



The Effectiveness of Game-Based Learning: HRM Monopoly among Business Students at Politeknik Muadzam Shah

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ABSTRACT

The 21st-century educational landscape increasingly integrates creativity and entertainment to enhance learning, particularly for subjects that blend theory and practice. This study addresses the need for innovative pedagogical tools by introducing Human Resource Management (HRM) Monopoly, a game-based learning intervention designed to make HRM theory and practice more engaging and comprehensible. Games are known to improve learner engagement, stimulate critical thinking, enhance soft skills, and ultimately optimize knowledge acquisition by fostering a relaxed learning environment that extends attention spans. HRM Monopoly caters to groups of fewer than eight players, who earn points and in-game currency by correctly answering questions related to HRM concepts. This research involved 58 polytechnic students enrolled in a business studies program. Post-test results, derived from questionnaire data, demonstrated significant improvement in students' comprehension of Human Resource Management. Specifically, 91.4% of respondents agreed or strongly agreed with improved knowledge, and 92.7% indicated increased interest in the subject after engaging with HRM Monopoly. While effective, a notable limitation identified was the potential for budget constraints to impede the adoption of educational games. Despite this, the findings suggest that HRM Monopoly is an effective tool for cultivating student interest and enhancing understanding during the teaching and learning process. This research advocates for game-based learning as a valuable solution to address challenges associated with memorizing and comprehending theoretical concepts in higher education.

1.0 Introduction

Presently, numerous challenges exist in the instruction of university human resource management courses regarding the incorporation of ideological and political education into the curriculum (Guomin, 2023). He asserted that the antiquated pedagogical philosophies of the human resource management course hinder instructors from incorporating ideological and

political elements into the curriculum. He also noted that teacher-centered instruction still dominates, failing to encourage active student learning and enthusiasm.

Hu et al. (2025) mentioned that the main focus of the human resource management course is the theoretical development and research boundaries of human resource management, which integrate theory and practice and have great operability and application. The researchers also claimed that the most crucial objective is to shift the focus of instructors' roles from knowledge transfer to learning promotion and guidance. This suggests that the primary objectives of curriculum design should be to encourage students to participate in class and to engage in active learning.

Therefore, game-based learning is an educational approach that incorporates elements of games into the learning and teaching process in order to keep students interested and motivated. The goal of game-based learning strategies is to increase participant satisfaction and engagement. They may also be very helpful in addressing the problem of disengaged and demotivated students in class. Game-based approaches aim at improving participants' engagement and satisfaction; they might have great advantages in solving the issues of students demotivated and uninvolved in learning activities (Wong & Kwan, 2021). Most educators stated that when gamified components like competition and scores are added to the classroom, most students become more enthused. When instructional or simulative games are included in the classroom, students tend to get excited and have fun. Furthermore, interest in game-based learning plays a very important role in achieving course learning objectives. Referring to the research conducted by Jaaska & Aaltonen (2022), game-based learning leads to a better interaction with learning content, potentially resulting in better learning outcomes. They also thought that game-based learning techniques have a favorable impact on students' retention in course programs and motivation to participate in class.

According to Maratou et al. (2023) stated that the idea of game-based approaches making teachers active trainers was also mentioned, in which teachers understand the real learning needs of their students by leaving them free to learn through playing. They also understand students' real skills and the personalized development of students' skills, the connection of the theoretical principles with the practical applications, which leads to differentiated learning. Taking into consideration, HRM Monopoly was developed to encourage students to learn in an attractive way of learning and fun environment.

1.1 Problem Statement

However, in terms of practical issues, there is a lack of interest in the course of Human Resource Management (HRM) among TVET students, especially polytechnic due to difficulty in understanding the theories, concepts, and principles. The issue becomes worse when students failure in the educational system because of a lack of interest. The factors that influenced the lack of interest among polytechnic students were ineffective learning methods, lack of practice, distraction from other interests, anxiety, and pressure. Consequently, it brings challenges to their learning process. Theoretically, Jaaska & Aaltonen (2022) claimed that the benefits and challenges of using game-based learning methods in project management higher education have not been widely investigated. Thus, using game-based learning as a teaching method in education provides students with an opportunity to apply and practice their knowledge as well as increase their interest in particular subjects.

