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Conceptualizing the Development of Road to Success (RoSe) Game in Enhancing Students' Academic Motivation

Nor Aziah Abd Kadir^{1*}, Musramaini Mustapha², Hasnizawati Hashim³

¹⁻³Faculty of Business Management, Universiti Teknologi MARA Pahang, Raub Campus,
Kampus Raub, 27600 Raub, Pahang, Malaysia
aziahkadir@pahang.uitm.edu.my, musra_08@pahang.uitm.edu.my
hasnizawati@pahang.uitm.edu.my

*Corresponding Author

Abstract: There are many motivation programs have been organized by the faculty in order to increase student awareness on the importance of academic excellence, such as motivational talk and physical activities. However, these types of motivation programs sound very common to most of the tertiary education's students and they are not able to attract students' participation. Students sometimes attend the programs for the sake of avoiding penalties from the university if they engage in absenteeism. This paper provides a comprehensive study on literatures that discuss on the contribution of the interactive motivational game to students' academic performance. Based on the Constructivist Theory, the element of active participation in fun based game should be introduced to attract students' interest. Thus, the Road to Success (RoSe) is developed to improvise the existing programs which are too common and dull. RoSe is an interactive motivational game that creates fun in activities. To play the game, students need to roll the dice and move up the cips in a race against their opponents. When they reach at certain pit stops, they need to do the activities based on the instruction given. The activities may improve students' memorization skills, knowledge on vocabulary and mind's creativity. Students will enjoy hours of endless fun with this engaging game and promote teamwork relationship. RoSe also emphasizes on few emoticons represent the real environment in students' life at university. The game is easy to conduct and may be applied in any motivational programs as it can attract students' participation and motivation to succeed.

Keywords: Academic Excellence, Motivational Game, Student, Tertiary Education

1. Introduction

Motivation is generally defined as the forces acting upon or within a person that cause that person to expend effort to behave in a specific, goal-directed manner (Lewis, Goodman & Fandt, 2004). It cannot be denied that motivation is very important in influencing people to certain direct behaviour. Furthermore, motivation is significant in ones' life because their abilities play a crucial role toward their performance including student as the university level. Basically, it is not an easy task as it deals with teenagers. Yet, there are still many motivation programs conducted to motivate them towards their excellence in academic. However, the effectiveness of the programs can still be questioned.

Applying motivational modules in any motivation programs have always been used to motivate student and it sounds familiar to them. However, using motivational games approach to fulfil the same objectives may sound more interesting. It is because teaching and learning activity nowadays are not only held in a classroom but outside as well. According to Gupta, Gopalakrishnan and Narayanan (2015), studies conducted within formal and routine classrooms may cause to lack of motivation, attention and concentration during learning. Gradually, this will lead to apathy, anxiety and often results in poor academic performance, low self-esteem and passiveness towards education. Thus, using motivational game is one of the alternatives used to motivate students as it is normal for them to lose interest in study.

Fundamentally, the examination result is generated using Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) system to indicate students' academic performance. Students who graduated with CGPA less than 2.00 will be considered as less

productive and very weak. Therefore, students need to get a good or an excellent CGPA to retain the university's reputation and being competitive in work force. There are some students in Faculty of Business Management at UiTM Raub, who did not perform well in their final examination. These students have been grouped under PDCA bureau. Studies have been done to discover the factor of the weaknesses. Hashim, Halid and Yahya (2010) revealed that students' attitude is the main factor contributing to their low academic achievement, such as lazy, last minute study and lack of focus. Furthermore, the research also found that students are weak in calculation. Thus, subjects such as Business Mathematics and Statistics were scary them. As part of the faculty's social responsibility, Faculty of Business and Management, UiTM Pahang has organized many modules and programs through PDCA (Plan, Do, Check, Action) committees to boost students' motivation to get better result. However, the feedback regarding their attendance towards programs organized is very poor (Biro PDCA, 2016). Students' attendance rate is less than 40% for each program organized. Based on this consideration, a motivational game approach is proposed to be used in motivational programs. The purpose of this study is to address this gap by proposing a game model – RoSe in enhancing students' level of motivation. This model integrates Constructivist Theory to explain on how motivational game can enhance students' performance. The game is trying to implement a Quranic verse where Allah asks us to work hard to gain something. This may imply to students to work hard during their study.

And say, "Do (as you will), for Allah will see your deeds and (so will) His messenger and the believers. And you will be returned to the Knower of the unseen and the witnessed, and He will inform you of what you used to do." (At-Taubah, verse 105)

This paper is arranged in three parts. First, the theoretical background is discussed. It is then followed by the explanation on Constructivist Theory, motivational game and student's performance, and how it may be applied to the creation of a game model. In the second part, the development of the game model's proposition is outlined. Lastly, in the final section, the implications for research and practice from this model are discussed.

