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GAMIFICATION - INFLUENCE ON ELEMENTARY PUPILS' LEARNING OUTCOMES AND ENGAGEMENT IN ENGLISH LANGUAGE

Ogo-Chukwu, Chinyelu , F.
Department of Curriculum Studies and Educational Technology
Faculty of Education, University of Port Harcourt, Rivers State, Nigeria.

Dr Fomsi, Esther F.
Department of Curriculum Studies and Educational Technology
Faculty of Education, University of Port Harcourt, Rivers State, Nigeria.

ABSTRACT: *This research examined the influence of gamification on the learning outcomes and engagement of English Language Pupils in Bonny Local Government Area of Rivers State, Nigeria. It adopted the two (2) group pre-test post-test quasi-experimental research design. The sample comprised forty-four (44) primary three pupils. Twenty (20) for the experimental group and twenty-four (24) for the control group. Two (2) sets of instruments were employed to gather data from the sample namely: English Language Achievement Test (ELAT), and Gamification Questionnaire (GQ) which had two (2) sections: Demographic data of pupils, and games engagement. Three objectives, three research questions, and two hypotheses were used for the study. Mean and standard deviation were employed to answer the research questions. Hypothesis one was tested using analysis of covariance (ANCOVA), while hypothesis two was tested using independent sample t-test. Kuder-Richardson (KR_{20}) was employed to test the ELAT and a reliability coefficient of .857 was obtained. Cronbach Alpha was used for the GQ with a reliability coefficient of.689. The findings revealed that learners taught with games had a higher mean score than those taught without games but the difference was not statistically significant; and their engagement level was high. Recommendation was therefore made that gamification be used in classrooms because it has a positive influence on learners' learning outcomes.*

KEYWORDS: Gamification, Learning Outcome, Engagement, English Language

INTRODUCTION

English Language is a core subject in the Nigerian Educational Curriculum. All students are required to offer English language as a subject from the elementary to the secondary level. Thus the relevance of English Language in Nigerian schools cannot be overemphasized. Therefore, this subject must be given serious attention in the Nigerian education system especially at the elementary school level, which serves as the foundation of education. Aduwa-Ogiegbaen and Iyamu (2006), affirm that a suitable and inspiring language atmosphere during the early years and beyond is key to acquire verbal and intellectual skills needed for learning a language.

There are various teaching methods employed in teaching the English Language: total physical response, silent way; task-based language method and cooperative learning method. The total physical response is a method of teaching English that deals with learners' participation in physical activity. Its main purpose is to help learners develop listening fluency first before other lingual skills like speaking and writing which are to be learnt later. The teacher gives

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commands to the pupils, and the pupils react with body actions. The teacher can say "jump," and the learners perform the act. The first principles behind this approach are that language should be learnt by listening. The second principle is that language learning should involve the right hemisphere of the brain and lastly, that learning a language should not be stressful, it should be in a fun and relaxed manner. This method is standard with learners in the early years. The second method is the silent way. In this approach to teaching English, the teacher is quiet during the class and allows the learners to speak frequently. The principle of this method is that learners should be given the opportunity to discover and create. Secondly, learning a language is better achieved while engaging in finding solutions to some problems in the target language. The learner should, therefore, be allowed to learn by exploring the language instead of the teacher telling him.

The third method is the task-based language learning. This involves asking learners to perform meaningful tasks using English or any other target language. Examples of tasks that can be given to learners are: conducting an interview or visiting a shop. The principle of this method is to enable pupils to learn a language while performing some tasks. Language is better mastered while undertaking a task than just listing out words and language structures for students to memorize. It is evident in a composition class whereby students are told to visit a bank and write a composition about the bank. Another method is the cooperative learning method. In this teaching approach, students of various intellectual capacities are arranged in groups. Learners are encouraged to reason critically and produce results rather than relying on the teachers for answers or results. The success of the teams is rewarded rather than individual member's success. In these groups, learners improve their comprehension of the subjects explored. They share their strengths; build up on their weaker skills and cultivate interpersonal relationships. In this method of teaching, learners participate fully in the learning activities. Both teachers and students gain knowledge from one another. Every member's opinion and views are respected, and students get to settle any misunderstanding amicably. Cooperative learning is of three types: Informal learning groups, formal learning groups and cooperative base group (Johnson, Johnson & Kolubec, 1998). The advantages of these cooperative groups are: - to develop team spirit among the group members; increase understanding of content; build positive relationship among students; to develop life and social skills; to instil high self-esteem and make learners to be motivated.

