The Effect of Gamified Program Strategy on the Learners' Motivation

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Abstract

This study was an attempt to shed light on the Impacts of Gamified Program Strategy on Learner Motivational Learning Customs. The data for the present research were collected from a questionnaire whose validity had been tested. Then, the data were analyzed in version 19 SPSS applying appropriate statistical tests and according to the research hypotheses. The participants of the study were 50 female accounting students studying at the third semester in Alzahra University of Tehran, Iran. They were selected based on the results of a Nelson language proficiency test. Based on the results of the Nelson language proficiency test (Version 300), the learners whose scores lied in the range of the mean ± standard deviation of scores were selected for the main study. Then, they were randomly divided into two control and experimental groups with equal number of participants (i.e. 25 in each group). Based on this research's procedure, the library method and the questionnaire tool designed by researcher were chosen. The main text used for both experimental group and the control group was in a book by the name of "English for the Students of Accounting". To investigate the effects of Gamified Program Strategy on Learner Motivational Learning Customs, the game Connect Four was used as a tool for teaching English in the experimental group. At the end of the study, the data obtained from the questionnaire designed by the researcher, and then, distributed among the students is used. Statistical T-test was used to analyze the research data. The results suggested that there was a significant difference among the training types of the gamification programs in the control and experimental groups in motivation.

Keywords: Gamified Program Strategy, Motivation

INTRODUCTION

The use of multimedia in education has changed different learning processes, producing a meaningful learning. Previous studies show that game-based learning has had an

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important role in increasing the level of learning and motivation, along with promoting imagination in learners (e.g. Pillay, 2002; Prensky, 2004). In the field of foreign/second language (L2) learning, motivation has long been recognized as one of the key factors that determine L2 achievement and attainment. Motivation serves as the initial engine to generate learning and later functions as an ongoing driving force that helps sustain the long and usually laborious journey of acquiring a foreign language. The term "gamification" is generally used to denote the application of game mechanisms in non-gaming environments with the aim of enhancing the processes enacted and the experience of those involved. This study sought to examine the effects of a Gamified Program Strategy on student learning habits including motivation. Despite a rise in game-based mechanics, there is little research to validate its effectiveness, especially in subject areas beyond math and science (Van Eck, 2006).While there is considerable anecdotal evidence for the inclusion of such methods, there have been few studies specifically designed to prove if the program is successful (Chee & Wang, 2013). The guiding problem statement was "What effect does the use of a Gamified Program Strategy in a high school English classroom have on student motivation and learning habits?

In recent decays, the concept of gamification has become a catchword through different fields of training and education. It is able to influence the process of learning. The purpose of the current research is clarifying all the aspects of gamification and related effects on the education and training. This study should help gain insights into the students' attitudes towards incorporating technology into the course. If they agree with the contribution of technology in language learning courses, more online tools can be integrated into these courses. Furthermore, if students share the same positive views towards the effectiveness of using games in teaching, then it may show that gamification can improve students' learning across disciplines as the participants are from different courses. This research made an attempt to investigate the effects of Gamified Program Strategy on Learner Motivational Learning Customs.

Research Question and Null Hypothesis

- Does the gamified program have any significant effect on EFL learners' motivation?
- Gamified Programs have no significant effect on EFL learners' motivation.

REVIEW OF LITERATURE

According to Dornyei (1994), the motivational components as described through Gardner's model are "grounded in social milieu rather than in foreign classroom". Thus, Dornyei (1994) presented a comprehensive construct on motivation which illustrates the concept of motivation within a classroom context. Through his view, motivation is regarded as a framework which composed of three levels which are the language level, the learner level, and the learning situation level. The focus of language level is on motives and orientations related to second described through instrumental and integrative motivation of the learner language learning which revolve around the

culture it relates to, the community in which it is spoken, the benefits of being proficient in it, and also the motivational dimensions.

Oxford and Shearin (1994) in Hussin, Maarof, and D'Cruz (2001), had also identified six factors that affect motivation in language learning based on their analysis of 12 motivational theories or models which are learners' attitudes, beliefs about self, learning goals, involvement in the language learning process, and learners' personal attributes such as aptitude and age.

