

The Influence Of Gamification On Accounting Lessons: A Case Study

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Abstract:

Learning accounting can be a difficult subject for many students. Students must demonstrate not just competency in accounting processes, but also a breadth of knowledge and appreciation of accounting theories, terminology, and fundamentals to properly interpret and apply the concepts. As a result of a lack of enthusiasm and engagement in traditional accounting teaching and learning techniques, students may struggle to understand fundamental accounting concepts, which discourages them from learning accounting. As educators, it is important for them to explore and consider different strategies for improving student engagement and motivation, such as gamification, which could be a useful tool for teaching and learning. Thus, in a learning environment that applies a gamification-based approach to competence evaluation, a novel learning experience capable of raising student motivation can therefore be generated. The main objective of this study is to investigate the students' perceptions of the effectiveness of using gamification in the classroom via Kahoot!. In addition, to obtain students' feedback on the implementation of gamification for the accounting lessons. A case study was used to evaluate the impact of gamification on students, which involved 50 Taylor's University undergraduate accounting students in their third semester. The findings show that adding a gamification method will increase students' interest in the class as well as their drive for achievement. Furthermore, this strategy was shown to have a positive influence on student motivation and effectively generate engaging lectures. Ultimately, gamification has a significant impact on students, increasing their enthusiasm and willingness to learn accounting.

Keywords: gamification, Kahoot!, accounting, student's motivation, teaching, learning.

1. INTRODUCTION

In this digital era, the evolution of information technologies has transformed the teaching-learning paradigm significantly. Thus, e-learning has evolved from traditional learning. Past studies such as Basuki and Hidayati (2019), Jamaluddin, Mahali, Mohd Din, et al. (2020), Taspinar, Schmidt, and Schuhbauer (2016), and Nah, Telaprolu, and Rallapali, (2013) discovered that gamification of teaching and learning may provide a useful technique to enhance students' engagement and motivation. Gamification is defined as 'the practice of using game design elements, game mechanics and game thinking in non-game activities to motivate participants'

(Al-Azawi, Al-Faliti, and Al-Blushi (2016). The application of game elements to non-game settings has been given a widespread attention to increase students' engagement and motivation in the classroom. Kahoot!, Padlet and Quizizz are examples of e-learning web-apps that are commonly used in conducting online activities in daily teaching-learning practices in the classroom.

The traditional technique of teaching accounting subjects has been in use for decades. Teachers in most classrooms rely on the textbook or PowerPoint slides to deliver lectures and demonstrate all of the workings on the blackboard or whiteboard while students sit quietly taking notes. Accounting may

be an extremely difficult and intricate subject for students to learn on their own. The ability to record, report, and analyse business events is not the sole requirement, students must also exhibit an extensive knowledge and comprehension of accounting ideas, foundations, and terminology (Jamaluddin et al., 2020). Lack of interest and engagement in the traditional method of accounting teaching and learning may result in students having difficulty understanding basic accounting concepts and the overall accounting process, thereby demotivating them from continuing their accounting education and training.

In order to ensure the proper transmission of knowledge to students, the understanding of teaching approaches is essential. By incorporating a range of teaching strategies into the classroom will assist students in gaining a deeper understanding of the subject and facilitate effective and efficient classroom learning that results in measurable learning outcomes. By recognizing several theories of learning, such as behaviourism, cognitivism, constructivism, and humanism, educators will be able to plan the type of pedagogical approach or method to utilize in the classroom. Additionally, the approach must be appropriate for the module's topic or content. To accommodate multiple intelligences, educators should incorporate a variety of materials into the student's study. This also encourages a student-centered learning approach where students will explore new knowledge, gain learning experiences, and increase their motivation on learning.

Thus, integrating gamification into teaching and learning may provide a useful approach to enhance students' engagement and motivation. In the meantime, there are limited studies that secure a deeper understanding of how gamification influences students' motivation in learning accounting lessons. As a result, the main goal of this study was to find out what

students thought about using gamification in the classroom through Kahoot! and how they felt about gamification in accounting lessons.