LITERATURE REVIEW

In recent years, education has experienced changes and innovations. Britland (2013) posits that with the advent of technology, the function of the teacher as the sole possessor of knowledge is beginning to change to being a facilitator or guide in class. Technological advancement has created a paradigm shift in education from teacher to learner-centred education. Learning is now individualized. Now students can investigate, explore and be fully involved in the learning activities. This technological advancement made the 21st century learner conversant with all kinds of digital tools like computers, laptops, tablets, cell phones, video games and so on. The 21st century learners, who Prensky (2001) calls digital natives, due to their exposure to digital tools, now reason and analyse information differently from their predecessors. Teachers, who Prensky (2001) refers to as digital immigrants (because they were born and grew up before the advent of digital technology), are saddled with the responsibility of exploring ways to enhance the classroom activities to improve students' academic performance. They have to adopt these technological tools which the present generation of students are used to, by incorporating

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games as learning tools. This is because according to Bruner's discovery of learning theory, learners who are involved in hands-on learning and play-based activities are eager to learn; are more creative and possess problem-solving abilities which are very beneficial in 21st century education and their future careers (Nort, 2016).

Salen and Zimmerman (2003:80), defined games as a system in which players participate in an artificial contest which has rules that lead to a measureable result. A game is, therefore, a form of competition with guidelines, which involves some players. In the academic environment, learners are considered players. Gamification is employing game components (like points scoring, competition, rewards system and other principles of game play) in a non-game situation to stimulate engagement and motivate participants to achieve a desired goal or behaviour (Hall, 2014). In this context, gamification is the use of game characteristics in the classroom activities to make learning enjoyable and exciting.

It is important to note that gamification and game based learning are often mistaken to be the same. Game based learning is using games to teach. That is, as students play the game, they are learning and understanding their subject areas and lesson topics. Games are employed to facilitate learning. However, gamification is incorporating game components into a non-game setting to make students enjoy and participate in the class, thus encouraging the desired attitude. That means when a course or lesson is designed, the instructor adds some game components to motivate students and make learning enjoyable. However, there are many forms of educational games. They are divided into two: analogue games and digital games. Examples of analogue games are board games and card games. Analogue games are games that are played on a table or other flat surfaces. The board game is an example of the analogue game. They are played with pieces or counters on a flat plane or board with specific rules to be observed and a goal to achieve. Card games are played with cards. Card games are utilized in teaching concepts, to match word sets and to improve memory. With the advent of technology, video games have replaced the card and board games. Video games are played electronically via computer, mobile devices, television or other display screen using a graphic control image. It entails communication with a user interface. Video games can be physical or digital. The former is in tapes or CDs and so on. The digital games are online. The player(s) has/have to log onto the website to play the game. With the introduction of gamification in contemporary education, learners participate fully in their studies. Learning is fun, engaging and motivating.

Benefits of Gamification

The authors have streamlined the gains of gamification into three:

i. It increases student's motivation to learn. Educational games make learners enjoy and participate fully in the class, and this motivates students and helps them to be attentive and focused on the subject. Competition and teamwork (which are features of games) are exciting for students. When pupils are motivated, they put in more time and effort in learning and persist in finishing the challenging task to achieve positive results (Liu, 2014). Gamification makes learning interactive, motivating and actively engages students. Educational games designers have therefore succeeded in making games that learners would enjoy in the class (Trybus, 2014). Educational games stimulate pupils to learn and understand some dreaded subjects like mathematics. In a conventional mathematics class, a teacher solves some problems. The instructor displays the rudiments of the lesson to the learners and gives the students some assignments, the more he practices, the more he grasps the concept. However, often these assignments

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become monotonous and tedious for the students, but when students play mathematics video games individually, competitively or collaboratively, it increases the desire to learn the subject against the traditional classroom style of learning.

ii. It helps Pupils develop modern competencies and skills. In contemporary education, the purpose of education has ceased to be to inculcate literary skills and content knowledge in students but a shift to developing modern skills and competencies in students, which will be beneficial to them even when they proceed to the workforce. These modern skills are higher order thinking skills (critical thinking and problem solving skills), social skills (Communication and collaboration).

iii. It facilitates or enhances understanding and helps retain content. Games are used in the classrooms not just, for fun, but they are employed to facilitate learning. If the game is designed well, it can promote learning in students (Mingfong, 2013). Teed (2016) further explains that employing games to learn do not just make learning more fun, but it also immerses the learner in the material, it engages them so they learn better. The more students are engaged, the easier they understand the course content, and that better understanding translates into excellent learning outcomes.

