

AN EXPERIMENT ON SHARIAH-BASED PERSONAL FINANCIAL TRANSACTIONS USING A BUSINESS GAME

Syahidawati Shahwan

Islamic Finance and Wealth Management Institute (IFWMI) and Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia
Email: syahidawati@usim.edu.my

Zurina Shafii

Islamic Finance and Wealth Management Institute (IFWMI) and Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan Malaysia
Email: zurina.shafii@usim.edu.my

Supiah Salleh

Islamic Finance and Wealth Management Institute (IFWMI) and Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan Malaysia
Email: chuyah@usim.edu.my

Norhazlina Ibrahim

Islamic Finance and Wealth Management Institute (IFWMI) and Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia
Email: norhazlina@usim.edu.my

Halizah Md Arif

Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia
Email: halizah@usim.edu.my

Kasumalinda Alwi

Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia
Email: kasuma@usim.edu.my

Safeza Mohd Sopian

Faculty of Economics and Muamalat (FEM), Universiti Sains Islam Malaysia (USIM), Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia
Email: safeza@usim.edu.my

ABSTRACT

The purpose of this study is to conduct an experiment on undergraduate students (the Generation Y) with the fundamental knowledge on fiqh muamalat (Islamic legal study on business transactions). The research examines the impact of experiential learning to the level of knowledge on Shariah contracts embedded in the game by measuring the pre and post score of the students on the features of the contracts. 114 students from business-related programme took part in the study. They answered pre-experiment questionnaire, played the game and eventually answered post-experiment questionnaire. The game referred to as Muamalat Interactive Game (MIG), an innovation that incorporates the concepts and operations for retail products offered by Islamic banks adopted for personal financial management. This game involves the participants (contracting parties) in several muamalat contracts commonly practiced in Islamic banks, such as as ijarah, tawarruq, rahnu, musharakah mutanaqisah, murabahah and other supporting contracts. The players of the game interactively transact among them to acquire assets, manages cash flow, pay tithes on income and wealth and contribute to charity, applying the muamalat contracts mentioned. The study found that the knowledge of the students significantly enhanced, after the experience of playing the game. They are doing better after the game when identifying the main features of the muamalat contracts, the sequence of transactions forming the contracts and the distinguishing the differences among the contracts. The results also revealed that the game experience made it easy for the students to visualise the personal financial management. The results of the experiment revealed the usefulness of using experiential learning for teaching and learning.

Key words: business game, muamalat, Islamic banking, Islamic finance, personal financial planning

Introduction

Questions have been raised around the changing learning preferences and the approaches required to meet the needs of generation Y (also called “millennials”). Generation Y, otherwise known as the millennial generation, refers to individuals born between 1982 and 2005 (Howell et al., 2009). There are many studies conducted and found that their learning process is fundamentally different to previous generations (Mangold, 2007; Carver & Candella, 2008; Purdue & Morgan, 2008). According to these studies, they prefer to work in groups with hands-on experiences and enjoy trial and error. Furthermore, they do not highly value reading and listening to lectures as has been in traditional education. They expect the learning process to be creative, interactive and fun.

Millennials have grown up with technology as a central part of their lives, and most have used the internet and computers throughout their education. Because they have grown up in this environment, millennials may require a more interactive and stimulating approach to learning than a traditional teaching approach could offer. One possible approach to making the classroom more interactive and stimulating for the millennial generation is to use games as a teaching tool, either to replace or as a supplement to the traditional lectures.

Subjects taught in the universities are varies and some of these subjects are considered as difficult subjects since the students are required to visualize them in the real world situation. Most of the time the objective of a business game is to offer students the opportunity to learn by doing in as authentic a management situation as possible and to engage them in a simulated experience of the real world. Even though the games may not offer the similar real world experiences, but in some cases games can shed some lights to understanding if not all but part of the scenario.

The objective of this paper is to empirically test whether the employing a board game can be used as an educational environment for learning in undergraduate business students and improve their understandability in the subject matter.