Hui and Mahmud (2023) stated that the game-based learning technique enables teachers to include active learning in their lessons, increase students' interest and engagement, and receive instant feedback on their performance.

Participants found game-based learning tactics more engaging and fun than other educational methods, stating that they learn via play and enjoyment (Maratou et al., 2023). Based on their study, many interviewees attribute the enhanced enjoyment and advantage of game-based learning to its real-world learning experience.

1.2 Research Objective

The research objectives are as follows:

- i) Does game-based learning: HRM Monopoly influence the level of students' knowledge?
- ii) Does game-based learning: HRM Monopoly influence the level of students' interest?
- iii) To examine the effectiveness of game-based learning: HRM Monopoly on the students of Diploma in Business Studies, Commerce Department, Politeknik Muadzam Shah

2.0 Literature review

An active technology-based learning system that enhances student learning is game-based learning. This learning technique has enhanced students' ability to think critically and solve problems. The student has experience with educational games in game-based learning. The learner can improve their knowledge and abilities with this learning system. In the current educational process, this is the most successful strategy. The main goal of game-based learning is to encourage and enhance students' attitudes toward the educational process. The conventional learning system could no longer pique their interest in the learning system. In line with the statement by another researcher, as a matter of fact, the related term "gamification" appeared in the digital media industry starting from the early 2000s, which advertisers in marketing used to attract consumers (Jett, 2020). This is because game-based learning has emerged as an innovative learning technique that can increase student motivation, emotional involvement, and enjoyment. Beyond that, games also have the power of engaging people in fun ways, giving interaction and problem-solving opportunities, enticing storylines, among others, while promoting creativity and participation (Qasim, 2021). However, another researcher stated that game-based learning is not superior to other learning approaches in terms of educational potential. However, it has a greater potential to enhance motivation and increase student interest in the subject matter. Contrasting with this assertion, other researchers have established that students are better able to retain knowledge learned through game-based approaches than that encountered through other learning approaches, but that this is dependent on the domain in question; interdisciplinary topics that require skills such as critical thinking, interpersonal communication, and debating are those that are associated with the greatest game-based learning advantage (Kucher, 2021).

The objective of game-based learning was to provide a fun, interactive, and innovative method of learning for students, which involves active learning strategies and student-centered centred. Due to students' lack of interest, the traditional learning system has experienced several problems. To draw students' attention to the learning system, the learning process must devise a fresh strategy. In this regard, one of the best strategies for successfully capturing students' attention is the game-based learning method. As noted by Chang & Hwang (2019), the game-based learning system has successfully increased student interest, and it has improved the students' academic results. Academicians have encountered many challenges when trying to instruct a sizable class of students in the learning system. A massive class of students is taught at once in the learning system. Each student is unique in their skills and background. They must address each student individually in this regard based on their comprehension. In this section, the use of game-based learning has assisted in improving the learning capacities and piquing the attention of some students. As noted by Hazar (2020) affirmed that games could be an effective way to engage pupils more in the learning process. Traditional games such as chess, shogi, and

checkers had been implemented way back in the days to teach strategic thinking, analytical skills, leadership skills, and sharpen concentration (Sousa & Rocha, 2019).

