

Examining Effectiveness on Using Board Game Monetary Policy Tool to Enhance University's Students Understanding on Monetary Theory and Policy Subject

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ABSTRACT

Students of the twenty-first century requires digital tool and prefer game-based learning and teaching environment to enhance their understanding. Board game is one of the game-based learning method that can create a scenario-based environment, where students interact to apply previous knowledge and practical skills to real-world problems. However, there remains a gap in the literature on the application of simulation and board game such as the use of board game in Economics subject in university. Thus, the aim of this paper is to examine the effectiveness of application of board game use to enhance students understanding in Monetary Theory and Policy Subject, an Economics subject. Feedback of thirty university students in Malaysia public university that take this monetary theory and policy subject was obtained. This paper finds out that the use of a board game as a game-based learning tool can increase university's students understanding of monetary theory and policy. It is hoped that the findings could provide some insights to educators in employing Board game as formative assessments to enhance universities understanding on Monetary Theory and Policy Economics subject.

Keywords: Board game, Simulation, Economics, Monetary Theory and Policy.

INTRODUCTION

Students of the twenty-first century requires digital tool and prefer game-based learning and teaching environment to enhance their understanding (Zou et al. 2025). As technologies nowadays evolve rapidly, games and simulation games (or called board game) are widely integrated in the traditional educational process to enhance teaching and learning. Technological application and simulation are used extensively in the field of education, with an existing body of work examining the relation between games and education (Yang, Chen, & Jeng, 2010; Chiang, Lin, Cheng, & Liu, 2011).

However, games and simulations show mixed effects across a number of sectors, such as student performance, engagement, and learning motivation (Vlachopoulos & Makri, 2017). There are also lack of clear empirical evidence that shows the effectiveness of simulations in learning experience (Farrington, 2011). There are limitations of these studies. These studies focus on certain discipline and less study focus on economics study in the university. Thus, there remains a gap in the literature on the application of simulation and board game such as the use of board game in Economics subject in university. Thus, the aim of this paper is to examine the effectiveness of application of board game use to enhance students understanding in Monetary Theory and Policy Subject. This allows educators in the subject to better understand the effectiveness and draw backs of games and simulations specific to their pedagogical goals.

LITERATURE REVIEW

Popularity of Game-Based Education

In recent years, the interest in examining game use in higher education has increased. This includes educational

games (Çankaya & Karamete, 2009), digital game-based learning (DGBL) (Yang et al., 2012), and applied games (van Roessel & van Mastrigt-Ide, 2011). In addition, scholars, sometimes, include interactive exercises (Mueller, 2003), video games (Biddiss & Irwin, 2010), or even expand to next generation video games (Bausch, 2008), in the category of games. Technological platforms that implement digital game code include computers and consoles are getting popular in teaching and learning (Salen & Zimmerman, 2004). The teacher and learner can run on a web browser on mobile phones and other mobile gaming devices (Willoughby, 2008).

There are several types of game. But majority of the researchers accept the seven genre of games (Gros, 2007). The seven genres are:

1. Action games: response-based video games.
2. Adventure games: the player solves problems to progress through levels within a virtual world.
3. Fighting games: these involve fighting with computer-controlled characters or those controlled by other players.
4. Role-playing games: players assume the roles of fictional characters.
5. Simulations: games modelled after natural or man-made systems or phenomena, in which players have to achieve pre-specified goals.
6. Sports games: these are based on different kinds of sports.
7. Strategy games: these recreate historical scenes or fictional scenarios, in which players must devise an appropriate strategy to achieve the goal.

Simulation game is getting popular in teaching and learning nowadays because of the ability to create a scenario-based environment, where students interact to apply previous knowledge and practical skills to real-world problems, also allowing teachers to reach their own goals, as well (Andreu-Andrés & García-Casas, 2011; García-Carbonell & Watts, 2012; Angelini, 2016). The simulation game is suitable to be implemented in course that require real-world scenario such as Economics and Monetary Theory and Policy subject.

There are several benefits of simulation game. During scenario-based training, the player acquires important skills, such as interpersonal communication, teamwork, leadership, decision-making, task prioritising and stress management (Flanagan, 2004). The practical scenario may be carried out individually or within a team (Robertson et al., 2009), leading to collaboration and knowledge sharing. Students can collaborate and share ideas to complete the task given by educators.

Application of Simulation Games in Economics course

Simulation or Board Games have been used in several subjects including hotel management, financial literacy, shipping management concept (Radzi et al. 2020a; Reisdorfer-da-Silva et al., 2025; Radzi et al. 2020b). Board games have proven to increase soft skill development and increase effectiveness in learning hotel management concept (Radzi et al. 2020a).

There are limited studies about the use of simulation games in economics and monetary and policy (Lengwiler, 2004; Sierra, 2019; Lew & Saville, 2021). This lack of empirical literature of the application of simulation games in economics lead to limited understanding of the effectiveness and the use of simulation games such as board game application in Economics subject. Economics subject is a social science discipline that integrates theory and practical real world application study (Frey, 1999). Therefore, application of simulation game in Economics subject especially in monetary theory and policy is critical (Lengwiler, 2004). This paper intends to address the gap in literature on the effectiveness of board game use in monetary theory and policy.

