EFFECTIVENESS OF FACEBOOK BASED LEARNING TO ENHANCE CREATIVITY AMONG ISLAMIC STUDIES STUDENTS BY EMPLOYING ISMAN INSTRUCTIONAL DESIGN MODEL

Norlidah Alias, Saedah Siraj, Mohd Khairul Azman Md Daud & Zaharah Hussin
Faculty of Education
University of Malaya
Kuala Lumpur, 50603 Malaysia
drnorlidah@um.edu.my, saedah@um.edu.my, azman@um.edu.my & zaharah@um.edu.my

ABSTRACT
The study examines the effectiveness of Facebook based learning to enhance creativity among Islamic Studies students in the secondary educational setting in Malaysia. It describes the design process by employing the Isman Instructional Design Model. A quantitative study was carried out using experimental method and background survey. The instruments used were questionnaire and creativity test form for student's creativity measurement. The treatment group consists of 40 participants randomly selected among students, while the control group of 40 participants was drawn from existing classes. This study was conducted over 14 weeks. Statistical analysis in the form *t*-test was used to compare the dependent variables between the two groups. The findings show that the difference in mean score between pre-test and post-test for the treatment group was 27.50 while the mean score difference between treatment and control groups to the post test of: i) creativity in writing is 4.90; ii) creativity in problem solving is 5.68, and iii) creativity in creating a missionary motto is 4.93. One way ANOVA analysis of the treatment group showed significant differences in student achievement based on creativity indicators. The findings from this study suggest that the Isman Instructional Design Model which pays attention to instruction from the learner perspective than from content perspective is suitable in designing and developing Facebook based learning to enhance creativity among Islamic Studies students in the secondary educational setting in Malaysia. The findings of this study are expected to provide insights in promoting Facebook based learning.
Keywords: Facebook Based Learning; Islamic Studies; Creativity; Isman Instructional Design Model.

INTRODUCTION

Facebook has become one of the most prominent social network platforms among students and has potential for teaching and learning because of its unique built-in functions which offer pedagogical, social and technological affordances (Cam & Isbulan, 2012; Hew & Cheung, 2012; Munoz & Towner, 2009; Selami Aydin, 2012; Wang, Woo, Quek, Yang, & Liu, 2012). The reviewed studies by Selami Aydin (2012) had categorized Facebook research into six sections: (1) Facebook users, (2) reasons people use Facebook, (3) harmful effects of Facebook, (4) Facebook as an educational environment, (5) Facebook effects on culture and language, and (6) the relationship between Facebook and subject variables. The potential of Facebook for teaching and learning has been proved through using its group as a Learning Management System (Wang et al., 2012) and Facebook based learning (Bugeja, 2006; Mohamad & Mohamad Shariff, 2011). In contrast, findings from 83 Singapore students show that they used Facebook primarily for non-educational purposes (Hew & Cheung, 2012) The conclusions overall suggest that Facebook thus far has very little educational use, that students use Facebook mainly to keep in touch with known individuals, and that students tend to disclose more personal information about themselves on Facebook; hence attracting potential privacy risks (Hew, 2011; Wodzicki, Schwammlein, & Moskaliuk, 2012) and Facebook has potential to become an addiction among trainee teachers (Cam & Isbulan, 2012).

The same scenario operates in Malaysia as the students have become engaged with Facebook. The website www.socialbakers.com reports that Malaysia has the highest usage of Facebook after the Phillipines and Indonesia in South East Asia when its usage reached 11 million people. Teenagers aged between 18 and 24 years old are the largest users of Facebook, while students aged between 13 until 17 are stated as 21% of the overall population. This may show that the level of usage and exposure of Facebook towards students is still low whereas it has potential to benefit them especilly in overcoming low learning motivation (Mazman & Usluel, 2010). Facebook facilitates communication between teachers and students. In one study, Reid (2011) explored what happens to interpersonal and power dynamics when tutors use closed-group Facebook pages as a social networking tool in their tutorial groups with first and second year Bachelor of Education (BEd) students at the Wits School of Education (WSoE). The study argues that this literacy practice creates an alternative pedagogical space that enables critical practices in relation to writing. Next, findings from Shih (2011) suggest that incorporating peer assessment using Facebook in learning English writing can be interesting and effective for college-level English writing classes. Students can improve their English writing skills and knowledge not only from the in-class instruction but also from cooperative learning. In addition, this Facebook integrated instruction can significantly enhance students' interest and motivation. However until now not much research has

specifically focused on the various uses of Facebook within educational contexts and this potential has not been sufficiently explored (Ryan, Magro, & Sharp, 2011; Selami Aydin, 2012). In addition, none of the research has described the design process of Facebook based learning.