Literature Review

A board game can be defined as a tabletop game that involves counters or pieces moved or placed on a pre-marked surface or "board", according to a set of rules (Wikipedia). The aim of each game can be varies depending whether it is based pure strategy, chance or a mixture of the two. Games are enjoyable and interactive and learners respond natural to this type of learning dynamic. Playing games can be useful for students as they acquire skills, which may not otherwise be taught. It has been accepted that in spite of the element of chance, business games polishes the players' entrepreneurial skills as they learn to deal with incomplete information, predict rival's strategies and understand human psychology (Johnson, 2013).

There are many theories that can link games and learning. The first theory is motivation theory, and it is recognized that motivation guides human behavior either internally or externally. (Erwin, 2003). Internal motivation comes from within the student or from for example, students who love to write are intrinsically motivated to write - there is something about writing that they enjoy and that makes them want to do it even if there is no "reward" for it.

External motivation comes from sources external to the student for example through praise, recognition, or rewards. For example, for students who do not enjoy writing, a star sticker or praises may prompt them to write more. Basically teachers would love to spark intrinsic motivation rather than extrinsic is because intrinsic can inculcate continuous learning. The number of strategies for promoting intrinsic motivation include arousing interest in the subject matter, maintaining curiosity, using a variety of interesting presentation modes and even using games. Erwin (2003) suggested games as a means to have fun in learning, thus differ from traditional method.

However, the usage of games as learning tools may not be acceptable to all. Some might considered games as not serious and informal ways in teaching students. Nonetheless, previous studies have shown the effectiveness of games as teaching tools for students (Sandford, et al., 2006; Hays, 2005; Hergeth & Jones, 2003). O’Leary (2005) found that a group of medical students that used Jeopardy group (games) reported significantly higher levels of faculty/student interaction, enjoyment of the class format and engagement in class content. These students described this method as a “fun and rewarding” way to conduct a review session. Others have used a commercially available board game in a marketing classroom to improve the students’ skills (Hays, 2005). In each of these different disciplines, the students enjoyed the change in class format and felt that the games enhanced their learning.

In study conducted by Kennedy et al. (2004), found that more than 70% of the students who played the interactive board game felt it helped with their learning to counsel geriatric patients. Whereas in Roche et al. (2004) and Patel (2008), the findings revealed that the students enjoyed the subject and more than 60% felt it enhanced their classroom learning. For the purpose of this study, we propose the following research hypothesis: *Students involved in playing a board game will experience greater levels of understanding in the subject matter.*

Research design

The course

The Fiqh Muamalat course has been in existence at Universiti Sains Islam Malaysia (USIM) since year 2000 and has been taught and offered to all programmes in business faculty. Presently the course is a three-credit, consists of large number of students usually around 400 students but the tutorial is handled in small classes of maximum 30 students. Classes involve didactic lectures, case study and presentations. The objective of the course was to provide students with an opportunity to learn about muamalat contracts commonly practiced in Islamic banks, such as as *ijarah*, *tawarruq*, *rahnu*, *musharakah mutanaqisah*, *murabahah* and other supporting contracts. The purpose of this study is to conduct an experiment on undergraduate students (the Generation Y) with the fundamental knowledge on fiqh muamalat (Islamic legal study on business transactions).

MIG Game (Muamalat Interactive Game)

The game referred to as Muamalat Interactive Game (MIG), an innovation that incorporates the concepts and operations for retail products offered by Islamic banks adopted for personal financial management. This game involves the participants (contracting parties) in several muamalat contracts commonly practiced in Islamic banks, such as as *ijarah, tawarruq, rahnu, musharakah mutanaqisah, murabahah* and other supporting contracts. The players of the game interactively transact among them to acquire assets, manages cash flow, pay tithes on income and wealth and contribute to charity, applying the muamalat contracts mentioned. 1 player should be appointed as a banker out of 7 players. In the game, basic pillars of ‘aqad (in Muamalat rules) is to be observed such as contracting parties; i) Player: Buyer/customer/Share-holder/Lessee/ ii) Banker: Seller/Agent/Share-holder/Lessor. In addition, the players should observe the process of *sighah* – the *aqad* between banker and player should be loudly spoken in front of other players during entering a contract.