2. Theoretical Background

RoSe game is framed around the principles of Constructivist Theory. It is applied in this study to ensure that RoSe can become more attractive as well as motivating student while they enjoy playing it.

2.1 Constructivist Theory

This research employs Constructivist Theory in preparing the basic functions of RoSe game. The theory gives concern on the learning active process in which learners construct new ideas or concepts based upon their current /past experiences (Bruner, 1973). This theory is incorporated into RoSe conceptualization based on several reasons. First, this theory applies a different focus compared to the traditional learning method. In the constructivist method, students are the focus while the teacher is the facilitator who asks questions. In other words, students will play their active role in ensuring the ways on how they grab the knowledge. While the teacher (facilitator) will play their part in guiding students to grasp as much knowledge as they can. Second, this theory postulates that there are many ways on how students can learn and not based only on one "normal" way which may not suit with their academic background. UiTM students come from a different academic background which may affect their learning styles. Therefore, varieties of methods can be applied to ensure that they can learn according to their capability. Based on this assertion, RoSe is created with the combination of meaningful objectives. The objectives are to expose students to real life in the university as well as to include them with few cognitive fun-based games so that they will learn something new while they are having fun with the game. Finally, this theory is chosen as it recognizes active and fair treatment among students. Hence, there are two (2) aspects taken into consideration while RoSe

is created, namely students' active involvement and fair evaluation. For each pit stop, students should work in a group to ensure that they can successfully move from the novice to the higher level and finally score at each level.

Furthermore, Bruner (1966) highlighted three (3) stages in ensuring an optimum learning process in Constructivist Theory, namely a) enactive mode, b) iconic mode and c) symbolic mode. Enactive mode involves certain actions on how to do something for example – how to prepare a kite. This game applied enactive mode by preparing detail instructions on how to play the game and each challenge is conducted. This is to ensure that it is well understood. The Iconic mode deals with the imagery whereby knowledge is characterized by a set of images. RoSe has taken into consideration in placing some images such as university image and emoticons to attract student's interest. Finally, the symbolic mode deals with abstract, discretionary and flexible thoughts. Taken this idea, RoSe applied a different kind of games which derived from the real university's life experience in each challenge such as language (English), numbers (Mathematics) and ability to activate student's reflective thinking.

2.2 RoSe Game

RoSe replicates the snake and ladder game with some innovations employed on the challenges designed. The players will roll a dice and move up the chips in a race against their opponents. Before they meet the final destination, they need to complete four levels challenge. They will lose a turn each time they fail to complete the minimum requirement. Players can only proceed with the game after they have successfully completed the challenge. The challenges start with the novice level (considered the challenge faced by students in year 1) which is creating English words using letters given. For this challenge, marks will be given based on the numbers produced. The higher the level, the difficult is the challenge. The other levels' challenges are Puzzle Shuffle, Remember the Numbers and Eagle Eyes. Every challenge will be given different marks according to the rules and these marks then will be cumulated at the end of the game. This is to apply the concept of CGPA earned by students at the end of the semester. The faster they finish the game doesn't mean that they get the highest CGPA.

2.3 Motivational Game

Motivational game is described as an environment where game content and game play may enhance knowledge and skills acquisition. Students learn through game activities which involve problem solving spaces and challenges that provide players/learners with a sense of achievement (Hailey, 2010; Keller, 2009). Students may also be motivated to succeed if the game or activities created, may promote competition and teamwork challenge. This is where, some quick and specific feedbacks enable students to figure out the right way to succeed (Girard, Ecalle, & Magnan, 2013).

2.4 The Effectiveness of Motivational Game

Paras (2005) and Bizzocchi and Paras (2005) have tested the effectiveness of their motivational game and they came out with a conclusion that effective game should meet both active experiences and have the capacity to provide intrinsic motivation. While Vos, Van Der Meijden and Denessen (2011) also agreed with the findings and further elaborate on the active experience. According to them, an active experience also can be considered when students go into deep learning and achieve experiences. Some games may need students to do trial and error. Thus, from that they learn from their mistakes and their effort to find a solution for the problem (Holroyd & Yeung, 2012), which indirectly they may develop problem solving skills and thinking skills.

Furthermore, motivational game also deals the creation of few challenges before they can win. It is believed that the activities that create competition also contribute to students'

motivation as it develops and strengthens interdependent and communication skills. The cooperation and collaboration among students, either in couples or small groups may improve their deep learning activities and results (Burguillo, 2010). The idea is to enhance the exchange of information and knowledge among the students to motivate their own learning and a common reinforcement.