Although learning through Facebook contradicts current pedagogical practice, some researchers believe that this social network encourages idea exchange among students, provides non formal and non structured learning, may increase student interest in learning and is able to generate critical thinking among students which is one of the traditional objectives in learning (Bugeja, 2006). In another study, Mohamad and Mohamad Shariff (2011) had shown that Facebook based learning has increased students' motivation and understanding based on gender and stream regardless of science or social science stream. In another study, Reyes (2010) used Youtube and Facebook in an effort to develop students' creativity. According to him, Facebook has potential to provide student centered learning and task based environment that enables theory discussion and course content. In addition, Ala-Mutka, Punie, and Redecker (2008) also agreed that social networks such MySpace, Facebook and SecondLife have potential to increase learning outcome and provide new potential to generate creativity among students. Moreover, Mihai, Stanciu, and Alaca (2011) conducted research aimed at analyzing the impact of social networks on educational process in Romanian higher education. Their survey revealed that social networking sites have become very popular among students and could be considered as valuable potential for education.

Reseachers have suggested that learning environment should be creative (Mohammad Yusof & Siti Hajar, 2011; Shallcross, 1981), be more student-focused (Cropley, 2001) besides using social networks (Ala-Mutka et al., 2008). However, there has been a serious lack of research on Facebook as an educational resource and how Facebook could be more efficiently used as an educational environment remains unanswered (Selami Aydin, 2012). Notably, not much literature on Facebook has explored its potential to enhance creativity among students especially in Islamic Studies. Hence, this study was aimed at examining the effectiveness of Facebook in enhancing creativity among Islamic Studies students in the secondary educational setting in Malaysia using experimental method and background survey. This study also describes the design process by employing the Isman instructional design model.

The Aim of Research

The aim of this research is to examine the effectiveness of Facebook based learning to enhance creativity among Islamic Studies students in the secondary educational setting in Malaysia. This study also describes the design process by employing the Isman instructional design model. In order to achieve this aim, the researcher set two research objectives. The first objective is to test the effectiveness of the Facebook based learning to enhance creativity among Islamic Studies students in the secondary educational setting in Malaysia by pre/posttest design. The second objective is to describe the design and development of Facebook based learning by employing the Isman instructional design model. Three dependent variables in this study are creativity level in writing, creativity level in problem solving and creativity level in producing missionary motto. This study seeks to investigate the following null hypotheses:

- H_1 : There is no significant difference for creativity in writing between the treatment group which uses Facebok based learning and the control group.
- H_2 : There is no significant difference for creativity in problem solving between the treatment group which uses Facebok based learning and the control group.
- H_3 : There is no significant difference for creativity in producing missionary motto between the treatment group which uses Facebok based learning and the control group.
- H_4 : There is no significant difference in student achievement after treatment given based on creativity indicator.

Significance of the Study

The results of the study can be used by educators to determine the effects of the Isman model in the design and development of a Facebook based learning to enhance creativity among Islamic Studies students in the secondary educational setting in Malaysia.

Scope and Limitations

In this study, a control group of 40 students at two urban secondary schools in the state of Selangor was randomly selected as the population reflected the proportion of the Muslim communities in Malaysia, while the control group of 40 students was drawn from an existing class of varying academic achievement. This study was conducted over 14 weeks. The treatment group learned Islamic Studies through Facebook based learning to

enhance creativity while the control group learned Islamic Studies using traditional classroom texts. In this research creativity level is only focused on writing, problem solving and producing missionary motto.

Instruments

Two instruments were used in this study: First is questionnaire for identifying students' achievement. The survey instrument used was validated by three Islamic Studies teachers while the language was validated by two language teachers with more than 10 years' working experience. The instruments were administered to 40 Form Four Islamic Studies students in the same district as this research. The instrument has a Cronbach alpha reliability score of .72. The second instrument is the Creativity test form used for pretest and posttest of students' creativity measurement. The test form was constructed through adapting and adopting the Torrance Tests of Creative Thinking (TTCT) verbal and figural version (Torrance, 1974). The TTCT verbal version emphasizes thinking creativity with words, while the TTCT figural version emphasizes thinking creatively with pictures. This test was designed to analyze students' creativity in Islamic Studies. The test consists of three questions such as: (a) Creativity in Writing; (b) Creativity in problem solving, and (c) Creativity in producing missionary motto. The questions posted focused on things that can cancel faith in Islam. The topic is included in the Form Four Islamic Studies secondary school curriculum specification provided by the Malaysia Ministry of Education. The content of the test was validated by three Islamic Studies teachers while the language was validated by two language teachers with more than 10 years' working experience.