Research on the gamification of foreign language learning is also very limited (Perry 2015). Gaming mechanisms have potential language learning benefits, for example, frequent and individualized feedback, emphasis on social learning and an increased motivational aspect, especially for learners who enjoy competing (Zourou & Lamy 2013). In Reinders and Wattana's (2012) study, learners played a modified version of an online video game to practise English. Students reported becoming more willing to communicate in L2 when playing the game because they felt that it reduced their anxiety and embarrassment. Almost half of the students claimed that their English communication skills had improved (Reinders & Wattana 2012). It would be interesting to see if similar findings would be obtained in studies on the use of gamification.

Gamification has been shown to engage and motivate learners when used properly in the classrooms (Hammer & Lee, 2011). There are many reasons that accompany the use of games in ESL classroom mainly due to the numerous advantages. Deesri (2002) for example, described games as able to attract learners' attention, lower their stress level, and provide opportunity for real communication. Apart from these benefits of games toward second language learning, games are commonly known as motivating (Chen, 2005). Among the reasons why games are able to motivate learners especially in the ESL classroom are as follow:

METHOD

Participants

The participants of the study were 50 female accounting students studying at the third semester in Alzahra University Tehran, Iran. They were selected based on the results of the Nelson Language Proficiency test, as a language proficiency test out of a total number of 70 students. 70 participants took The Nelson language proficiency test (Version 300) test as their homogeneity-test, prior to the experiment.

Instruments

The Nelson language proficiency test (Version 300)

The Nelson language proficiency test (Version 300) was used as a language proficiency test to homogenize students. This test consisted of reading, grammar, vocabulary, and pronunciation sections.

The Book: English for the Students of Accounting

The book entitled "English for the students of accounting" was used for this study. This book is written by Davoud Aghvami (1996). Samt publication published this book.

The Game: Connect Four

The game Connect Four was used as the treatment. Initially connect Four Games had produced with "match necessary vocabulary of accounting with their meaning". Connect Four is a tic-tac-toe like game in which two players drop discs into a 7x6 board. The first player to get four in a row (vertically, horizontally, or diagonally) wins. The game was first known as "The Captain's Mistress", but was released in its current form by Milton Bradley in 1974.

The questionnaire

In order to measure the motivation of student to learn English and use Games, a questionnaire designed by the researcher was applied. It consisted of 12 statements and was based on Likert scale.

Procedure

Seventy female EFL learners at Alzahra university received the test and according to the results of the test 50 learners whose scores fell within one standard deviation below and above the mean were selected to shape the two control and experimental groups for the purpose of the study. The learners in both groups received the same materials and underwent the same time of the teaching for each session of the classroom except for the students in the experimental group who worked with Connect Four each and every session of the classroom. The experimental group learned with Connect Four. In this research, a connect four game was developed to teach vocabulary of accounting. First, some vocabularies were selected. Then vocabularies were put on the grid. Students were put in pairs. Each person needed a different color of chips or cubes. The first person points to a square and acts it out (so for fever, fan yourself and touch forehead). They could also translate or put pictures instead of words so they say it in the target language. Their partner checks them. If they are correct, they put their cube. If wrong, their turn is up. This adds a new competitive edge to the game.

The instruction consisted of 24 sessions spread out over twelve weeks. Each class session was 90 minutes are held two times a week. The participants in both groups were taught by the same instructor. After gathering and tabulating the data, data of two groups' answers to the questionnaire were gathered from control group and experimental group. The statements in the questionnaire measured the motivation of students in using game.

Design

The design of the study was quasi-experimental as there were pre-test, treatment, and post-test. The Gamified Program was considered as the dependent and learners' motivation as independent variables.

RESULTS

As it is observed in table 1, the amounts of mean and median and standard deviation of both groups could be observed in a two-step test. The mean of the obtained scores in the posttest has been increased as compared to the pretest and this increase was observed more in the experimental group than in the control group. The maximum amount of standard deviation is also in posttest of the control group. Also the maximum amount of median is in the posttest of the experimental group.

