

# An Innovation in Teaching and Learning of Accounting Concepts Using Accrual Spin Wheel Game

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## Abstract

Negative perceptions towards accounting subjects, especially among non-accounting students, have challenged the accounting lecturer. In order to change that negative perception, lecturers need to find initiatives to make the learning process of accounting subjects more interesting. This conceptual paper studies the innovation of educational games in accounting. Understanding accounting concepts is essential for accounting and non-accounting students studying the subject. These fundamental principles are crucial for learning accounting effectively, regardless of the student's prior knowledge in the field. This paper introduces a practical tool designed to offer hands-on experience in analysing and reviewing accounting transactions named Accrual Spin Wheel. The tool serves as a game that allows students to practice their analytical skills and fosters critical thinking abilities. Moreover, it promotes student teamwork as they engage with the game collaboratively. Therefore, this paper proposed the importance of educational games in teaching and learning of accounting concepts using an accrual spin wheel game.

**Keywords:** Accounting, Non-accounting Students, Effective Learning, Critical Thinking, Educational Game

## Introduction

Accounting is a critical aspect of any business or organization, providing a clear picture of its financial health and performance. However, accounting is also viewed as a dull, mechanical, repetitive, and quantitative subject that involves logical thinking, number crunching, introversion, methodology, tediousness, and many other negative judgments. Therefore, introductory accounting courses tend to confirm the fears of students, especially those who need to take an accounting subject while studying another course. Accordingly, lecturers of accounting courses face great challenges in attracting the attention and interest of students from various fields of study such as business, marketing, human resources, and entrepreneurship because they lack basic knowledge of accounting and to avoid their poor perception, which will eventually affect their academic results.

The difficulties faced by students while studying accounting courses include understanding accounting concepts and formats, which require skills like measurement, processing, and financial communication about economic entities. Additionally, accounting involves mathematical functions and numbers, which demand calculation knowledge. These factors contributed to some students perceiving accounting as a difficult and challenging subject. Some even consider it a daunting subject. Therefore, to counter these negative assumptions, it is essential to improve the methods of teaching accounting courses so that non-accounting students can enjoy studying them. Thus, by incorporating new learning approaches and discovering or identifying different learning methods, the negative perception of the subject of accounting can be reduced.

Many studies have been conducted on interactive learning methods, including the game-based approach. Developing games that integrate kits and technology to engage students' interest with good didactic design is necessary because people learn from games (Tobias et al., 2014; Wan Tahir et al., 2018). According to Zhou et al. (2022), to use game-based learning effectively, the games have to be well-designed to motivate and engage the learners with the game's activities. So, this paper is about implementing the game-based approach to teaching accounting courses to ensure that learners acquire specific knowledge and skills.

Each generation of educators brings new ideas to pedagogical development, therefore, the rise of learning style through the game approach cannot be ignored. The emergence of different learning style models has drawn attention to the idea that students learn in different ways. Therefore, an innovative tool has been introduced named the Accrual Spin Wheel game to explore how this exciting game helps students understand accounting concepts while fostering critical thinking and teamwork.

### **Literature review**

Many educational institutions now offer accounting courses at the undergraduate and graduate levels. However, several universities continue to offer this course at the diploma level in order to prepare students for the degree and master levels. Face-to-face lectures and tutorials continue to dominate the teaching and learning process. Quizzes, group projects, and examinations are the most common types of assessments used in evaluating the performance of students. Overall, the pencil-and-paper method is still frequently utilized in traditional teaching and learning accounting courses nowadays.

One of the challenges that education providers are constantly faced is to rethink teaching methodologies and programs that they must meet in order to fulfill the market needs. This is consistent with the study by Carvalho and Almeida (2022), who mentioned active learning is a teaching methodology that places the student at the center of the entire teaching and learning process, promoting greater involvement and participation in the process of acquiring knowledge. One of the ways to promote active learning in an accounting education environment is through game-based learning.

Hamari et al (2016) found that game-based learning had positive impacts on learning via higher immersion and engagement. As game-based learning has an element of fun inserted into the learning process, the student's intrinsic motivation increases; hence, they are willing to spend more time learning.

