

## Chapter 2

# Use of Amazacc Brain Teaser Card for Financial Accounting Classroom: Non-accounting Students

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**Abstract** Accounting subject is crucial for accounting students as well non-accounting students as it is necessary requirement to fulfill their course undertaken. Apparently, common perception from students are accounting is boring, difficult to understand the basic concept and a hard course to comprehend. Their perceptions affect their attitude towards the course and therefore academic performance. Students do in fact value interactive opportunities with peers and prefer to take an active part in the learning process as interactivity is more engaging and more effective than just listening. Thus, this Amazacc Brain Teaser Card is an educational game designed for use in the financial accounting classroom. Amazacc Brain Teaser Card is recommended to be used in classroom as to demonstrate the relationship between the assets, liabilities, owner's equity, revenue and expenses of a business. It is the foundation for the double-entry bookkeeping system elements in the accounting equation. These games encourage students to explore while learning. More importantly, it is a creative classroom activity which is both competitive and collaborative. Students are given Amazacc Brain Teaser card that consists of the challenges need to be done. Therefore, when students understand the elements and the relationship between those element it will make them more confident and motivate to develop their interest in financial accounting course and finally achieve a good result on this subject.

**Keywords** Non-accounting students • Accounting equation mania • Brain teaser card • Financial accounting

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## 1 Introduction

The most pressing problem facing the accounting profession today is that is not attracting enough students. In fact, non-accounting students which major in business, computer science, plantation and agriculture and others have misperceptions about this subject while they still need to complete the course in order to graduate. Some of the negative perceptions on accounting subject where they view it as dull, boring, mechanical, repetitive, number crunching, introverted, methodical and tedious (Cory 1992; Cohen and Hanno 1993; Fisher and Murphy 1995; Friedlan 1995; Saudagaran 1996; Mladenovic 2000). However, recent studies by Hashim et al. (2012) found that, there are positive perceptions of Malaysian secondary school students towards the accounting subject. Either way, there is necessary to rejuvenate the methods of learning and teaching environment for accounting subject. According to Nitkin (2011), the traditional class format, based on lectures and problem sets are inadequate in meeting the learning needs of current students. Other previous researchers such as Albrecht and Green (2008) also opined that there should be a paradigm shift in collegiate teaching where teacher-centered learning environment seems not to be very effective for teaching accounting subject. Hence they implied that learning-centered approach should be practiced as a way to encourage students to have a better learning experience in class, achieve good results and able to produce significant and lasting change. In order to achieve this, Albrecht and Green (2008) suggest that learning and teaching environment should also be equipped with the usage of simulation games in accounting subject.

In fact nowadays, various educational accounting games have been available for years but have generally involved complicated apparatus. Hence this paper presents a simple method of card games appropriate for an introductory accounting class in response to students' which are increasingly visual and kinesthetic learners.

## 2 Problem Statement

An introduction to students on accounting terminology and classification is one of the most problematic parts in learning basic accounting. Students are not able to differentiate between asset, liability, revenue, expenses and owner's equity, although they learned it during the class session. For example, assets are comprised of building, equipment, debtors, inventory, etc. According to Wikipedia, asset defines as "an economic resource. Anything tangible or intangible that is capable of being owned or controlled to produce value and that is held to have positive economic value". However, for an introductory lesson, students are clueless what kind of items is considered as assets. This fundamental lack of understanding on accounting classification prohibits them from understanding the next level of topic and consequently forbids them to success in accounting subject. Therefore, an exposure list of items will gradually make students understand the nature of those items and its

classification. As such, this paper offers innovation on application of various level difficulties of card games into educational games to create fun, enjoying yet informative activities in class. The main objective of AmazAcc Brain Teaser card is to enhance students' ability to classify items into its accounting classification and then relate into its equation by highlighted in student learning styles.

### 3 Literature Review

The use of educational games in teaching and learning environment has caught the attention of several researchers to develop and design suitable games to be used in accounting subject. As such, Knechel (1989) has introduced the Monopoly board game to teach undergraduate students the financial accounting journal entry process. The effort done by Knechel (1989) that drives him to adopt simulation games as the aiding tools to teach accounting subject was because he found some drawbacks in traditional classroom method. Some of these drawbacks were presented in Shanklin and Ehlen (2007), such as (1) lack of active engagement of students in progressive process; (2) failure to understand the reality in business operations; (3) reduce the likelihood of students from copy the work of others. It is not to say that the traditional classroom teaching method are not relevant, but in order to keep the pace with the changes of time and environment factors, a transformation effort is required to include a vibrant environment in learning process. This issue also has been discussed in Poli and Proctor (2000) who stated that accounting educators need to change the way of classroom teaching where it should involve students in the learning process, to provide opportunities for students to learn by doing and to assist students in attaining communication and interpersonal skills.