As stated by (Wan Hassim et al., 2024), providing flexibility in learning will increase student interest. Enhancing self-confidence is one of the most powerful effects of game-based learning. Today's students face challenges because of the increased competition in the educational process. Regarding this, the student's understanding has been improved by the game-based learning method. Consistent with the findings reported by Troussas et al. (2020), this concept helps the student to improve skills and capabilities. Game-based learning strategy is a kind of instructional activity that incorporates games into teaching for educational purposes. It is to help and teach the student how to learn through repetition, failure, and goal achievement in a fun, meaningful, and purposeful way. According to (White & McCoy, 2019), most game-based learning strategies are compatible with education curricula as learners are working towards a goal, selecting suitable learning activities, and experiencing the outcome of the learning actions. Beyond that, the use of game-based learning has raised students' involvement in the educational process. To improve student performance, this learning method incorporates a variety of learning strategies. Using games, students can practice learning various subjects and expand their knowledge on those subjects via game-based learning. Globally, 11% of students have increased their conceptual knowledge through game-based learning. In this game-based learning process, interactive gaming has helped to enhance student conceptual knowledge (Pellas, 2019). Moreover, game-based learning also provides a constructivist learning environment in which students utilize existing skills to solve problems relating to the subject matter in question; game-based learning can also help students process and decode essential information for understanding learning materials (Adipat et al, 2021).

3.0 Methodology

This study employed an explanatory research design and a quantitative research method. The primary data involved student semester 5 session 1:2023/2024 Diploma Business Studies Politeknik Muadzam Shah who registered Human Resources Management (HRM) Course. The respondents involved 2 classes, such as DPM5A and DPM5B. Based on the (Krejcie & Morgan, 1970) table, they suggest that of the 67 respondents, 58 were used for data analysis. The primary data collected via pre- and post-test for the HRM Monopoly game were rate using a 5-point Likert scale. The Likert scale used by the researcher is 5-strongly agree, 4-agree, 3-not sure, 2-disagree, and 1-strongly disagree. The instruments used in completing this study are pre-test questions and post-test questions. Pre-test questions are distributed before the HRM Monopoly game session starts. Post-test questions are distributed after they have used the HRM Monopoly game.

This study considers the design of a pre-experimental study which involves a group for a pre-test, an HRM Monopoly game session, and a post-test. This game was designed for fewer than 8 players who need to answer correctly, then they will receive points and a sample of money according to the questions. Based on the data collected from the questionnaire, the findings showed that the post-test scores of the sample group improved the students' comprehension of the subject of Human Resource Management. Tables 1 and 2 presented the pre-test questionnaire on the factors that affect the effectiveness of 'Board Games' on the teaching and learning process in terms of knowledge and interest for Semester 5 Diploma in Business Studies students, Politeknik Muadzam Shah.

Table 1: Questionnaire on the factors that affect the effectiveness of 'Board Games' on the teaching and learning process in terms of knowledge

Item number	Items
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1	<i>Saya memahami konsep dan teori dalam Human Resource Management</i>
2	<i>Pembelajaran kursus Human Resource Management memberi pendedahan terhadap alam pekerjaan</i>
3	<i>Kursus Human Resource Management (HRM) adalah kursus yang sukar</i>
4	<i>Saya memerlukan penggunaan alatan atau medium untuk meningkatkan kefahaman dalam kursus Human Resource Management (HRM)</i>
5	<i>Penggunaan alatan atau medium membolehkan saya mengingat dan mengulangkaji konsep dan teori bagi kursus Human Resource Management (HRM)</i>
Likert scale: 5=Strongly agree, 4=Agree, 3=Uncertain, 2=Disagree, 1=Strongly disagree	

Table 2: Questionnaire on the factors that affect the effectiveness of 'Board Games' on the teaching and learning process in terms of interest

Item number	Items
1	<i>Saya berminat terhadap kursus Human Resource Management</i>
2	<i>Saya suka aktiviti pengajaran dan pembelajaran (PdP) secara individu</i>
3	<i>Saya suka aktiviti pengajaran dan pembelajaran (PdP) secara kumpulan</i>
4	<i>Saya suka proses pengajaran dan pembelajaran (PdP) yang interaktif dan menyeronokkan</i>
5	<i>Penggunaan alatan atau medium menjadikan saya lebih berminat terhadap kursus Human Resource Management (HRM)</i>
Likert scale: 5=Strongly agree, 4=Agree, 3=Uncertain, 2=Disagree, 1=Strongly disagree	