Similar findings were also reported to other studies performed by Sawyer et al. (2017) where the academic results of students learning via game-based learning were better than those who learned via the traditional method. Other than academic performance, game-based learning can also be used to nurture soft skills that may help in their employability.

Previous study has demonstrated that game-based learning or educational games can be utilized to boost students' immersion and involvement in their studies. (Alwi et al., 2017). According to Qian and Clark (2016), game-based learning can help people develop skills, including teamwork, strategy creation, and effective communication. These are some of the talents that students should have in order to be hired as soon as they graduate. As a result, researchers nowadays propose that game-based learning should also be addressed in academic and non-academic activities.

Educational games include many types of games, such as board games, video games, cards, mobile apps, simulation games, and others. Games are designed to help students learn about specific topics, develop concepts, and understand a past event or culture. Other benefits of using educational games in the learning process include promoting teamwork, increasing motivation, improving attention and interest, developing problem-solving skills, increasing reaction time in decision-making, promoting active, self-directed learning, improving communication with peers, an alternative approach to learning, improving social skills such as negotiation and leadership; and play is also fun (Buckley & Anderson, 2006; Gunter & Kenny, 2008; Ke, 2008, Annetta et al, 2009; Dalgarno & Lee, 2010; Muratet et al, 2011; Kapp, 2012; Hess & Gunter, 2013; Shah, 2017). The game-based learning approach has enhanced learning in various fields, such as language Aguilar & Qian (2015), medical education Wang et al (2016), science Ahmed & Parsons (2013), music Turnbull (2007), mathematics Waiyakoon et al (2015), engineering Ebner & Holzinger (2005) and so on. It has been proven that a game-based approach supports the learning process and should be adopted in this millennial age. The trend in accounting is also toward game-based approaches to meet the need to be competitive and adaptable with modern pedagogy (Mat Dangi, 2017; Wan Tahir et al., 2018).

Nitkin (2011) developed an accounting simulation to provide a practical and interactive approach by reviewing the accounting cycle, emphasising transactions based on types of business activities and cash flows. The game, which was conducted during class time, required all students to participate so that students who rarely do homework could not escape the learning process. Survey results capturing feedback from 62 students indicate that the game helped them better understand how the accounting process works, that working with peers helped them better understand and apply accounting concepts, and that the game was seen as a positive and value-added exercise. Seow and Wong (2016) cultivated a mobile phone app, namely ACE, as a target to empower students to learn accounting in a fun way outside the classroom. The games test the basic concepts of accounting and the classifications of accounting. Most students who volunteered to participate in the survey positively rated ACE as engaging, intellectually challenging, attractive, and motivating. Moncada and Moncada (2014) design games using PowerPoint adaptations of the popular television game shows Hollywood Squares® and Connect Four® to turn a traditional accounting lecture into a collaborative and active learning style. The simplicity of the television games makes them ideal for reviewing basic accounting concepts. As a result, students use laptops and mobile phones more proactively to search for information and engage through teamwork and discussion.

Shah (2017) affirmed that playing games in accounting classes helps to make a complex and quantitative subject easy to understand and the learning process fun. She suggests that the game becomes a kind of homework and exercise for the students, but not as an introduction to the concept of accounting. The game will continuously increase the student's interest and motivation throughout the course. Wan Tahir et al. (2018) created a game, namely 'Bet on Accounting: The Opportunivore Card'. It is a set consisting of cards, dice, money replicas, and a visual aid. The instructor or facilitator leading the game must be knowledgeable in accounting, such as a teacher or lecturer in accounting. It is recommended to run the game with four game leaders if many groups of students play it. The objective is to investigate the effectiveness, soft skill engagement, and innovation criteria among students.

Furthermore, Durso et al. (2019) have suggested that business games can potentially enhance students' problem-solving abilities. These authors argue that using virtual simulations in an academic setting fosters the development of both technical and soft skills. These skills are required by the research conducted by Crawford et al. (2020), which categorizes soft skills as including personal abilities such as communication, leadership, creativity, and the capacity to navigate uncertainties.