The teaching and learning of the treatment group is done through social network application provided in Facebook such as wall, private message, chat box, note as well as other application such as drama and film editing, TV documentary, religious discussion program uploaded in the YouTube format. Through the social network application of Facebook, the teacher delivers the content of the topic that can cancel faith in Islam. The students are given the choice to follow the lesson anywhere and any time they wish. The students may ask questions, give opinion and interact among friends.

Theoretical Framework

Employing Isman Instructional Design Model in the Development of Physics Module based on learning Style and Appropriate Technology

The major goal of the Isman instructional design model is to explain up how to plan, develop, implement, evaluate and organize full learning activities effectively to ensure competent performance by students (Isman, 2011). The theoretical foundation of the new model comes from behaviorism, cognitism and constructivism views. Firstly, Isman (2011) used the relationship between stimulus and response, the reinforcement factor and designing environmental condition in behaviorism theory to motivate more in this model. Secondly, motivation, intellectual learning process, experiences and contents in Cognitive theory are used in this model to motivate students to learn more in this model. This model is interested in how to store the information into long term memory, hence instructional activities are designed in this model. The Isman model also uses constructivism which pays attention to personal applications.

The Isman model was implemented on 100 graduate students at the faculty of education at Eastern Mediterranean University in North Cyprus to analyze the effects of the model on academic achievement (Isman, 2005). The findings of the research indicate that the Isman model was implemented successfully in instructional activities in the experimental group and affected academic achievement and so, it may be said that this model could be implemented to design instruction. In addition, the Isman instructional model was employed in the design and development of a Physics module based on learning style and appropriate technology in the secondary school setting in Malaysia (Norlidah Alias & Saedah Siraj, in press).

Findings from evaluation of the module conducted among 120 participants involving 30 participants of each learning style (visual/verbal, active/reflective) suggested that the module is effective for visual, active, reflective and not for verbal learners. The researchers also compared the module effectiveness according to gender. The verbal and reflective modules were effective for female learners and not for male learners. The findings from this study suggest that the Isman instructional design model which pays attention to instruction from the learner perspective than from content perspective is suitable in designing and developing a Physics module based on learning style and appropriate technology in the secondary educational setting in Malaysia. Hence, the researchers aim to examine the effectiveness of Facebook based learning to enhance creativity among Islamic Studies students in the Malaysian secondary educational setting by employing the Isman model too. The Isman instructional design model involves a five-step systematic planning process. These are input, process, output, feedback and learning as shown in Figure 1.