Sample

Based on the total number of fourth year students 412, a sample of 114 undergraduate students was selected to participate in the study. These are the students that enroll in Shariah audit and fiqh muamalat subject, which requires them to be well versed in the Islamic banking products. Through playing the board game it is expected for the students to gain knowledge on Islamic banking products and the underlying contracts of the products. The students who participated in the study consist of various undergraduate programmes such as Muamalat administration, accounting, marketing and corporate administrations.

There are four sessions conducted in playing the board game. The students were broken into three groups per session approximately 9 students in each group consists of 1 banker and 8 players. Participation was mandatory and students were not informed of this activity prior to class. However, no prizes were awarded. This game was used throughout the entire class session and was used as a means to teach the Muamalat products in an interactive way.

The questionnaire

This present study employed the utilisation of primary data which was collected via survey questionnaire and it is quantitative in nature. The data collection process was conducted over a period of two weeks. For the purpose of this study, survey questionnaires were distributed to final year students aged between 21 and 22 years old during the game session. The research examines the impact of experiential learning to the level of knowledge on Shariah contracts embedded in the game by measuring the pre and post score of the students on the features of the contracts. Out of 412 students, a sample of 114 students from business-related programmes took part in the study. They answered pre-experiment questionnaire, played the game and eventually answered post-experiment questionnaire. A total of 114 survey questionnaires were received and accepted to be analysed.

Before the games were introduced, the students were asked to complete a pre-test questionnaire. It was explained to them that filling out the questionnaire was mandatory. They were asked to provide their demographic information such as age and gender. The survey questionnaires consisted of questions regarding the student’s level of understanding about the muamalat sales contracts and Islamic banking operations (see Appendix 1). All items were measured by asking respondents questions in the form of a five point Likert scale ranging from ‘1’ strongly disagree, ‘2’ disagree, ‘3’ neutral, ‘4’ agree to ‘5’ strongly agree.

At the end of game session, the students were required to fill in the post test questionnaire. The filling out the questionnaire was also mandatory for the students, to test their understanding on muamalat sales contracts and Islamic banking operations before and after playing the game.

Statistical Analysis

Statistical analysis was performed utilizing the SPSS program. SPSS software version 20 was used to analyse the data. Reliability of the data was measured and the value of Cronbach’s Alpha was 0.79 which above the recommended value of 0.7 (Hair et al., 2010). This shows that the data is reliable and ready to be analyzed in the next stage.

Before using inferential tests, several tests were performed to check data normality. The tests reported that our data did fit the normal distribution. For this reason, the tests used were parametric (the paired sample t-test). The paired sample t-test is used in this study since the objective of the research is to compare the significant difference before and after playing the board game to the same group of students. This test is used to determine whether the mean of the differences between two paired samples differs from 0. The paired t-test calculates the difference within each before-and-after pair of measurements, determines the mean of these changes, and reports whether this mean of the differences is statistically significant.

A paired t-test can be more powerful than a 2-sample t-test because the latter includes additional variation occurring from the independence of the observations. A paired t-test is not subject to this variation because the paired observations are dependent. Also, a paired t-test does not require both samples to have equal variance.

Results and Discussion

Below are the summarized findings on the pre and post questionnaire; before and after the students play the board game. The findings are grouped according to the muamalat sales contracts and Islamic banking operations such as *tawarruq, murabahah, istisna, rahnu, ijarah, aimah, aitam, inah, ujah* and zakat operations. In addition to the descriptive analysis, paired sample t-test was used to analyze the significant differences before and after playing the game. The results are shown as follows:

Table 1: Paired Sample t-Test

Product	Questions	Pre/Post	Mean	Sig. (2 tailed)
---------	-----------	----------	------	-----------------