2. LITERATURE REVIEW

Gamification in education

According to Deterding, Dixon, Khaled, and Nacke (2011), gaming is a highly structured process that is focused on certain well-defined objectives. Gaming is described as the application of game design characteristics characteristic of games in non-game contexts rather than the application of play or playfulness. Dicheva, Dichev, Agre, and Angelova (2015) stated that visible status, social communication, freedom of choice, freedom to fail, and rapid feedback are all common game design aspects that can be found in gamification. Students can be educated on the status of a task's completion by having a visible status, or they can be informed about their performance by having a visible status. As a result, social communication meets the desired objectives for competition against students or teams while also providing possibilities for group learning projects, collaboration with peers, and interaction with other students. A gaming setting that allows students to obtain immediate feedback on their learning performance is known as rapid feedback. When it comes to education, then, gamification is defined as the application of game design elements in the context of official higher education to aid students in their understanding of a certain subject.

Gamification learning is a method of inspiring students to learn how to apply game design and game components in the learning environment. The goal is to maximise the fun and engagement of learners in order to inspire them to continue learning (Henukh&Guntara, 2020). According to Rabah, Cassidy, and Beauchemin (2018), gamification strengthens crucial abilities in education, including problem-solving, teamwork, and

communication. Moreover, they contend that the necessity for interaction in a gamified approach to education motivates students to take an active role in the learning process, resulting in increased student engagement in other online learning activities. When it comes to engaging students in class content assessment, game-based learning has been proven to be a best practice. In order for students to learn, it is vital to create an environment where they can think critically and be actively engaged (Icard, 2014; Kaneko, Saito, Nohara, Kudo, & Yamada, 2018). Everyone is capable of learning and has a unique learning style, thus educators must differentiate instruction in order to provide learning experiences that are relevant to each individual student. Educators must evaluate all of the potential and benefits that can be garnered from utilizing a variety of tools throughout their classroom instruction as the demand for technology in classrooms grows stronger. Finding successful, competitive learning games that interest students can be a difficult and time-consuming effort for instructors (Lai, Lin, Jong, & Hsia, 2014). As a result, technology innovators have attempted to combine both content knowledge and enjoyment, which leads to increasing students' motivation.

Students' motivation

It has been proposed that motivation serves as the foundation for grasping complex behaviors (Johnson, Giannoulakis, Felver, Judge,...et al., 2017). Bekele (2020) states that motivation is necessary for constructive learning because it inspires the gaining and establishing of higher-order cognitive competences. Students' willingness to participate in learning activities is defined as their motivation, and it has the potential to influence the effectiveness of learning activities (Tomy&Pardede, 2019). The intrinsic and extrinsic motivational orientations of self-determination theory

provide a useful framework for understanding motivation in educational environments, particularly in the classroom. As demonstrated by Stutz, Schaffner, and Schiefele (2017), intrinsic and extrinsic motivation are not ideologically opposed on a continuous, but instead distinct factors that can interact and have a variety of effects on learning and performance.

Students that are intrinsically motivated will participate in an activity for reasons such as happiness and fulfilment that are inherent to them. Students will attend in this setting because the act of hearing is pleasurable in and of itself, or because they enjoy the task of completing the activities. Extrinsic motivation, on the other hand, is characterized by a preoccupation with achieving instrumental goals that are independent of the learning process itself, as opposed to intrinsic drive (Stutz et al., 2017). Those who are genuinely driven may pay attention in order to meet their teachers' standards, gain parental support, obtain a good grade, or gain acclaim from their classmates. In this way, students may have a more enjoyable experience if they understand what motivates them. Motivation is essential for task identification because it enhances the likelihood of having favorable experiences that have an impact on pleasure and memory retention. Thus, there are many ways to increase students' motivation, and one approach will be through gamification in the classroom, which will enhance students' knowledge and enjoyment of learning.