Table 1. Statistical Indicators of the Learning Opportunities

Indicators	Group	Type of the test	Amount
Mean	Control	No test	2,73
	Experimental	Pretest	2,92
		Posttest	10,38
Median	Control	No test	3,00
	Experimental	Pretest	3,00
		Posttest	11,00
Standard deviation	Control	No test	0,874
	Experimental	Pretest	0,759
		Posttest	2,21

As it is obvious in table 2, the amounts of mean, median and standard deviation of the groups were observed in a two –step test. The mean of the obtained scores in the posttest has increased as compared to the pretest and this increase is observed more in the experimental group than in control group. The maximum amount of standard deviation is in the posttest of the experimental group. Also, the maximum amount of median is in the posttest of the experimental group.

Table 2. Statistical Indicators of the Learning Motivation

Indicators	Group	Type of the test	Amount
Mean	Control	No test	4,53
	Experimental	Pretest	4,38
		Posttest	9,53
Median	Control	No test	4,00
	Experimental	Pretest	4,00
		Posttest	10,00
Standard deviation	Control	No test	1,30
	Experimental	Pretest	1,38
		Posttest	2,56

As it can be perceived in the table below, a p-value of learning motivation variable is less than 0.05 in the experimental group. So it can be said that gamification programs had an impact on students' learning motivation for learning a foreign language.

Table 3. T-test results of the two groups

Variable	Group	T	Df	P
Learning	Experiment	10.7	24	0.04
motivation	Control	17.7	24	0.23

DISCUSSION AND CONCLUSION

According to the results of the current research, the Gamified program has a significant effect on EFL learners' motivation. The mentioned results were occurred in both control group and experimental group. Ke (2009) in their study entitled "a qualitative meta-analysis of computer games as learning tools" concluded that the most effective models or practices of designing and utilizing instructional gaming would result by carefully regulating and integrating the three clusters of critical variables such as learning, learner, and instructional game design.

The results of the analysis reveal that using the computer games in teaching would improve the quality and motivation of the learning. The results are in accordance with Fazelian and Saadatmand (2003) that indicated computer games has a positive effect on the training. It is also compatible with the research of Karami (2003) that suggests multimedia method is more effective than the traditional method. Wolffe et al. (2002) indicate the effectiveness of the software in learning and better memorizing the taught materials. Sheppard's findings (1996) revealed that there is a significant relation between using simulators and the teaching traditional method. Johnson et al (2006) confirmed the positive and favorable role of simulators in teaching and learning as well. The findings of the present study are similar to the results and findings of Sheykhzadeh and Mehrmohammadi (2005), Chuan and Kung (2002), and Dela Cal-Fasoni (2001). In fact, educational software helps teacher in explanation, investigation, and coordination of the materials. It also aids learners to better learning and makes them more educated and effective. New technologies like the computer are actually acts as an antidote that causes rhetoric (using words and phrases without considering its meanings) in the case of low application.

Kamra, (2010) concluded that using games is an efficient way to teach English in the classroom. Mubaslat (2012) conducted a research named "The Effect of Using Educational Games on the Students' Achievement in the English Language for the Primary Stage". In this article, it is recommended to use games since they are very effective especially for the primary stages in teaching a second language and games are helpful for the teacher as a procedure for language acquisition.

Anyaegbu et al (2012) conducted a research named "Serious Game Motivation in an EFL Classroom in Chinese Primary School". It revealed some mitigating factors that affected the student's full motivation when Mingoville was integrated into their English learning

classroom. The findings indicate that teachers and parent's attitude are key factors to consider for a successful game based learning. Koutropoulos (2012) conducted a research named "Academic Check-Ins: Mobile Gamification for increasing motivation and engagement around the campus". This paper puts forth a proposal for an academia-specific social network that can be used for both academic and social engagement on campus. Functionality, use cases, and motivation theory behind such a service are discussed.

Moncada and Moncada (2014) conducted a research named "Gamification of Learning in Accounting Education". They found Dynamic gamification adaptations of the popular television game show Hollywood Squares and the Milton Bradley game, Connect Four designed with PowerPoint create a collaborative and active learning alternative to the traditional accounting lecture. According to Domínguez et al. (2013), gamification was used with university students in an information and communications technology course.

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