Table 3: Questionnaire on the factors that affect the effectiveness of 'Board Games' on the teaching and learning process in terms of knowledge

Item number	Items
1	<i>'HRM Monopoly' dapat meningkatkan pencapaian pelajar dalam kursus Pengurusan Sumber Manusia</i>
2	<i>Penggunaan 'HRM Monopoly' dapat membantu pelajar meningkatkan markah penilaian berterusan dan penilaian akhir dalam kursus Pengurusan Sumber Manusia</i>
3	<i>'HRM Monopoly' membantu meningkatkan hasil kursus pembelajaran (CLO)</i>
4	<i>'HRM Monopoly' dapat membantu pelajar mengaplikasikan konsep, teori dan model dalam kursus Pengurusan Sumber Manusia di alam pekerjaan</i>
5	<i>'HRM Monopoly' memberi impak yang positif terhadap pemikiran dan pengetahuan pelajar</i>
Likert scale: 5=Strongly agree, 4=Agree, 3=Uncertain, 2=Disagree, 1=Strongly disagree	

Table 4: Questionnaire on the factors that affect the effectiveness of 'Board Games' on the teaching and learning process in terms of interest

Item number	Items
1	<i>Pelajar suka bermain 'HRM Monopoly' kerana mudah untuk memahami kursus Pengurusan Sumber Manusia</i>
2	<i>Pelajar sangat meminati kursus Pengurusan Sumber Manusia setelah menggunakan 'HRM Monopoly'</i>
3	<i>Pelajar akan lebih aktif dalam kelas apabila menggunakan 'HRM Monopoly'</i>
4	<i>Pelajar lebih fokus dalam mempelajari kursus Pengurusan Sumber Manusia setelah menggunakan 'HRM Monopoly'</i>
5	<i>Pelajar berasa seronok mempelajari kursus pengurusan sumber manusia setelah menggunakan 'HRM Monopoly'</i>
Likert scale: 5=Strongly agree, 4=Agree, 3=Uncertain, 2=Disagree, 1=Strongly disagree	

4.0 Discussion of analysis and findings

Findings from this study show that 19% of the respondents were male, or 11 people, while 81% were female, or 47 people. A total of 57 respondents (98.3%) were Malay, and 1 respondent (1.7%) was Indian.

The findings of the respondents for the first research objective are displayed in Table 5. According to the study's findings, 83.5% of respondents agreed and strongly agreed with the pre-test of knowledge, whereas 2.8% disagreed and severely disagreed. 44.5% out of 83.5% of respondents agreed that the HRM course is difficult. On the post-test of knowledge, however, the study's findings revealed that when game-based learning was used, 91.4% of respondents agreed and strongly agreed, whereas 1.4% disagreed. 68.3% out of 91.4% of respondents strongly agreed that HRM Monopoly has a positive impact on their understanding and knowledge.

Additionally, the findings for the second research objective of the relevant pre-test of interest revealed that 86.9% of respondents agreed and strongly agreed, whereas 2.7% disagreed and severely disagreed. 44.5% out of 86.9% of respondents agreed that they like the process of teaching and learning in a group.

Nevertheless, when game-based learning was implemented, the study's results on the post-test of interest revealed that 92.7% of respondents agreed and strongly agreed, while none disagreed or strongly disagreed. 65.5% out of 92.7% of respondents strongly agreed that they like to play HRM Monopoly because it is easier to understand the HRM course.