Gamification and students' motivation

Most empirical research has demonstrated that the effect created by educational games is becoming increasingly effective as it is gradually capable of combining learning with games in non-game contexts as well as stimulating students' concentration, attention, motivation, and social communication (Basuki&Hidayati, 2019; Jamaluddin et al., 2020; Tan,

Ganapathy, & Kaur, 2018; Taspinar et al., 2016; Nah et al., 2013). It will allow them to improve their abilities, boost their overall motivation, and, in most situations, even improve their learning process. Students are motivated by a game that has appropriate qualities and goals that are clearly specified. This is accomplished by regularly evaluating students' abilities to solve problems. For instance, a study conducted by Silva, Rodrigues, and Leal (2019) discovered that gamification holds specified attributes that, when used in the form of educational games, can improve the performance, intrinsic motivation, and bring pleasure to Portuguese undergraduate students who are taking their first semesters of accounting and marketing. While students were engaged in the game, Moncada and Moncada (2014) concluded that it provided motivation for them to use logical reasoning rather than simply guessing and that the activity was a positive value-added experience that reinforced students' learning while also fostering peer-to-peer interactions. Students indicated that they had a good time playing the game and that it had enhanced their drive to learn about accounting lessons.

Kahoot!

Nowadays, digital technology plays a significant role in educators' expectations to enable the development of 21st-century skills such as creativity, collaboration, communication, and critical thinking in their students. Thus, educators are expected to incorporate technology into their curriculum design in a way that fosters the development of these skills, which are absolutely needed for long-term success (O'Neal, Gibson, & Cotton, 2017). The goal of technology in education is to use a wide range of learning resources so that people can study anywhere, at any time, and with anyone.

Student achievement, classroom dynamics, attitudes, and anxiety have all been demonstrated to improve when using

Kahoot! The 4Cs of 21st century skills, namely communication and collaboration with peers, critical thinking, and creative thinking, are all reflected in this game. Past studies such as Tan et al. (2018) and Jamaludin et al. (2020) have proven the efficacy of Kahoot! demonstrated by its emphasis on enhancing learning outcomes through improved engagement, participation, and motivation among students through competitive, game-based learning experiences. Because students are innately motivated by play, curiosity, and a desire to win, game dynamics have been proven to be an excellent technique for boosting learning. As a result, students learn without even realizing they are doing so. Positive attitudes in students can be encouraged by the teacher through improving classroom dynamics and establishing a safer, more positive learning environment. Moreover, it boosted student attendance, participation, engagement, motivation, enjoyment, and interaction between students and teachers, as well as interaction between students and their peers, all of which were related to improved learning achievement.

3. METHODOLOGY

Research Design

The aim of this research was to investigate the students' perceptions of the effectiveness of using gamification in accounting lessons via Kahoot!. This research used a case study approach using a questionnaire survey with closed-ended questions and a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Besides, an open-ended question was also given to participants to get their qualitative feedback. The questionnaire was prepared in English with consideration of the characteristics of the participants. The questionnaire was constructed based on past studies and then modified to suit the current study. Prior to distribution, the questionnaire has been submitted to Taylor's University Ethic Committee to obtain ethic approval related to humans as

a subject and also to validate the questionnaire.

Data Collection and Analysis

A case study was chosen as it is relevant in a situation where a particular phenomenon is studied extensively and in depth with "how" and "why" questions. This approach is a research method used to develop an in-depth, multi-faceted understanding of a complex issue in its real-life context. A case study was conducted on 50 Taylor's University undergraduate accounting students in their third semester who experimented with Kahoot! for each topic every week. The experiment was

conducted for one semester (14 weeks) for the management accounting module. The participants were comprised of 22 male students and 28 female students, as shown in Table 1. Kahoot! was used as a gamification tool in the online classroom, as shown in Figure 1. After the semester was over, the students were required to answer an online questionnaire to measure their motivation level and provide qualitative feedback on their experience using Kahoot! in the classroom. The study used SPSS statistical software to check for reliability and validity and run for descriptive analysis.