Tawaruq product	Question 1: Tawaruq Financing is sale and purchase contract	Pre_1	3.8246	.006*
		Post_1	4.1053	
	Question 2 Tawaruq Financing requires customer to buy a commodity.	Pre_2	3.6842	.005*
		Post_2	3.9825	
	Question 3 Tawaruq Financing requires customer to appoint bank to be an agent of his behalf	Pre_3	3.7281	.145
		Post_3	3.8947	
Murabahah product	Question 4 Murabahah Financing requires customer to know the cost price of an asset	Pre_4	3.8421	.629
		Post_4	3.8947	
	Question 5 Murabahah Financing requires bank to buy the asset first.	Pre_5	3.5877	.000*
		Post_5	4.0263	
Istisna' product	Question 6 Istisna' Muwazi is two Istisna' contracts which come after another.	Pre_6	3.2018	.000*
		Post_6	3.5526	
	Question 7 Istisna' Muwazi requires bank to act as developer.	Pre_7	3.2456	.000*
		Post_7	3.6842	
	Question 8 Istisna' Muwazi requires bank to assign another actual developer to develop the property.	Pre_8	3.2368	.000*
		Post_8	3.6491	
AIMAT product	Question 9 AIMAT is a hybrid of Ijarah contract and hibah contract.	Pre_9	3.2719	.248
		Post_9	3.4211	
	Question 10 AIMAT requires customer lease an asset from the bank for certain period	Pre_10	3.6316	.010*
		Post_10	3.8684	
Ar-Rahnu	Question 13 Al-Rahnu is a mean for cash acquisition.	Pre_13	3.5088	.275
		Post_13	3.6404	
	Question 14 Al-Rahnu allows to charge safekeeping of the gold fee known as Wadiah fee.	Pre_14	3.7895	.391
		Post_14	3.8860	
	Question 15 Al-Rahnu allows customer to obtain cash via the concept of Al-Qard.	Pre_15	3.5439	.261
		Post_15	3.6754	
Musyarakah	Question 16 Musyarakah Mutanaqisah is hybrid of Ijarah and sharing contract.	Pre_16	3.5614	.298
		Post_16	3.6754	
	Question 17 Musyarakah Mutanaqisah is hybrid of Ijarah and sharing contract.	Pre_17	3.6053	.176
		Post_17	3.7544	
Islamic credit card: 'inah, tawaruq & ujarah	Question 18 Bay 'Inah Islamic credit card is a contract based on sale and purchase of same item.	Pre_18	3.4912	.027*
		Post_18	3.7281	
	Question 19 Tawaruq Islamic credit card is a contract based on sale and purchase of same item to a broker (3 rd party)	Pre_19	3.4561	.000*
		Post_19	3.8333	
	Question 20 Ujarah Islamic credit card is a contract based on qard and ujarah collected by the bank.	Pre_20	3.4737	.205
		Post_20	3.6053	
Zakat	Question 21 Zakat on gold & algriculture is 2.5% of the current value	Pre_21	3.5439	.051*
		Post_21	3.7895	
	Question 22 Zakat on income is 2.5% of the total amout	Pre_22	3.9298	.942
		Post_22	3.9211	
Diff. AIMAT & AITAB	Question 11 AITAB is a hybrid of Ijarah contract and sale contract.	Pre_11	3.8070	.353
		Post_11	3.9035	
	Question 12	Pre_12	4.0474	.438

	AIMAT and AITAB differ in the end of product transfer.	Post_12	3.7632	
--	--	---------	--------	--

Based on the table 1 above, out of 22 questions, 10 questions are significant in terms of understanding the knowledge of muamalat sales contracts and Islamic banking operations before and after playing the board games. The students were asked on the concept of tawaruq product before playing the board game such as ‘*Tawarruq Financing is sale and purchase contract*’. The mean score before playing the game is 3.84. After playing the board game the mean score increase to 4.1053 and the result is significant with the p value <0.05. This shows that there is a statistically significant improvement of understanding on tawaruq concept after playing the board game. Students are also aware that ‘*Tawarruq Financing requires customer to buy a commodity*’ based on the significant value of the mean. However, **Question 3** in the questionnaire ‘*Tawarruq Financing requires customer to appoint bank to be an agent of his behalf*’ score the mean value of 3.7281 and 3.8947 before and after playing the board game. There is no significant difference in the mean score since most of the students aware on the basic concept of *tawarruq* that requires bank to be the agent of the customer in the contract. The results of no statistically significant differences between pre and post are expected since Question 3 is a basic knowledge for these students.

