value	Classification
5	$X > 4,01$	A	Very Good
4	$3,34 < X \leq 4,01$	B	Good
3	$2,26 < X \leq 3,34$	C	Enough
2	$1,99 < X \leq 2,26$	D	Less
1	$X \leq 1,99$	E	Very Less

To find out if the quality of the media products developed is feasible or not, researchers use the minimum criteria of assessment "B", which belongs to the category "Good". If the assessment of learning media at least gets a value of "Good", then the media developed "Worthy" is used as a medium for learning. Media said to develop student learning motivation if student learning motivation increases before learning and after learning.

## RESULTS AND DISCUSSION

### Description of Needs Analysis

This research was initiated based on the results of observations conducted Ekuitas School of Business, especially the Introduction to Accounting course in the Management Study Program Bachelor Degree. Most students show low motivation. This can be seen from several indicators, including: lack of diligence in doing tasks, easy despair when finding difficulties, less active questioning, and lack of interest in finding and solving exercise problems. Low motivation and student learning outcomes in the Accounting Introduction course are caused by various factors, including the limited and monotonous use of learning media. From the observations, it is evident that it is important to develop a new medium for learning that has the concept of learning while playing so that student learning motivation in studying accounting can be increased, namely by developing monopoly accounting game media.

### Description of Media Early Development

At this stage, an analysis of the achievements of graduates charged with accounting introductory courses, i.e., students can compile financial statements, The preparation of these financial statements is inseparable from the process of recording, classifying, and reporting itself. The recording process is the initial process and becomes the input in the next process. Therefore, this recording process plays an important role. If the recording process, in this case, the recording of transactions into general journals and ledgers, can be done correctly, then this becomes an input for the next stage.

At this stage, the design of monopoly accounting games is made in accordance with the initial format that has been planned. This medium was developed from the monopoly board games commonly used in general. Some of the things that were developed are:

1. Common funds cards and opportunities used in monopoly games are generally replaced with business transactions and individual transactions. Business transactions contain transactions that are tailored to the material in the introductory accounting course, especially for transactions that occur in service companies. While individual transactions, contain individual activities that will affect personal financial conditions. All business transactions will be recorded in a general journal, while private transactions do not need to be recorded in a public journal.
2. The names of companies, airports, and ports were replaced with the names of companies, airports, and ports in Indonesia, especially in the city of Bandung.
3. Modifying land prices, house prices, and property rental prices used in monopoly games.
4. Modifying monopoly rules.

### Media Validation

Validated media is monopoly accounting game media, which is an initial design that is tailored to the material in the introductory accounting course. Validation data for the media in the form of research undertaken by material experts and media specialists Product validation is conducted to elicit feedback, suggestions, and comments regarding the practicality of the product being produced. Validation data obtained is material expert validation data, media experts, and lecturers who master accounting introductory courses.

Expert validation of the material is carried out by lecturers from the Accounting Study Program. The selection of the lecturer as a material expert because it has competence in accordance with the material developed, namely the material of preparing financial statements for service companies and trading companies in the Introduction to Accounting course. The competence of material experts is indicated by a Doctorate in accounting and has also written a teaching book on the Introductory Accounting course. Researchers also involve lecturers in accounting as material experts. The consideration of researchers involves lecturers who provide accounting as material experts because lecturers will use monopoly learning media and better understand the process of learning. In its implementation, lecturers are accompanied by researchers in using monopoly media, studying the suitability of materials, then conducting assessments.

### Trial

Individual trials are conducted after the research has finished revising, based on the assessment of material experts and media experts. The individual trial consisted of three students as test subjects. To get valid data from the implementation of the trial, three students were selected to be test subjects based on the level of student ability, namely students with high ability, students with moderate abilities, and students with low abilities. This is done to find out the impact of the use of monopoly game learning media on students' various abilities so that the learning media developed can be used by all students.