Motivational games also have great potential in developing the intrinsic motivation among students because they stimulate curiosity (Kumar, 2000) and interest by presenting learning activities in meaningful contexts in which the student is in control (Burguillo, 2010; John Kirriemuir, 2004). There are some strategies mentioned in literatures to motivate students effectively using game activities. Keller (1983) has developed the ARCS Model based on four essential strategies (attention, relevance, confidence and satisfaction). This model is being used by many researchers in their studies (W-Y. Huang, W-H Huang, & Tschopp, 2010; Kebritchi, Hirumi & Bai, 2010; Keller, 2009). The model identifies four effective strategies (as mentioned above) in constructing a motivation game. These strategies may indicate the students' curiosity, interest and positive expectation for successful achievement, and provide extrinsic and intrinsic reinforcement for effort. If these elements are clearly understood and implemented in the game, it is expected that the objectives are achievable.

3. Development of Research Propositions - Motivation Game and Student Performance

Proponents of Game Based Learning argue that motivational games motivate students to learn better (Burguillo, 2010; Erhel & Jamet, 2013; Hainey, 2010; Huang, et. al., 2010; W-D Huang, Johnson & Han, 2013). For instance, Khan and Pearce (2015) has empirically suggest that motivational game such as The Logo Board Game give positive impact on students' performance. They found that the game lead to better attitude toward the subject among undergraduate students. Huang, et. al. (2013) also found different game features, such as game structure, game involvement and game appeal, lead to stronger motivation. Students will have higher confidence level in learning as their knowledge is increased. However, Tüzün, Yilmaz-Soylu, Karakus, Inal and Kizilkaya (2009) found that students who involve in the game have higher intrinsic motivation, but lower extrinsic motivation than the students in a traditional learning environment (having a lecture in classroom). While Hamari, Koivisto and Sarsa (2014) and Vos, et. al. (2011) examined the effects of games on students' competence, interest and efforts and they found that students' motivation who played games dropped but motivation of students who constructed games increased. This study highlighted other important findings of students' involvement in ensuring their high achievement.

Furthermore, engaging a certain subject's background may produce significant results towards students' motivation. For instance, Bitter, Puglisi, Gorges and Uppal (2016) stated that regular used of Online Collaborative Mathematics Game Program developed in Sokikom Game has potential to improve mathematics achievement and positive motivation in the learning of mathematics. RoSe similarly emphasize on certain subject activities such as English (a test for vocabulary) and Mathematics (a test for memorizing numbers) guided by strategies from ARCS Model by Keller (2009) to make it more interesting and effective at the same time.

The above results confirmed that the relationship between educational games and motivation is not always positive. It may depend on the activities that students engaged in. If the learning activities are not engaging or too difficult, students may not be motivated to engage in learning activities. Thus, Klein and Freitag (1991) and Bizzocchi and Paras (2005) recommended to any game inventors to follow the Flow Theory in ARCS Model. It has been mentioned in the theory that the game should focus on providing students with appropriate challenge, setting concrete goals and providing feedback, and completely push student skills to the limit. On the other hand, Klein and Freitag (1991) also suggest to include reading assignments in the game so that not only performance of students will increase but also increase the students' confidence about their performance.

The above studies are some of the examples which provide significant evidence regarding the influence of the motivational game towards students' motivational level. These studies, however are not able to provide a thoughtful understanding of the process underlying especially when it relates to the context of low academic achievement students. Motivated by these guidelines and findings, we created RoSe to help students to know the reality of a university life as well as encouraging them to work in a team to success in their academic life. It is posited that:

Proposition 1: Motivational game (RoSe) will enhance students' level of motivation.

4. Implication for Research and Practical

This study suggests that a motivational game board may enhance students' motivation to succeed. Existing literatures on motivational games (e.g Burguillo, 2010; Huang, et. al., 2013; Paras, 2010) offers a convincing situation that changing a motivational approach from a traditional method can help students to become more motivated and perform better in their study. While, there are many programs offered by the faculty to help their students with low academic achievement, but a systematic analysis on the effectiveness of the program is still limited. Thus, this study provides a theoretical basis for understanding for the usage of motivational game in enhancing students' motivation by making them actively involved in the game.

This study also has a practical implication. A confirmed model of RoSe would provide opportunities to the Faculty of Business Management to use it in the next motivational program as well as for the new coming students. It will give them exposure on what to expect in the university life especially at the academic level. On the other hand, this model can also be used as the basis in implementing another new motivational program at the university to help students to improve their motivation in their study.

5. Conclusion

In this paper, we have presented a model that focuses on the role of a game in enhancing student's motivation to succeed. Moreover, it is expected that this game, namely RoSe will encourage students to actively participate in motivational programs organized by the faculty. RoSe applies few principles according to the Constructivist Theory whereby learning activity is combined with the elements of games to ensure that students can learn new knowledge while enjoying the game. Finally, it is hoped that RoSe model will bring more benefit to the students based on this saying – “tell me and I forget, show me and I remember, involve me and I understand”. There is also a Quranic verse saying that “Indeed Allah will not change the condition of a people until they change what is in themselves. And when Allah intends for a people ill, there is no repelling it. And there is not for them besides Him any patron”. (Ar-Ra'd, verse 11)

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