### **The Game for Accrual Concept: The Accrual Spin Wheel**

The adjusting entries process involves identifying and analysing any transactions or events that require adjustment, determining the appropriate accounts to debit or credit, and recording the adjusting entries in the general ledger. These entries are usually made for accruals, deferrals, estimates, and error corrections. The purpose is to ensure that the financial statements accurately reflect an entity's financial position and performance. Adjusting entries are made at the end of an accounting period to record transactions or events that have occurred but have not yet been accounted for. On the other hand, reversal entries are optional entries made at the beginning of the next accounting period to simplify the recording of certain transactions. These entries reverse the effects of certain adjusting entries from the previous period. The purpose of reversing entries is to facilitate the recording of subsequent transactions and to ensure that the financial statements of the new period are not affected by the adjusting entries of the previous period. It is important to note that the specific purpose and process of adjusting and reversing entries may vary depending on a particular entity's accounting policies and practices.

The Accrual Spin Wheel is a unique educational tool that combines the elements of a classic game wheel with accounting principles. The game is designed as a tool that can help students grasp fundamental concepts in a fun and interactive way and improve their performance in learning accounting. The main purpose of developing this game is to increase students' interest in accounting subjects and to improve their perception that learning accounting is fun and enjoyable. In addition, this game highlights the accounting concept and classification so that students can master the journal of adjusting entries from transactions through the exercises included in this game. The idea of making this game a reality originally came from the researchers' experience as lecturers who taught the subject of accounting. It has been our experience that students have weaknesses in certain areas of accounting. Relying on the traditional teaching and learning process in class is not enough to train students and get them to absorb all the content.

Therefore, the main purpose of the Accrual Spin Wheel game is to provide a clear understanding of the concept of accrual accounting. By engaging in this interactive activity, students can grasp the principles of accrual accounting more effectively. The game immerses students in various scenarios and transactions that involve accrual accounting, allowing them to gain practical experience in applying these concepts. As they encounter different situations, students learn how to effectively solve accounting transactions within the accrual accounting framework. The Accrual Spin Wheel game serves as a valuable tool for reinforcing the knowledge of accrual accounting, helping students develop the necessary skills to apply these principles confidently in real-world scenarios. Figure 1 illustrates the Accrual Spin Wheel game to be used in learning the accounting subject for non-accounting students.



Figure 1: Accrual Spin Wheel game

### Accrual Accounting Framework

Accrual accounting is an accounting framework that records financial transactions when they occur, regardless of when the cash is exchanged. Unlike cash accounting, which only records transactions when money is received or paid, accrual accounting records all transactions. Accrual accounting provides a more comprehensive and accurate picture of a company's financial position and performance over a specific period.

Accrual Spin Wheel is a game used to record the accrual and deferrals. Accruals are adjustments made to recognize revenues or expenses that have been earned or incurred but have not yet been recorded in the financial statements. On the other hand, deferrals involve postponing the recognition of revenue or expenses until a future period. For example, prepaid expenses like insurance premiums are deferred and recognized over the coverage period. The accrual accounting framework is shown in Figure 2.