Individual trials are conducted with the aim of identifying the shortcomings of learning media products that have been studied by material experts and media experts. In this trial, students were asked to study and use the learning medium of monopoly accounting, then asked to fill out an assessment sheet. This trial will evaluate several aspects of media engineering, visual communication, and learning.

The second trial was a trial in a small group of seven heterogeneously selected students with different levels of ability. Three sets of students were chosen: two with high ability, three with intermediate ability, and two with low ability. The purpose of this small group experiment was to establish the limitations of learning media items following individual trials.

The next stage is a field trial. Field trials are the final stage of the procedure for developing the accounting monopoly game learning media. The field trial involved 15 students. This trial was conducted by way of students being asked to study and use the medium of learning monopoly accounting in groups, one monopoly for five students, then being asked to fill out an assessment sheet. The student was asked to comment and input.

### Final Product

The final result of the product development research is the media monopoly accounting game in the introductory accounting course. The development of monopoly media products in this study has gone through the validation stages of material experts, media experts, individual trials, small group trials, and field trials. This stage is done to obtain suggestions, criticism, comments, and assessments of the feasibility of products that have been developed.

### Media Monopoly Accounting Game Eligibility

The feasibility of media learning is determined by material experts, media specialists, and students for each trial. Feasibility assessment encompasses three components: media engineering, visual communication, and learning. Student evaluations of individual trials, small group trials, and field trials also help determine the practicality of newly developed learning media. To use it, the assessment findings, which are still in the form of a score, must be transformed into values classified into five categories using the conversion rules in Table 3. Learning media is said to be feasible if the results of the assessment of material experts, media experts, and students at each stage of the trial are minimally included in the category "Good".

Data on the feasibility of media engineering aspects is obtained from the stages of media validation, individual trials, small group trials and field trials. Table 4 below presents the average score of media and student expert assessment results at each stage of the trial which is then converted based on the conversion guidelines in table 3.

Table 4. Average Score and Media Assessment Results from Eligibility

No.	Assessment Stage	Average Scores	Value	Category
1	Media Expert Assesment	4,00	B	Good
2	Individual Trials	4,58	A	Very Good
3	Small Group Trials	4,36	A	Very Good
4	Field Trials	4,43	A	Very Good
	<b>Average Scores</b>	<b>4,34</b>	<b>A</b>	<b>Very Good</b>

According to the table above, feasibility evaluations of parts of media engineering at the individual trial stage, small group trials, and field trials fall into the category of "Very Good". This category already qualifies the feasibility of the learning media monopoly accounting results of development.

Data on the feasibility of visual communication aspects obtained expert stages of media validation, individual trials, small group trials and field trials. Table 5 below presents the average score of media and student expert assessment results at each stage of the trial which is then converted based on the conversion guidelines in table 3.

Table 5. Average Score and Media Assessment Results from Eligibility

No.	Assessment Stage	Average Scores	Value	Category
1	Media Expert Assesment	4,06	A	Very Good
2	Individual Trials	4,20	A	Very Good
3	Small Group Trials	4,44	A	Very Good
4	Field Trials	4,49	A	Very Good
	<b>Average Scores</b>	<b>4,30</b>	<b>A</b>	<b>Very Good</b>

According to the table above, it is known that the feasibility assessment of aspects of visual communication at the individual trial stage, small group trials, and field trials fall into the category "Excellent". This category already qualifies the feasibility of learning media monopoly accounting results of development. Data about the feasibility of learning are gathered from subject matter experts. Table 6. The average score obtained from the evaluations of material experts and students at each level of the experiment is presented below and is then converted using the conversion procedures in Table 3.

Table 6. Average Number of Scores and Media Assessment Results from Eligibility

No.	Assessment Stage	Average Scores	Value	Category
1	Media Expert Assesment	4,27	A	Very Good
2	Individual Trials	4,28	A	Very Good
3	Small Group Trials	4,52	A	Very Good
4	Field Trials	4,56	A	Very Good
	<b>Average Scores</b>	<b>4,41</b>	<b>A</b>	<b>Very Good</b>

Based on table 6 regarding the conversion of average scores into five-theorized values, material expert assessments on the feasibility of learning aspects get an "A" with the category "Excellent". This category already qualifies the feasibility of monopoly learning media accounting results of development and these results are strengthened by media feasibility statements from material experts.