Table 1: Demographics of participants

Category	Description	Frequency	Percentage
Gender	Male	22	44%
	Female	28	56%

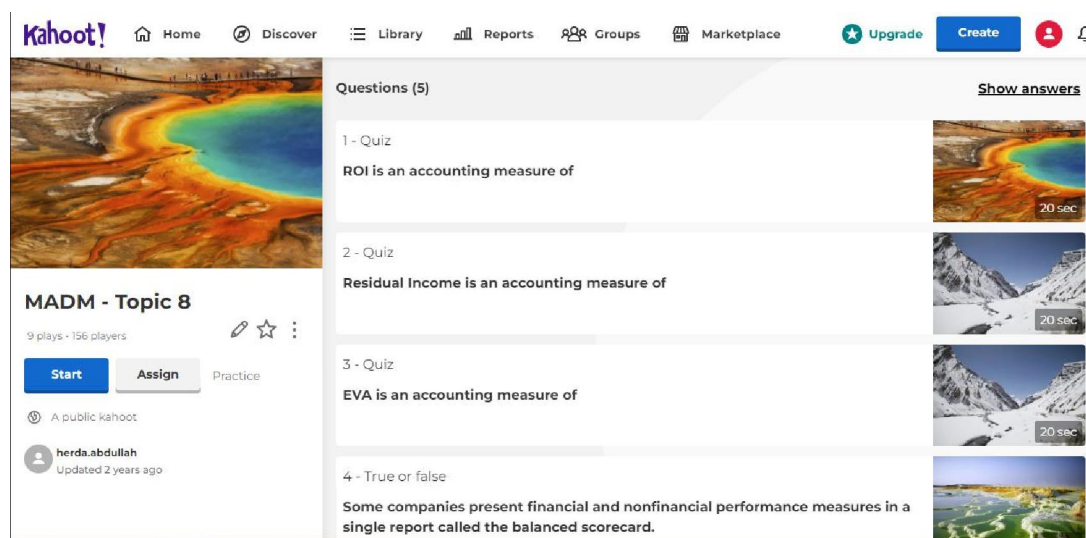


Figure 1: Example of Kahoot! played in classroom

4. FINDINGS AND DISCUSSION

The findings in the study are based on a questionnaire survey and qualitative feedback from participants. The SPSS statistical package was used to analyze the data acquired from the questionnaire in

this study. The level of motivation among participants is determined by the interpretation of the mean score, as indicated in Table 2.

Table 2. Mean Score Interpretation

Mean Score Range	Interpretation
1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.20	Medium
3.21 – 4.20	High
4.21 – 5.00	Very High

Source: Hamzah, Juraime, and Mansor (2016)

As shown in Table 3, the reliability of the questionnaire as a whole is excellent, with $\alpha = .94$. Interpretation of the obtained value is based on the commonly accepted

rule of thumb for interpreting Cronbach's alpha (α) readings which is greater than 0.70 given the acceptable degree of internal consistency of the items in measuring its construct (Zikmund, Babin, Carr, & Griffin, 2012).

Table 3: Result of reliability analysis

Construct Measured	Cronbach's Alpha (α)	Level of Internal Consistency (Reliability)
Kahoot! Questionnaire	.94	Excellent

Table 4 shows the values of Kurtosis and Skewness of all items that are within the range of -1.0 to 1.0, indicating that the distribution does not depart from normality

(Awang, 2014). Thus, the data distribution is not outside the range of normality and meets the requirements of normality distribution.

Table 4: Assessment of normality for all items

No	Item	Std. error	Kurtosis	Skewness
A0				
1	I find Kahoot! exciting, interesting, motivating and fun	0.10365	0.287	-0.242
A0				
2	I look forward to playing Kahoot!	0.11697	-0.890	-0.772
A0				
3	I feel positive when playing Kahoot!	0.09996	0.268	-0.518
A0				
4	I like the collaboration and competitiveness in Kahoot!	0.13413	-0.587	-0.900
A0				
5	I am eager to learn my lessons via Kahoot!	0.13401	-0.835	-0.720
A0				
6	Kahoot! create an energetic classroom atmosphere	0.11461	0.727	-0.648
A0	I can assess my knowledge about the topics via Kahoot!	0.10337	0.885	-0.881