Question 4 and 5 highlight on murabahah product. Question 5 ‘*Murabahah Financing requires bank to buy the asset first*’ shows there is significant difference in mean value, which is 3.5877 before and 4.0263 after playing the game. The students manage to understand well in the underlying contract that in *murabahah* financing, bank should buy the asset first.

Next, the questions highlights on *Istisna’ Muawazi* product whereby there is a significant differences in all questions related to *Istisna’*. The students are able to understand the basic pillars in *Istisna Muawazi* that is i) it is two *Istisna’* contracts which come after another, ii) it requires bank to act as developer and iii) it requires bank to assign another actual developer to develop the property. The mean value for *Istisna Muawazi’* before and after playing the game are i) 3.2018 & 3.5526 ii) 3.2456 & 3.6842 and iii) 3.2368 & 3.6491. Thus, it shows that the students manage to develop the understanding of *Istisna’ Muawazi* instantly through the board game. This finding is rather interesting because based on the lecturers’ past experience, the concept of *Istisna’ Muawazi* is quite difficult to be grasped by the students, but using games, they are able to understand the contract.

In terms of Aimat product, out of 2 questions related, only 1 question shows the significant difference in the mean score with the p-value 0.010. Most of the students were not sure that Aimat is a hybrid *ijarah* and *hibah* contract. However, suprisingly after playing the board game the students know that Aimat product requires customer lease an asset from the bank for certain period.

There are 3 questions related to Ar-Rahnu product. Since the term of Ar-Rahnu is general in nature, there are no significant differences before and after playing the board game. This can be seen through the mean score for each question ‘*Al-Rahnu is a mean for cash acquisition*’ the mean value before is 3.5088 and after 3.6404. For the next question ‘*Al-Rahnu allow to charge safekeeping of the gold fee known as Wadiah fee*’ the mean value before is 3.7895 after 3.8860. This shows that the students are aware on the operation of Ar-Rahnu since the mean score is approaching to agree on the statement. Next statement discussed on ‘*Al-Rahnu allows customer to obtain cash via the concept of Al-Qard*’. Even though there is no significant difference on the analysis, the mean score before playing the game is 3.5439 and after playing the game is 3.6754, there is still an increase in the mean value which shows the difference before and after playing the game.

In terms of knowledge in Islamic credit card, the level of student’s understanding increase after playing the board game based on the statement ‘*Bay Inah Islamic credit card is a contract based on sale and purchase of same item*’. The mean score before are 3.4912 and after are 3.7281 which shows significant difference at p-value<0.05. The next statement on Islamic credit card is ‘*Tawaruq Islamic credit card is a contract based on sale and purchase of same item to a broker (3rd party)*’ also shows a significance difference with a p-value of 0.000. The increase of awareness in Islamic credit card product, shows that the students gain better understanding on the real application of Islamic credit card through the board game.

In terms of knowledge on zakat, zakat on gold and agriculture is 2.5% of the current value. Based on this statement, there is significant difference in the mean value before and after playing the board game with the p-value of 0.051. However, the statement zakat on income is 2.5% of the total income shows no differences since the score is the same before and after playing the board game with a mean value of 3.9. It is assume that zakat on income is a general knowledge that the students already knew since the mean value is approaching to scale ‘agree’ at 4.0.

Based on the result above it is empirically support that there is a significant findings before and after the students playing the board game on the application of Muamalat products. At current, MIG is the first board game in the world that emphasizes on Muamalat application. It is an initiative of this research to instill awareness and understanding of the Muamalat application among students and end user of Islamic banking products. It is believed that through playing the board game, it triggers the subconscious mind of the players in a fun and interactive way.

