

# The Feedback of Gamification and Student's Perception of Game Based Learning in Accounting Course

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**Abstract**—Learning accounting subject always trigger negative perception by students, especially for non-accounting students. Traditional learning approach may lead to a negative attitude towards learning accounting subjects, especially for non-accounting students. Thus, this innovation game was created to cater the need for interactive and fun learning style to be adopted in class as a supplement to the traditional method. This innovation game was extended from the previous edition will takes 60 minutes to prepare students with solid knowledge of accounting concept. For the first 15 minutes, students will review an accounting introductory of e-learning modules. This innovation game was extended from the previous edition and will take 60 minutes for students to equip themselves with solid knowledge of accounting concept. For the first 15 minutes, students will review an accounting introductory of e-learning modules. Then, they will have to undergo a self-evaluation test to asses their performance. Next, students will form and play an interactive accounting simulation game. This edu-game features a board game and more than 100 cards representing each accounting classification as well as 10 sets of question. This game was proven to attract student's interest to learn fundamental of accounting. The survey conducted after the game session shown that students prefer this educational game and hopes for more interactive games since it improves their understanding in accounting subject. At the end of the session, a questionnaire were distributed to get the feedbacks from the students regarding the game played.

**Keywords**—gamification, accounting education, non-accounting students.

## I. INTRODUCTION

IT is uncommon for students to become bored and frustrated when conducted class in a traditional classroom environment. It is common for students to become bored, lack of attention and frustrated when class is conducted in the traditional classroom environment. Thus, lecturers need to struggle to engage in motivating students towards teaching and learning process. By having current system of chalk-and-talk in the class, students become bored and face difficulties in connecting the information and understanding the content. To overcome this problem, developing new researches and innovation of teaching and learning are ways to attract

students in learning process simultaneously increase the motivation and performance of the students.

Universiti Teknologi Mara (UiTM) Negeri Sembilan requires students in the first semester for Diploma in Public Administration (AM110) to learn *Introduction to Financial Accounting* (ACC106) during the topics covered in a Financial Accounting subject in diploma program include: Introduction to Accounting, Accounting Concept, Journals, Ledgers, Trial Balance, Financial Statement, Adjusting Entries, Adjusted Financial Statement, Bank Reconciliation and Ratio Analysis. Some of the students performed well in this subject even though they do not have any background in accounting. However, some students are having difficulties in understanding the principles of double entries thus they are facing difficulties in preparing the correct ledger entries. The percentage of failure rate had increased to more than 50% for the semester session. This is reasoned by some students who have lack of understanding of the basic concept of accounting classification and equation.

## II. LITERATURE REVIEW

These issues will contribute to a higher percentage of failure for ACC106 course. To initiate the solution, this study combines the games with course content to develop a collaborative learning game. This subject was selected because of the high failure rate during final examination. Other than that, this subject also taken by non-accounting student in another academic disciplines such as business, economics, science policy, agricultural and information technology. Prior studies Koh and Koh (1999); and Duff (2004) have revealed that non-accounting students perceive the subject of accounting as irrelevant to their discipline. Consequently, several non-accounting students did not perform well in the accounting courses (Malgwi, 2006). UiTM Negeri Sembilan is facing the same situation where some of non-accounting students fail in accounting subject.

In recent years, accounting educators have used games and simulations in their accounting education as an effort to improve educational pedagogy. It is part of an active learning approach by incorporating games into accounting courses.

Active learning is recommended to educators to meet demands for a broad accounting education which promotes a wider general knowledge base and interpersonal skills such as communication, problem solving and group work (Kober and Tarca, 2000).

Simulation game will to actively engage students into educational activities by way of increasing their responsibility and accountability. In simulation game, the students need to solve problems and make the right decision by applying concepts and principles learned in classroom. This type of game adds some flair to the classroom and help students learn somewhat difficult accounting concepts and financial processes in exciting ways (Jaijairam, 2012).

A simulation game in this paper is an activity that involve accounting practice set (questions to illustrate transactions, board and printed magnetic cards). Based on the questions given, students will record all financial transactions onto the board by using printed magnetic cards. At this point, students need to ensure that the answers given by them are correct by way of applying accounting principles learned in classroom. Thus, it "imitates some part of reality and is a contest" (Heyman 1975, 11). In addition, Shanklin et al (2017) Using the Monopoly® board game in the first course in financial accounting tends to generate a higher level of competitive energy in the classroom experience, students actively engaged in the purpose of the financial accounting system more quickly and actively compare traditional approaches previously used.

The purpose of this study was to get the feedback whether the integration of simulation game into introductory accounting course would increase students' motivation in which subsequently improve students' performance.