7				
A0				
8	Kahoot! has some special challenging features.	0.12122	-0.531	-0.405
A0				
9	I find Kahoot! reveal the real students' competence	0.09819	-0.835	-0.400
A1				
0	I feel Kahoot! simple to do.	0.10400	-0.943	-0.545
A1				
1	Kahoot! feedback for questions is engaging.	0.10077	-0.833	-0.560
A1	Overall, gamification should be continued in the next			
2	semester.	0.11154	0.777	-0.878

Table 5 presents the descriptive statistics of the twelve items used in the estimation to measure students' motivation. All items recorded a mean ranging from 4.2 to 4.56, while the standard deviations of the

variables were from 0.69 to 0.9. The overall mean for the construct is 4.35, which indicates "very high" in terms of students' motivation level.

Table 5: Descriptive statistics of all constructs

No	Item	Mean	Standard Deviation
A01	I find Kahoot! exciting, interesting, motivating and fun	4.44	0.7329
A02	I look forward to playing Kahoot!	4.36	0.8271
A03	I feel positive when playing Kahoot!	4.52	0.7068
A04	I like the collaboration and competitiveness in Kahoot!	4.28	0.8996
A05	I am eager to learn via Kahoot!	4.2	0.9476
A06	Kahoot! create an energetic classroom atmosphere	4.42	0.8104
A07	I can assess my knowledge about the topics via Kahoot!	4.42	0.7309
A08	Kahoot! has some special challenging features.	4.2	0.8571
A09	I find Kahoot! reveal the real students' competence	4.26	0.6943
A10	I feel Kahoot! simple to do.	4.3	0.7354
A11	Kahoot! feedback for questions is engaging.	4.32	0.7126
	Overall, gamification should be continued in the next		
A12	semester.	4.56	0.7887

The perceptions of the participants concerning Kahoot! are represented in Table 5. Students indicated strongly agreeing with the highest mean score of 4.56 that the gamification should be continued in the next semester for this module. Also, taking note of the fact that the students indicated their highest satisfaction with the efficiency of Kahoot! on item A03, "I feel positive when playing Kahoot!" as shown by the mean score of 4.52. Students expressed enthusiasm for the sessions and found them exciting,

interesting, motivating, and fun, with a mean score of 4.44. This, followed by a mean score of 4.42, indicated that students felt Kahoot! created an energetic classroom atmosphere and that they would be able to assess their knowledge of the topics via Kahoot!. Item A02 ranked number 6 with a mean score of 4.36 on "I look forward to playing Kahoot!". It gives an indication that students always look forward to playing Kahoot! in the classroom. Students also found Kahoot! feedback for questions to be engaging, and

they were thus inspired to make the effort to answer every item or question throughout each Kahoot! session. Mean scores of 4.28 and 4.26 on items number A04 and A09, respectively, show that students enjoy the collaboration and competitiveness in Kahoot! and feel that it reveals their real competence. The last two items indicate that students agree that they are eager to learn via Kahoot! and feel that

Kahoot! holds some special challenging features for them to learn accounting lessons.

Besides the findings on the questionnaire survey, this study also obtained qualitative feedback from the participants. Table 6 indicates the feedback from students about their perception of gamification.

Table 6: Qualitative feedback from participants

Participant	Feedback
2	It's a nice way to motivate student to study harder.
4	It involves the interaction between lecturer and students. And it might help some students to remember the theory easier by practicing through gamification of Kahoot.
8	Kahoot! is a great platform to let students to present and perform their knowledge and what they have learnt in the class.
11	It was really competing, and many students will find it fun when the lecturer uses it because it can eliminate the boredom. It will be really helpful for students to keep up in the class especially now as we are mostly online.
15	Kahoot makes class more challenging.
19	I like your teaching style.
23	Kahoot! is a fun and engaging platform to test students' understanding and is effective for topic recaps.
27	Overall is good.
30	Kahoot is an interesting learning platform.
35	More activities like this again during the class especially when we're in online distance learning.
38	Kahoot can let us to revise the lesson that we learn before.
42	I find Kahoot very interesting, and I love the study atmosphere with Kahoot gamifications, I could feel like cheerfulness and joy.
46	Kahoot could definitely increase the engagement between the students and the lecturer.
49	I think Kahoot! definitely made for a more lively atmosphere. I am yet to see it in being used in a physical class due to the pandemic, but I think it would also work as well as it did online.