Being the market leader in the first Muamalat-based board game, this research provides alternative in the educational tools of Muamalat understanding and application. It also makes Muamalat learning process interesting, interactive and easy. In the near future, the coverage of the game is not only for retail products but also for other ranges of Islamic banking and financial activities like corporate financing, capital market and takaful.

Conclusion

The data obtained from our questionnaire indicated that the use of games in the large classroom setting may be an effective way to increase the understanding the complexity of the subjects taught in the undergraduate students. The objective of this paper is to empirically test whether the employment of a board game could be used as an educational tool for learning in undergraduate business students and improve their understandability in the subject matter. It can be concluded that this research paper achieves its objective. There is a significant finding that the result of the students in understanding the application of the product before and after playing the game. Therefore, future studies should analyze the use of games in a required course and utilize an objective measure, such as an improvement in exam scores, to see if this data supports the students' attitudes.

References

- Carver, L. & Candella L. (2008). Attaining organization commitment across different generations of nurses. *J Nurs Manag.*16, 984–991.
- Erwin, J. C. (2003). Giving students what they need. *Educational Leadership*, 61(1), 19-23.
- Grady, S. E., Vest, K. M. & Todd, T. J. (2013). Student attitudes toward the use of games to promote learning in the large classroom setting. *Currents in Pharmacy Teaching and Learning*. 5, 263–268.
- Hair, J.F, Black, W.C., Babin, B.J. & Anderson, R.E. (2010). *Multivariate Data Analysis*. 7th Edition. Eaglewood Cliffs, NJ: Prentice Hall.
- Hays, R. T. (2005). The effectiveness of instructional games: A literature review and discussion. Naval Air Warfare Center Training Systems Division.
- Hergeth, H. H., & Jones, M. R. (2003). Board games and teaching textile marketing and finance. *Developments in Business Simulation and Experiential Learning*, 30, 126-130.
- Howell LP, Joad JP, Callahan E, Servis G, Bonham AC. (2009). Generational forecasting in academic medicine: a unique method of planning for success in the next two decades. *Acad Med*. 84, 985–993.
- Johnson, L. (2013). Games we play make us better at work, financial times. Retrieved from <http://www.ft.com/intl/cms/s/0/5f7fdf7e-13cf-11e3-b0b4>
- Kennedy DH, Fanning KD, Thornton PL. The age game: an interactive tool to supplement course material in a geriatrics elective. *Am J Pharm Educ*. 2004;68(5): Article 115.
- Khan, A. and Pearce, G. (2015). A study into the effects of a board game on flow in undergraduate business students. *The International Journal of Management Education*, 13 (3), 193-201.
- Mangold K. (2007) Educating a new generation: teaching baby boomer faculty about millennial students. *Nurse Educ*. 32, 21–23.
- O’Leary S, Diepenhorst L, Churley-Strom R, Magrane D. (2005). Educational games in an obstetrics and gynecology core curriculum. *Am J Obstet Gynecol*. 193(5), 1848–1851.
- Pardue, K. T., & Morgan, P. (2008). Millennials considered: a new generation, new approaches, and implications for nursing education. *Nursing Education Perspectives*, 29(2), 74-79.
- Patel J. Using game format in small group classes for pharmacotherapeutics case studies. *Am J Pharm Educ*. 2008;72(1): Article 21.
- Roche VF, Alsharif NZ, Ogunbadeniyi AM. Reinforcing the relevance of chemistry to the practice of pharmacy through the Who Wants to Be a Med Chem Millionaire? learning game. *Am J Pharm Educ*. 2004;68(5): Article 116.
- Sandford, R., Ulicsak, M., Facer, K., & Rudd, T. (2006). Teaching with Games: Using Commercial Off-the-shelf Computer Games in Formal Education. <https://www.nfer.ac.uk/publications/FUTL49/FUTL49.pdf>.