### Student Learning Motivation

In learning activities, in order to achieve an optimal learning process, students need encouragement or motivation. In other words, students will learn well if there are motivating factors. Therefore, the ability of lecturers to generate learning motivation in their learners, one of which is through the use of learning media, To find out the ability of monopoly accounting learning media to develop in increasing student learning motivation, in addition to students' giving assessments on media products developed, researchers also ask for opinions from students to fill out learning motivation questionnaires.

The instruments that researchers used also used a likert scale with five scales. The assessment was conducted on 30 students. Students are given questionnaires about their motivation to learn twice: prior to and following their use of monopoly accounting media. The results of the assessment before and after using the media are then compared to whether the students experienced increased motivation to learn before and after using the media. Student learning motivation data before learning using media can be seen in table 7 below. It's not easy to let go of what's believed.

Table 7. Student Motivation Data Before Using Media

No.	Indicators	Average Scores	Criteria
1	Diligently doing the task	3,73	High
2	Tenacious facing difficulties	3,30	Enough
3	Have an interest in lessons	2,30	Enough
4	Prefer to work independently	2,97	Enough
5	Not getting bored quickly at routine tasks	2,93	Enough
6	Can maintain an opinion	3,47	High
7	Not easy to let go of what's believed.	3,33	Enough
8	Glad to search and solve	3,90	High
	<b>Total Average Score</b>	<b>26,63</b>	
	<b>Average Score</b>	<b>3,33</b>	<b>Enough</b>

Student learning motivation data after learning using monopoly accounting game media can be seen in table 8 below.

Table 8 Student Motivation Data After Using Media

No.	Indicators	Average Scores	Criteria
1	Diligently doing the task	4,10	Very High
2	Tenacious facing difficulties	3,80	High
3	Have an interest in lessons	4,80	Very High
4	Prefer to work independently	4,13	Very High
5	Not becoming easily bored with monotonous tasks	4,33	Very High
6	Can maintain an opinion	4,36	Very High
7	Not easy to leave what has been believed.	3,77	High

8	Glad to search and solve	4,83	Very High
	<b>Total Average Score</b>	<b>34,12</b>	
	<b>Average Score</b>	<b>4,27</b>	<b>Very High</b>

The results of a motivational questionnaire assessment by 30 students on a field trial determined the ability of the accounting monopoly learning media to increase learning motivation. Media is said to increase learning motivation if the average score of each indicator increases from before learning using media and increases after learning using media monopoly accounting games. By comparing tables 7 and 8, each indicator can see an increase in scores, thus media monopoly accounting can increase student learning motivation.

## CONCLUSION

Based on the results and discussions, it can be concluded that the media monopoly accounting game developed in the learning in the introductory accounting course has been in accordance with the learning media development procedure which includes the needs analysis stage, planning stage, early product development stage, validation and trial phase, and final product stage. The feasibility of media monopoly accounting games in accounting introductory courses is evaluated from the perspectives of media engineering, visual communication, and learning aspect. According to material experts, media experts, and STIE EKUITAS students, the overall development stage series falls into the category of "very good" indicating that the media monopoly accounting game is appropriate for use in the learning process. Before to studying, student motivation is "enough," but after playing monopoly accounting game media, student motivation increases to "very high.". Thus, developed monopoly accounting media can boost student motivation in beginning accounting courses on general journal recording materials for financial reporting.

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Herry Achmad Buchory  
Ekuitas School of Business, Bandung, Indonesia  
Email: achmad\_buchory@yahoo.com

Hery Syaerul Homan  
Ekuitas School of Business, Bandung, Indonesia  
Email: hery.syaerul@ekuitas.ac.id

Siska Willy  
Ekuitas School of Business, Bandung, Indonesia  
Email: siska\_msws@yahoo.com