Based on the feedback given by the students, it can be seen that students' perceptions and attitudes towards gamification are at a high level in accounting lessons where students are comfortable with the learning approach. The use of gamification can also increase students' extrinsic motivation towards

learning because it encourages the player to win and defeat others. Good teaching and learning materials are not just effective, but also must be interesting and motivating in order to help students stay engaged with the learning. Hence, using Kahoot! as a teaching and learning platform seems to attract the students

when their motivational constructs are at high levels with lively atmosphere and eliminate the boredom. Thus, the findings in this study are aligned with past research such as Tan et al. (2018), Basuki and Hidayati (2019), and Jamaluddin et al. (2020) on the significant influence of gamification in higher education.

The use of technology in teaching and learning is to promote student engagement by making learning more interactive and increasing students' interest in what they are already learning. This study discovered that the effectiveness of Kahoot! can be seen through its emphasis on improving learning outcomes through increased engagement, participation, and motivation via competitive, game-based learning

5. CONCLUSION

The objective of this study is to investigate the students' perceptions of the effectiveness of using gamification in the classroom via Kahoot! to increase students' motivation levels and to obtain students' feedback on the implementation of gamification for the accounting lessons. The findings prove that educators must be aware of and comprehend the implications of adopting gamification in their classrooms and learning environments, as demonstrated by this study. The use of gamification tools in the classroom, such as Kahoot!, will boost students' interest in and drive to learn accounting. Gamification increases students' motivation to retain information in the classroom or through self-directed learning. It also lets students compete with each other in a fun way in a lively classroom, so they do not have to deal with the "boring classroom."

Thus, learning theories provide a framework for understanding how individuals learn, as well as methods to describe, explain, explore, and predict what people will learn in the future. As a result, theories assist educators in making more accurate decisions about the design

experiences among students. Thus, students feel enjoyed during the class, and it also increases their understanding because the teacher will explain what the correct answers are. Thus, technologies help a lot in teaching and learning to be more effective and improve learning performance. As an educator, the goal is to ensure that learning is relevant and aligned with the needs of the students by selecting and implementing the right strategies that help students achieve their learning outcomes and lifelong learning. Also, by understanding the learning theories, it will help educators understand the learning process and the beliefs about learning in order to have effective classroom teaching and practice approaches.

of learning experiences, the development of learning materials, and the delivery of learning and teaching. A more in-depth understanding of learning theories will assist educators in connecting with students of diverse backgrounds. Hence, educators will be able to concentrate on different learning styles in order to reach diverse students by producing courses that are tailored to the requirements and skills of each individual student.

The practical implication of this study is that accounting educators may be able to gain support for incorporating game-based learning into their course delivery. Accounting educators who are considering the use of gamification as an additional teaching method may benefit from the findings of this study because it provides insight into what they may expect from the practice. Educators who provide accounting courses may find that incorporating gamification into their courses is beneficial in increasing students' learning motivation and managing students who are different in terms of gender, past academic achievement, and passion.

This study is subject to limitations, which will lead to future research. The case study was limited to a single

university; hence, the findings are not conclusive in representing universities in Malaysia. Thus, future research can use other methodologies, such as a questionnaire survey that covers the population for generalization of the findings. In summary, this research provides insights on the association

between gamification and students' motivation in learning accounting lessons. It is hoped that the findings of this research can be used as a guide for future research in the fields of teaching and learning, accounting studies, and gamification.

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