### III. METHODOLOGY

An initiative to develop an innovation of teaching and learning of this subject will help students to improve their academic performance hence will reduce the failure rate of this subject. Instead of having chalk-and-talk class, the game was initiated to attract students to focus more on the basic of accounting classification. The topic was chosen since it is a fundamental topic in accounting subject. If the student cannot understand this basic concept, students might not be able to proceed to upper topic level. Thus, this innovation will take 60 minutes program to prepare students with a comprehensive knowledge on classification of accounting.

For the first 13 minutes, students will be occupied with e-content notes on classification of accounting topics. Once they finished reviewing the notes, students will take 7 minutes for self-evaluation. Then, students will form a group with five members in a group and start playing the game in 30 minutes. After the game ended, students will be given another 7 minutes to re-evaluate their performance. Perhaps, it will enhance the performance of the students after attempting the game.

The tools used in this game are game board and an accounting classification colour magnetic card that was creatively designed to enable students to play and learn this educational game interactively. This is supported by Chien (2012) found that when students engage in the games they will have motivation to win the competition. Moreover, it enables students to gain knowledge related to the course and

encouraging discussion among team members. Consequently, it will cultivate a team work spirit and desire to gain a victory in the following game which in turn can improve the learning effects.

#### a. Instruction

The instruction of the game will be given before the game started. To make it more interesting and to encourage higher team spirit, students (player) will be divided into 5 groups according to accounting classification namely (i) Assets, (ii) Expenses, (iii) Capital, (iv) Liability and (v) Revenue. Players in each group also wearing the same colour shirt that represents their group, for example yellow for assets' group, blue for expenses' group, purple for capital' group, red for liabilities' group and green for revenues' group. The game instructions are as follows:

1. Players will be given a board of the accounting equation together and the magnet print with items for accounts classification.
2. Then the players need to see the visual aids on the transaction for the day to identify the classification and the effect of the transaction.
3. Within the time given, the players will search the items from the printed magnet to show the effects of the transactions for the day.
4. The players are required to prepare a proper accounting record such as journal with accounts' name and writing the amount of the transaction.
5. Finally, the player need to complete business transaction in one cycle consists of one-month transactions from effects of transaction, ledger and trial balance

### IV. RESULT AND DISCUSSION

#### *Descriptive Analyses*

There are 68% of female join this game that is 63 out of 93 participants are female. Whereas, the remaining represents male participants that is 30 students. There are 96% of students represents Part 1 students that is 89 out of 93 students. Whereas, the remaining 4% represents 4 Part 2 students. Almost half of the students have accounting basic. 45% of the students which is 42 out of 93 students have accounting basic whereas the remaining do not have the basic of accounting.

#### *Discussion*

This study used a survey method for collecting information or data as reported by individuals. Questionnaires have been sent to 93 non-accounting students by administered to research participants who answer the questions themselves. This is the survey questions that have asked to rank from 1 to 5 scale from lowest to the highest score. According to result above, nearly 52% students found the accounting lessons using this game are very interesting as they used interactive gaming education. Students nowadays, found gaming and simulations interesting. These students have strong preference in technologies and the evolution of digital education games that have helped shape the new ways in education.

Other than that, nearly 87% students (333 students) found that this game has an added value to this accounting subject. The used of this game is central to the broader area of learning

together with traditional method have increase the educational scope. This study has able to show that by implementing this game have increased the students' focus by the implications of using educational games together with traditional educational context. This study shows that 100% of students were found that they have increased their knowledge by using this game. The students found that they learn from traditional educational accounting method, but educational game is more effective. This is accordance with finding below that more than 70% of the students found that the game explains clearly.

In addition, The study shows 100% educational accounting games increase motivation and learning among students. Students learn from playing educational accounting games both on specific knowledge items and in practical. The students taught through educational accounting games to find the experience motivating and want to play the educational accounting game again. The study testifies to the increased motivation in connection with educational accounting games. Thus, the games was found to be more effective and motivating than traditional teaching. The result also shows that playing the game improves students' problem-solving ability. It was found that more than 87% found that this game provide a motivating and increased in gaming learning. Results shows that this has improved students' problem-solving ability and better understanding of the content of the syllabus.

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#### V. CONCLUSION

It is best conclude that students learn best from a combination of teaching and educational games. Although they learn about debit and credit the traditional ways, but by practicing this game it has shown that the personal interactions among the students through this game has enable them to understand better. The analyses shows that 100% understanding which more than half of the students really understand well the through this game.

This study also shows that educational accounting games are effective in teaching students. Students who used educational accounting games learn better compared to peers who do not use educational accounting games The game results in students learning accounting shows with strong retention. The learning outcome is critically affected by lecturers. Lecturers still used both traditional and accounting games when conducting their lecture. However, educational accounting game prove highly effective.

As a result, this accounting game was found motivating, engaging, and ultimately successful in teaching the non-accounting students. This game may be especially suitable for teaching ways of approaching accounting that cater to individual differences.

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