In the study by Shanklin and Ehlen (2007), they discussed about their effort in using Monopoly<sup>®</sup> as a simulation tool to reinforce an understanding of how the accounting cycle impacts financial statements used to evaluate management performance. They found that, by using this game, students appear to grasp the nature and purpose of the financial accounting system more readily and actively than with other educational approaches previously used. Shanklin and Ehlen (2007) also mentioned the effort by the faculty at The Ohio State University have developed an accounting game called "Simulation" designed for the area of management accounting that focus on manufacturing and selling products from budgeted positions and pricing choices. Although the game is successful to be used in class, however, it is still unable to resemble real business activity hence students still lack in conferring response on seemingly random event and situation (Shanklin and Ehlen 2007). Thus, Knechel identified this problem and he embark on the use of Monopoly<sup>®</sup> to mitigate the problem and he also succeed to gain students' interest to participate in learning process through the simulation games (Shanklin and Ehlen 2007). Meanwhile Nitkin (2011) has introduced the "Game of Business", that is a type of board game inspired by the Hasbro Game of Life<sup>™</sup> which is able to provide an opportunity to practice transaction analysis and review the accounting cycle. In

addition, Nitkin (2011) stated that this game also introduce students to the annual statement studies and to build a pro forma balance sheet. Despite the new experience in learning accounting subject, this game also encourages cooperative teaching and learning strategies among all the players who participate in this game (Nitkin 2011).

Students are coming from diverse degree of motivation, commitment, ability and learning styles or approaches (Kirkland and O’Riordan, n.d.). Therefore, educational practitioners need to find alternatives for the teaching and learning process, so that it can be delivered effectively. The closest alternative that can be referred to this situation is by adopting the ‘learning through play’ environment during the teaching and learning process. This is because all peoples around the world understand the language of ‘play’ regardless of the age, ethnic, economic or social background (Azriel et al. 2005). Therefore, games can be a suitable medium for students to explore and gathering information in a fun and interactive way while they are not only play merely for amusement, but also gain valuable knowledge from it. There are value added benefits that come from the use of simulation games during the teaching and learning process. Among others, Shatz and Loschiavo (2005) claimed that games can improve the mood and this facilitates greater creativity and boost student morale and interest. Other than that, games can provide instant feedback for students since they can focus on their learning process since it involves interactive learning experience together with other player in timely manner (Kirkland and O’Riordan, n.d.). Meanwhile Cook and Hazelwood (2002) and Johnson and Mayer (2010) found that students are enthused to spend more time in class preparation on the days when games are played compared to other times. This situation give a conception that using simulation games and ‘learning through play’ environment provides a great opportunity and can serve as an alternative instrument to generate interest among students in learning accounting subject.

On the other hand, Siewiorek (2012) applies the simulation games to expose students with different leadership styles visible and provide students with experiences beneficial for the development of leadership skills. From the study Siewiorek (2012) also add that simulation games has the potential to be used in higher education learning because it can expose students with the real work-related context. Furthermore games can provide the environments where the player can learn about themselves, interact with others, develop certain types of social skills and develop thinking and solving problems skill Moursund (2007). Hence, using games for teaching and learning session cannot be seen as taboo because it has significant positive impact to support the effort of upgrading the educational landscape.

Albrecht and Green (2008) have highlighted some advantages of using simulation games for teaching and learning purpose. For instance, (1) it can motivate the students to participate in the game setting activities more than the traditional class setting; (2) enhances the cognitive growth (for example, recall of factual knowledge, improve problem-solving skills, apply concepts and principles); (3) enhances affective learning; (4) encourage intensive practice in verbal and written communication; (5) support flexibility in thinking and an adaptive response to a dynamic environment; (6) simulation games can be repeated or can be played with the same participant; (7) promoting variant skills and experience through playing games.

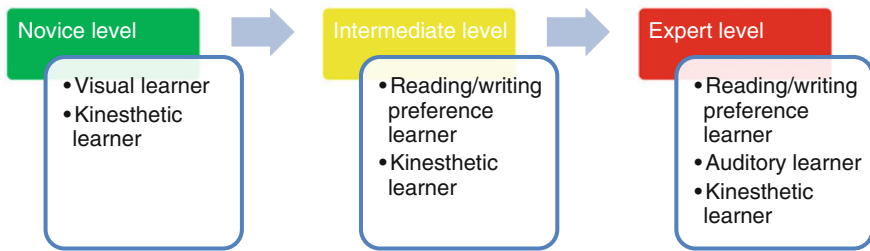
Meanwhile Clayton (n.d.) generalize the positive perceptions about using simulation games in education into three broad categories, namely as depth of learning; student engagement and transferable skills development. All these categories support that simulation games have its significant impact in transforming the teaching and learning process into an innovative method to promote a more effective learning experience. Therefore, by having simulation games in a process of teaching and learning accounting subject, it can be a stepping stone to offset the students' negative assumption about this subject.