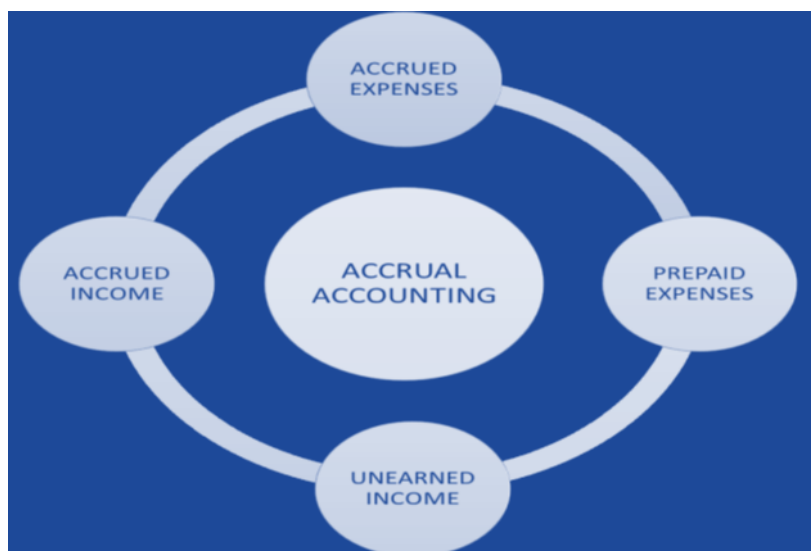


Figure 2: Accrual Accounting Framework

### How the Game Works

The wheel is divided into sections, each representing different accounting scenarios or transactions. Students take turns spinning the wheel and are presented with a specific accounting scenario based on where the wheel stops.

The Accrual Spin Wheel game is played in small groups, encouraging collaboration and teamwork among students. Each group is provided with a game board featuring various financial transactions. These transactions may include revenue recognition, expense accruals, prepaid expenses, unearned revenues, and more. The spin wheel is divided into different sections, each corresponding to a specific accounting concept or transaction type.

To play the game, there are several procedures that the students must follow. The procedure for playing this game is as follows

Students will be appointing four people in groups.

- 1) Each group will spin, and depending on where the wheel lands, they have to choose between eight colours of transactions. The group must then discuss and apply the relevant accounting principles and solve the transactions within five minutes.
- 2) There are three sets of cards for each colour.
- 3) The group will present the solution for the transaction based on an "Accrual Accounting Framework (AAF)."
- 4) Each group will repeat the entire process for two rounds. Each group will be given two points for the correct answer; if the answer is wrong, it will be opened to another group with one point if the answer is correct.

### Advantages of Accrual Spin Wheel

There are at least three advantages associated with game-based education, like the accrual spin wheel. The first advantage is that this game foster critical thinking. The Accrual Spin Wheel game goes beyond rote memorization and encourages critical thinking among students. As students encounter different scenarios, they are required to analyze the transaction and determine the appropriate accounting treatment. This interactive approach stimulates students' cognitive abilities, enabling them to make informed decisions in a

practical setting. By engaging in active problem-solving, students develop analytical skills that are invaluable in real-world accounting scenarios. Moreover, the game prompts them to think critically about the impact of their decisions on financial statements, reinforcing the cause-and-effect relationship between transactions and financial reporting.

Secondly, this game encourages teamwork among students. Teamwork is an integral part of the Accrual Spin Wheel game. As students collaborate to analyze transactions and apply accounting principles, they learn to work together effectively. This collaborative environment fosters open communication, where students can share ideas, discuss different approaches, and learn from each other's insights. Teamwork is a vital skill in the accounting profession, as accountants often collaborate with colleagues and departments to ensure accurate financial reporting. The game's emphasis on teamwork helps students develop these important interpersonal skills early in their academic journey.

The combination of critical thinking and teamwork in the Accrual Spin Wheel indirectly promotes a deep learning approach. This is the third advantage of this game-based education. In the deep learning approach, students look for meaning in what is being studied and relate it to other experiences and ideas with a critical approach. This can be built through the game activities where students need to play it in a team and apply what they have learned in class to solve the problem in the game. The deep learning approach can assist students in understanding the topic better since they can relate the knowledge in class with real situations.

### **Conclusion**

The game-based learning approach has enhanced learning in various fields, such as language Aguilar & Qian (2015), medical education Wang et al (2016), science Ahmed & Parsons (2013), music Turnbull (2007), mathematics Waiyakoona et al (2015), engineering Ebner & Holzinger (2005) and so on. It has been proven that a game-based approach supports the learning process and should be adopted in today's world, where students are more advanced. To reflect this, a game-based approach is also used to facilitate the learning of accounting to be competitive and adaptable and to apply contemporary pedagogy.

The Accrual Spin Wheel serves as a remarkable educational tool that enhances the learning experience of non-accounting students studying accounting concepts. By combining fun with fundamental knowledge, this game-based approach provides an effective way to engage students, promote critical thinking, and encourage teamwork. As educators continue to explore innovative teaching methods, the Accrual Spin Wheel stands out as a valuable resource in making accounting courses more accessible and enjoyable for students across diverse disciplines.

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