METHODOLOGY

The data is collected from a class that teaches Monetary Theory and Policy using questionnaires in Google Form. The questionnaire was distributed to thirty university's students in Malaysia for the academic year 2025/2026. There are thirty respondents in a class (population) and therefore the sample size of 30 was drawn from this population. The questionnaire consists of two parts. The first part consists of demographic questions whereas the second part consists of feedback of students before and after the application of Board Game for Monetary

Policy Committee. Descriptive statistics was used to analyse the data. Short answer test (Likert scale of 1-10 with 1-5 representing not understand and scale of 6-10 representing understand) on understanding on monetary policy concepts is administered before and after the board game to ensure comparability in the questionnaire. The results are presented in next section.

Description of the Board Game

The board game is not commercially available and is custom designed to meet the needs of the lecturing the subject of monetary theory and policy. The number of players in one game session is five. One player will act as the governor of the Central Bank. One player will be the secretary that takes the minutes of the meeting whereas three players will be the board of directors in the Central Bank Committee. The players are given thirty minutes in a room to discuss the monetary policy and the setting of interest rates according to the current economic situation. Then, they will announce the results of the monetary policy committee meeting and provide justifications of reasons to the results. The results include interest rate change (increase or decrease) and money supply adjustments.

The game is mapped to course learning outcome of the subject monetary theory and policy to ensure that students can analyse monetary theory and concepts in relation to economic issues, problems and government policies. There is one game session that was conducted. The game was played for half an hour following the four weeks of lectures on monetary policy. The players were given one week to write down the things to prepare before the actual game was conducted.

RESULTS AND DISCUSSION

The feedback of comparison before and after the implementation of the board game is presented in Table 1.

Table 1: Feedback Comparison Before and After the Implementation of The Board Game

Item	Before the Project (Percentage of Students that Understand the Concept (6-10))	After the Project (Percentage of Students that Understand the Concept (6-10))
1. Understanding the Definition of Monetary Policy	15.39	100
2. Understanding on the objective of the monetary policy	15.39	100
3. Understanding on the tools used in monetary policy	15.39	100
4. Understanding on the interest rate tool used in monetary policy that includes the advantages and disadvantages of interest rate	15.39	100
5. Understanding on the money supply tool used in monetary policy that includes the advantages and disadvantages of money supply	7.70	100
6. Understanding on what type of monetary policy used to stimulate economic growth and reduce unemployment	11.54	100
7. Understanding on what type of monetary policy used to reduce inflation during high inflation period	15.39	100

*Likert scale is used to test the level of understanding before and after board game with level 1-5 representing not understand and scale of 6-10 representing understand.

The results above show the feedback comparison. It shows big improvement after the implementation of board game. Before the board game, only 15.39 percent of respondents understand the definition of monetary policy. After the board game, the understanding rate is 100 percent. This shows an improvement of 84.61 percent and implies that board monetary policy committee application enhances student understanding of definition. The application game also enhances cognitive skills.

Moreover, there are improvement in the percentage of students that understand the objectives of monetary policy from 15.39 percent to 100 percent. This shows that the board game is effective in improving students understanding on objectives of monetary policy. From the results in Table 1, students show improvement in understanding on the monetary tools and interest rates tool after the board game. The percentage of students that understand the monetary tools and interest rate tools raise from 15.39 percent to 100 percent before and after the board room game respectively. This simulation board game results are consistent with the results of Lengwiler (2004) who shows that simulation game enhances students understanding of monetary policy concept. The results are consistent with Reisdorfer-da-Silva et al. (2025) and Radzi et al. (2025) that board game can increase understanding of concepts for university students.

LIMITATION

This paper includes a small-sample size of 30 respondents because the population used in this paper are students in one class that have played the board game of monetary theory and policy. Moreover, it is a single institution focus and reliance on self-reported data. This paper also only compares the descriptive statistics on the level of understanding of respondents on monetary policy before and after the implementation of board game. Future research should include bigger sample size, focusing on two institutions and have statistical tests (paired t-test or Wilcoxon signed-rank test to compare the significance difference of level of understanding of respondents between two institutions).

CONCLUSION

In conclusion, this paper shows that the use of a board game as a game-based learning tool can increase university's students understanding of monetary theory and policy. The use of board game in game based-learning practise helps to bridge the gap between theory and practice which is highly especially in economics subject. Accordingly, this paper makes several contributions. Firstly, it highlights the gap between the traditional economics education. Based on the simulation from the board game, this study provides a platform for hands-on scenario that assimilates the concept and strategies discussed in lecture. Secondly, this study provides empirical evidence that the game improved students' understanding of course material, serving as an alternative tool for educators. Board game can provide a transparent learning space for students to conduct experimentation of their judgement with the challenge and problems from the game play which sparks learning towards apprenticeship.

Additionally, it motivates players to compete among each other to become the winner in each game session. Therefore, the practise of playing the board game can be considered as a practise of conducting monetary policy meeting which able to drive the management, communication and decision-making skills of players towards mastery. Students can sit in group and communicate with each other to understand the application of monetary economics concept. It should be noted that the finding of this study only relates to cognitive thinking of the students. Further research might be useful towards knowledge retention of the content; in which to determine the impact of learning whether students really know the content, or it was just a mere guessing. Additionally, the board game would also be a valuable alternative to profile the students. As such, the analysis of the actions taken by players during each turn and the pattern of decisions made by students determine whether the students were goal driven, risk taker, risk avoider, or he or she belongs any other classification. This would be critical for the educators to provide essential guidance to motivates the students based on the pattern of decisions to achieve the goal of students to understand and apply key monetary theory concepts.

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Conflict of Interest

The author declares that there are no conflicts of interest with any party.

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