Table 5: Results pre-test and post-test based on knowledge and interest

Scale	Knowledge		Interest	
	Pre-Test	Post-Test	Pre-Test	Post-Test
5	39%	68.3%	42.4%	65.5%
4	44.5%	23.1%	44.5%	27.2%
3	13.8%	7.2%	10.3%	7.2%
2	2.1%	1.4%	2.4%	0%
1	0.7%	0%	0.3%	0%

Likert scale: 5=Strongly agree, 4=Agree, 3=Uncertain, 2=Disagree, 1=Strongly disagree

On the other hand, the Human Resource Management course learning outcome (CLO) for polytechnic has demonstrated significant achievement. Table 6: Course Outcome Review Report (CORR) Session 1:2023/2024 showed that after using HRM Monopoly, respondents had achieved 78% of CLO1: Interpret principles and approaches applicable to human resource management in an organization, compared to 65% in the previous session 2:2022/2023. CLO1 is related to understanding the theory and principles of this course.

As stated by another researcher, globally, 11% of students have increased their conceptual knowledge through game-based learning. In this game-based learning process, interactive gaming has helped to enhance student conceptual knowledge (Pellas, 2019). Thus, this result showed that the effectiveness of game-based learning: HRM Monopoly to enhance student conceptual knowledge. This statement has been supported by Rajan (2022) in his research about the effectiveness of game-based learning to enhance student learning. In addition, Wardoyo et al. (2020) conducted a study indicating that game-based learning significantly enhances and has an impact on the learning outcomes of UM Faculty of Economics students in microeconomics and macroeconomics courses.

Therefore, the game-based-learning selection is anticipated to not only be adaptable in its current application, which can be implemented both online and offline, but also to foster student engagement and critical thinking skills, thereby enabling students to achieve successful learning outcomes (Maulida et al., 2022). Based on their research and discussion, indicate that the implementation of Game-Based Learning at a Vocational High School, particularly in the Construction Cost Estimation subject for the XI Modelling and Building Information Design program, demonstrates that the use of Kahoot! with digital media is categorized as quite effective in enhancing student learning outcomes.

Table 6: Course Outcome Review Report (CORR) Session 2:2022/2023 and Session 1:2023/2024

Course Outcome Review Report (CORR)	
	Group Attainment (%)

Course Learning Outcome	Session 2:2022/2023	Session 1:2023/2024
CLO 1: Interpret principles and approaches applicable to human resource management in an organization	65%	78%

5.0 Conclusion and Future Research

This study aimed to identify the effectiveness of game-based learning in the interconnections between the interest and knowledge among students toward HRM Monopoly. The result indicates that both interest and knowledge have a significant relationship towards the effectiveness of HRM Monopoly. From the result, we can recognize that their level of interest in game-based learning was high. This is because, in the present time, game-based learning implementation has increased the efficiency of the education process. The game-based learning is one of the effective systems to develop interest and improve knowledge among students. Consistent with the findings from this research, which shows that the students strongly agreed that this game board has increased their level of knowledge towards the Human Resource Management subject.

Therefore, this research will expose academicians of higher education institutions to the creation of innovative tools for teaching and learning. In addition, game-based learning has already been applied and commercialised to the business studies program in several higher education institutions.

After this research, several issues remain to be studied. Therefore, the degree to which familiarity with game culture promotes engagement, motivation, and ultimately learning still must be assessed. Additionally, to fully comprehend the experiences of a game-based learning strategy, future research could incorporate qualitative input from students. Taking into consideration, many institutions need to urge their action to encourage their academics to use this kind of method, which promotes a fun and interactive learning process. The ultimate objective is to develop interest in students to advance their knowledge and create the best results for all. Besides, game-based learning should be taken seriously into account as an alternative instructional method on topics where student motivation towards study might be a problem.

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Author Contributions

Jaafar H. F.: Conceptualization, Methodology, Software, Writing- Original Draft Preparation; **Fauzi S. N.:** Data Curation, Validation, Supervision; **Mohamad S. Y. F. A:** Software, Validation, Writing-Reviewing and Editing; **Liliana D. Y.:** Writing-Reviewing, Validation.

Conflicts of Interest

The manuscript has not been published elsewhere and is not being considered by other journals. All authors have approved the review, agree with its Submission, and declare no conflict of interest in the manuscript.

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