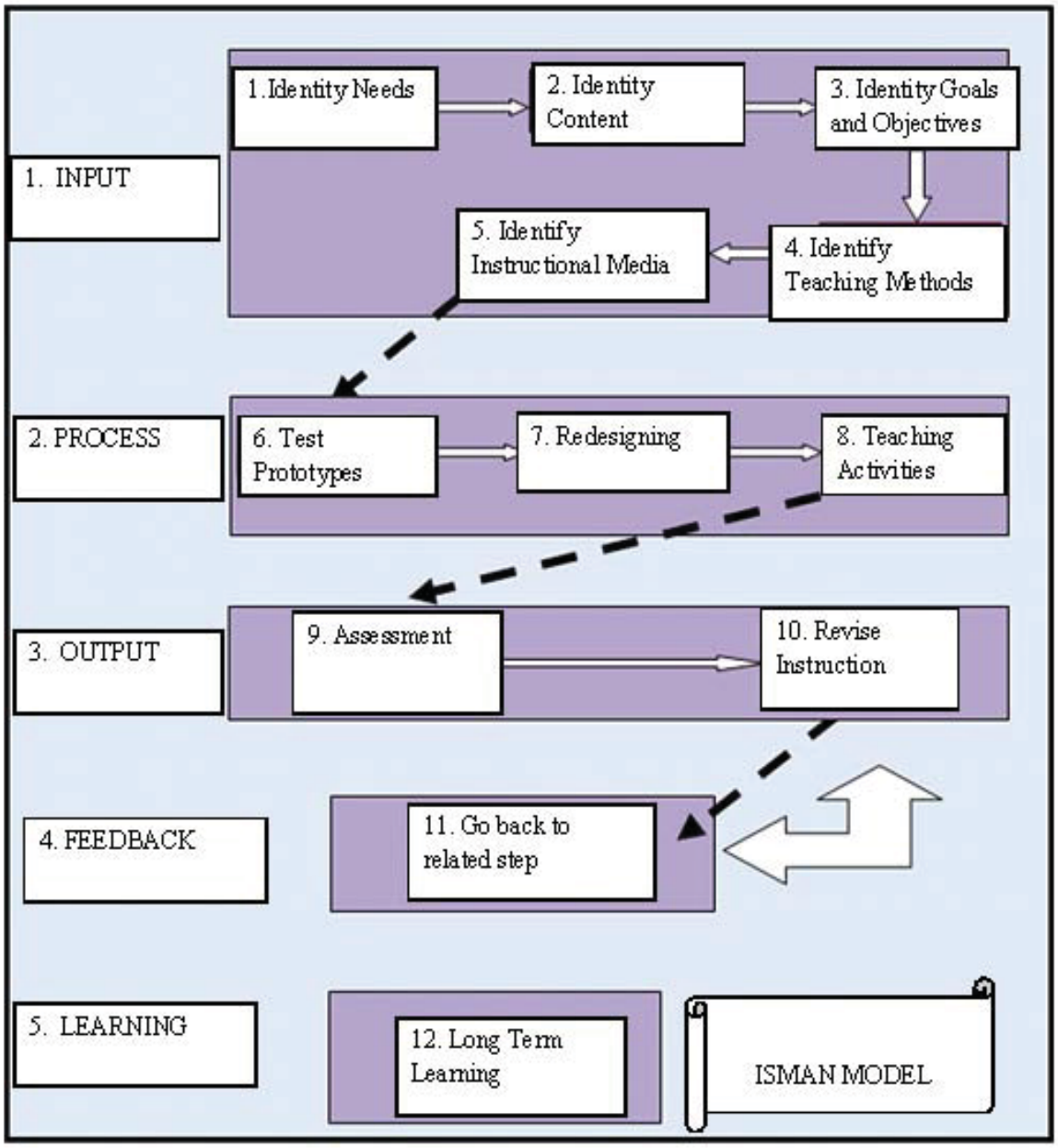

Figure 1: Isman Instructional Design Model (Isman, 2011, p.139)

The researchers aimed to test the effectiveness of the Isman model in developing an Islamic Education module based on Facebook and creativity in the Malaysian secondary educational setting as shown in Table 1.

Table 1: Use of Isman model to design and develop Facebook based learning to enhance creativity among Islamic Studies students.

Steps	Work log	Descriptions
Step 1 Input	Identify needs Identify contents Identify goals-objectives Identify teaching methods Identify evaluation materials Identify instructional media	Designing Facebook based learning to enhance creativity among Islamic Studies Students.
Stage 2 Process	Testing prototypes Redesigning of Instruction Teaching activities	Using expert panel to redesign the Facebook based learning to enhance creativity among Islamic Studies students produced.
Stage 3 Output	Testing Analyze Results	Implementing the Facebook based learning to enhance creativity with teacher and students.
Stage 4 Feedback	Revise Instruction	Revise the comments given by students and teacher.
Stage 5 Learning	Learning	Pre/posttest was conducted to test the effectiveness of the Facebook based learning to enhance creativity among Islamic Studies students.

RESULTS

The results of the pretest shows that average creativity level score for the treatment group and control group are 19.84 and 21.16. The independent sample *t*-test was performed to trace if there exists any differences in creativity level between the two groups before treatment. The results show that there is no significant difference between the treatment group and control group. This shows that the initial creativity level for both groups is the same. After the treatment, data from the posttest were analyzed by comparing mean achievement score between the treatment group and control group.

Effectiveness of the Facebook based learning to enhance creativity among Islamic Studies students which was developed by employing the Isman model was analyzed across creativity level in writing, problem solving and producing missionary motto. A *t*-test was performed to determine if there were significant differences between the treatment group and the control group. Findings from the experiment conducted among 40 participants in the treatment group and 40 participants in the control group suggest that Facebook based learning has enhanced creativity level in writing, problem solving and producing missionary motto. Table 2 to Table 4 shows the results of *t*-test comparison of pre/posttest towards across creativity level in writing, problem solving and producing missionary motto.

Next, we also compared the students' achievement based on creativity indicator by using one way ANOVA. Findings on the difference in mean score of the achievement test based on creativity indicator shows there are significant differences in student achievement after the treatment given. Table 5 shows the results of ANOVA on the students' achievement based on creativity indicator.

Effectiveness of the Facebook based learning to enhance creativity among Islamic Studies students developed by employing the Isman model

Findings from experiment conducted among 40 participants in the treatment group and 40 participants in the control group suggest that the Facebook based learning is effective in enhancing creativity in Islamic Studies students in writing, problem solving and producing missionary motto.