#### **4 The Concept of the Game: AmazAcc Brain Teaser Card**

Robinson (2007), Eisner (2004), and Arhin and Johnson-Mallard (2003), among others, have suggested that changes in learning styles make the use of games and simulations even more important. They further suggest that where past generations of students may have poured over textbooks, the current generation, groomed on television and computers, is more accustomed to other modes of education. Lippincott and Pergola (2009) and Murphy (2005) suggest that GenY students are more visual than verbal learners. Additionally, these researchers find a strong preference towards active engagement and innovation in the learning process both from students and from educational oversight commissions such as the Accounting Education Change Commission. According to Tanner and Linquist (1998), games and simulation can fulfill this need for active engagement. They find that games promote active engagement in the learning process while providing opportunities for practice and application without rote memorization. Lippicott and Pergola (2009) call this type of pedagogy "edutainment" as games and simulations capitalize on the entertainment value of the activity to support academic learning.

AmazAcc Brain Teaser card which features both entertainment and educational value capture various learning styles to benefit each of the participant. Thus the game was specially developed by adopting Neil Fleming's VAK/VARK model. This model claimed that students can be divided into four distinguishing learning styles, namely visual learner, auditory learner, reading writing preference learner and kinesthetic learner. Different types of learning styles are reflected throughout the games where each of the participants has to read, speak, think, listen and solve the task in competitive way.

The game is divided into three levels of difficulty based on color which is Green Card for novice, Yellow Card for intermediate and Red Card for expert. For novice, the card containing pictures which denote the items under accounting's classification where the participants need to classify it into whether it is non-current asset, current asset, non-current liability, current liability, revenue, expenses or owner's equity. Whereas the Yellow Card featuring words scrabble which consist of letter represents the items in accounting classification. The participants need to put the letter in order and identified the items. For Red Card, it comprises of transactions and multiple choice questions. These cards required participants to solve the questions related to



**Fig. 1** The concept of the game based on learning style

the accounting equation and classification. The participants need to listen carefully when the answer is wrong in order to guess it right on next turn.

The game encompasses of facilitator and a group of participants. For easy monitoring, it is recommended that each group consists of three to four participants only. The facilitator should have strong basic accounting foundation. Each participant will get five green, yellow and red cards respectively. The games start with first participant showing his/her green card and notifying the facilitator the accurate classification of the item. The facilitator needs to verify the answer and if the answer is correct the participant can set aside the card. The participant now only holds 14 cards. However, if the answer is wrong the next participant will take turn to show his/her green card. Therefore the first participant still holds his/her 15 cards. The same rule will apply to each participant. It should be noted that the participants have to finish all the green cards before proceeding to the yellow card and finally the red card. The first participant who can complete the task will be the winner of the game (Fig. 1).

## 5 Students Feedback

To date, the game has been used for two semesters for introductory accounting course for non-accounting students in Universiti Teknologi MARA (UiTM) Pahang. The survey represents 58 students over the past two semesters. The results capture student feedback in regard to their perception on the games. The questions consist of 5-Likert scale where 1 represents of strongly disagree to 5 represents of strongly agree. Table 1 is the result of the survey conducted for the students.

Student responses indicate that they felt the game was well structured (4.5 out of 5 point scale) and the game provided a good way to review before examination (4 out of 5 point scale). The students would highly recommend using the game in future classes with highest score of 4.8 out of 5 point scale). The students score 4 out of 5 point scales on the effective approach of teaching and interaction between them during the game will help for better understanding of accounting subject. In regard to the question whether this approach is different from other traditional of teaching, students score 4.5 out of 5 point scales. For the next question of the

**Table 1** Result of the survey conducted for the students

Students' perception	Score
1. The game was well structured and well organized	4.5
2. The game was a good way to review before the examination	4
3. I would recommend using the game again in future classes and to other people	4.8
4. This game was very effective as compared to other approaches of teaching technique in accounting	4
5. This game was very interactive and effective for a better understanding in accounting subject	4
6. The approach of this game is different with the traditional teaching such as using textbook, exercises and other teaching methods in the class	4.5
7. The game helped the students better understand accounting classifications and accounting equations	4
8. This game is able to adapt interactive learning style in the class	4.7

survey regarding their understanding of accounting classification and equation the score is 4 out of 5 point scales. Most of them strongly agreed that the game is able to adapt interactive learning style (4.7 out of 5 point scale). Overall, students enjoy participating the game and some of them commented that they now feel learning accounting subject is not dull any more.

## 6 Conclusion

The goals of this game are to provide interactive opportunities to the students where they actively take part in the learning process than just listening. By completing these games in class has an added benefit as it forces all the students to participate. Hence students who do not understand on that particular topic eventually are being detected. More importantly, it is a creative classroom activity which is both competitive and collaborative. Students are given Amazacc Brain Teaser card that consists of the challenges need to be done. Therefore, when students understand the elements and the relationship between those element it will make them more confident and motivate to develop their interest in financial accounting course and finally achieve a good result on this subject.

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