Table 2: *t* -Test Comparison of Achievement Between Treatment and Control Group For Creativity In Writing

Group	n	Min	Standard Deviation (*SD*)	*t*	Significance Value (two-tailed)
Treatment	40	34.15	9.78	2.29	.025
Control	40	29.25	9.37		

Table 2 shows that achievement mean score for the control group (n = 40) is 29.25 (*SD* = 9.37), while that of the treatment group (n = 40) indicates higher achievement, at 34.15 (*SD* = 9.78). The difference in mean score

between the treatment and control groups is 4.90. This indicates that Facebook based learning was able to increase achievement towards creativity in writing in the treatment group compared to the control group. Hence, the treatment group has significantly achieved higher inference score than the control group with value $t(78)=2.29$, $p < .05$. The finding shows that the null hypotesis (H_1) is rejected. Therefore there is a significant difference in creativity in writing between the treatment group that uses Facebook based learning and the control group.

Table 3: *t* –Test Comparison of Achievement between Treatment and Control Group For Creativity In Problem Solving

Group	n	Min	Standard Deviation (SD)	*t*	Significance Value (two-tailed)
Treatment	40	25.15	12.03	2.10	.039
Control	40	19.48	12.13		

Table 3 shows that the post test achievement mean score for creativity in problem solving for the control group (n = 40) is 19.48 (*SD* = 12.13), while treatment group (n = 40) indicates higher achievement i.e 25.15 (*SD* = 12.03). The difference in mean score between the treatment and control groups is 5.68. This indicates that Facebook based learning is able to increase achievement for creativity in problem solving compared to achievement by the control group. Hence, the treatment group has significantly achieved higher inference score than the control group with value $t(78) = 2.10$, $p < .05$. The finding shows that the null hypotesis (H_2) is rejected. Therefore there is a significant difference in creativity in problem solving between the treatment group that uses Facebook based learning and the control group.

Table 4: *t* –Test Comparison of Achievement between Treatment and Control Group For Creativity In Producing Missionary Motto

Group	n	Min	Standard Deviation (SD)	*t*	Significance Value (two-tailed)
Treatment	40	25.98	8.39	2.19	.032
Control	40	21.05	11.52		

Table 4 shows that post test achievement mean score for creativity in producing missionary motto for the control group (n = 40) is 21.05 (*SD* = 11.52), while that for the treatment group (n = 40) indicates higher achievement i.e 25.98 (*SD* = 8.39). The difference in mean score between the treatment and control groups is 4.93. This indicates that Facebook based learning is able to increase achievement towards creativity in producing missionary motto compared to achievement by the control group. Hence, the treatment group has significantly achieved higher inference score than the control group with value $t(78) = 2.19$, $p < .05$. The finding shows that the null hypotesis (H_3) is rejected. Therefore there is a significant difference in creativity in producing missionary motto between the treatment group that uses Facebook based learning as compared to the control group.

Students Achievement Based on Creativity Indicator

Findings on the difference in mean score of the achievement test based on creativity indicator show there is significant difference in student achievement after the treatment given.

Table 5: One way ANOVA Achievement Test Marks Treatment Group Based on Creativity Indicator

	df	Mean Square	*F*	Sig.
Between Groups	3	78.32	3.36	.02
Within Group	156	23.31		
Total	159			

One way ANOVA was used to investigate the null hyphothesis (H_4). Table 5 indicates that there is significant difference in students' achievement based on creativity indicator after treatment through Facebook based learning. This is clearly being shown when the mean between group for post test is 78.32 and the mean within group is 23.31 with test $F(3,156) = 3.36$, $p < .05$. Therefore, there is significant difference in students' achievement in the treatment group post test based on creativity indicator. Hence the null hypotesis (H_4) is rejected.

IMPLICATION AND CONCLUSIONS

This paper has examined the effectiveness of Facebook based learning in enhancing creativity among Islamic Studies students in the Malaysian secondary educational setting. In addition, this paper also described an effort to design and develop a Facebook based learning to enhance creativity among Islamic Studies students by employing the Isman instructional design model. It was found that all the first three null hypotheses were rejected because there were significant differences in achievement between the Facebook based learning treatment group and the control group. ANOVA analysis of the treatment group also showed that there were significant differences in student achievement based on creativity indicators. Therefore, Facebook based learning was effective in fostering creativity among Islamic Studies students in the Malaysian secondary educational setting. It indicates that the Isman instructional model was implemented successfully in the design and development of the Facebook based learning in the Malaysian secondary educational setting. The outcome of this study will hopefully enhance the process of teaching and learning using Facebook and enhance creativity among students.

ACKNOWLEDGEMENT

Funding of this research work was generously supported by grants from the University of Malaya, Malaysia.

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