Given the benefits of gamification in engaging students in the classroom as outlined above, it is important that teachers employ this teaching strategy. Bally (2017) defines student engagement as student active participation process that leads to an improved learning atmosphere. Students are immersed in the academic process. It could be in their studies, group work or general class activities. The critical point is that the student is highly active and participates in the academic activities. In Glossary of Education reform (2016), student engagement is the extent to which a learner is engrossed and actively involved in academic activities. It has been proven that when learners are intensely active in academic activities, it enhances learning, increase their rate of motivation and enable them to better comprehend and retain what is taught. Student engagement is when learners are actively involved in the classroom with digital tools that excite them (Deneen, 2010). That is, whenever learners are actively engulfed in learning with their technological tools they are engaged. The concept of engagement is very relevant to this study because, with the employment of games in the classroom, students actively participate in the learning activities. They can play the games in the physical class or on their known. Hence, learning can take place at any time. They would understand and retain what they have learnt. Playing the games is very challenging. The learners have to be innovative and think critically. This enhances their creativity and thinking skills. Several studies have confirmed the positive influence of gamification on students learning outcomes and engagement.

Studies on Gamification

Yien, Hung, Hwang, and Lin (2011) carried out a research to ascertain the impact of employing game components in a nutrition class. The quasi experimental non-equivalent control group design was employed in a four week learning activity. The study used sixty-six (66) third graders in two classes (33 learners in each class, 18 males & 15 females) of elementary school in southern Taiwan. The experimental group was taught with computer games while the control group was taught with the traditional teaching method. The outcome revealed that pupils taught with computer games (experimental group) experienced excellent learning achievements than pupils instructed with the traditional method (control group). The outcome also revealed that learners taught with computer games manifested better attitudes towards learning than learners

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taught without games. The results also unveiled that there was no significant difference between genders as regards to academic achievements and learning attitudes.

The above research employed the traditional teaching method for the control group. This research would fill that gap by using cooperative learning method to compare with the game strategy. Moreover, the above study was done in southern Taiwan, but this study would be conducted in Rivers State, Nigeria to see the outcome of using game approach. Also, the research was conducted using a nutrition class, but this study would be conducted with the English language to determine how gamification can influence the learning outcomes of English students as against the cooperative teaching approach. The study above investigated the academic achievements, the influence of games and learning interests of learners taught with games as against those taught with traditional learning method.This present study would explore the learning outcomes, and engagement rate of learners taught with games and learners taught without games and the influence of games on gender.

A survey conducted by Huang and Hew (2015), investigated whether the elements of gamification increased learning and activity. Quantitative data were collected from both the control and experimental group like pre-test, post-test, involvement rate, extra assignment scores. The experimental group was exposed to SPSS course on Moodle which is gamified while the control group had access to same content and activities but without the game components. The participants were from two masters' classes of the module of a research method course. The outcome of the work revealed that the experimental group which comprised of 21 students viewed the SPSS course site. The control group of 19 also viewed the site that did not have game elements. An independent sample t-test was employed to compare the view rates for the experimental group (m=86, SD=43.79) the control group had viewing rate of m=135, SD=9.05 t (38) =7.20 $p<.05$. This implies that the experimental group was motivated to view more. A significant difference was recorded in the post rates of participants. The outcome revealed that the group taught with game elements posted more. Further investigation unveils that the experiment group completed more task and extracurricular activities than the control group. The group taught with games also did significantly better in the post-test than the other group. The study above was on the consequences of gamification elements on learning. The research considered two variables: student learning achievements and engagement. This study would also investigate gamification and the learning outcomes of English pupils.

A study conducted by Ishtawi (2011) explored the impact of employing games in learning of English Grammar for the twelfth grade students. A sample size of 80 male students was used from Palestine secondary school, Gaza. They were shared into two equivalent groups: 40 students each for the control and experimental group. The control group was taught with the traditional teaching method, and the experimental group was taught with games in the first term and the first month in the second term. Achievement tests of five grammar lesson (topics) with 50 items were employed for pre and post-test. The researcher employed five different games. The outcome of the work unveils that there is significant statistical difference at ($a \leq 0.05$) between the performances of two groups about the post test scores. The mean of the control group was 34.08 as against 41.50 for the group that employed games. This shows a significant difference between the mean of both groups in favour of the group that employed games. The group that utilized games were more motivated to learn and had fun in the learning activities. While the above study was on the impact of using game strategy on the learning of English

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grammar for the twelfth grade students, this study would consider two dependent variables namely learning outcomes and engagement rate of male and female learners towards gamification in elementary 3 English class.

Contrary to the other studies whereby gamification resulted in higher post-test scores, Dominguez, Siaenz-de-Navarrete, De-Marcos, Fernandez-Sanz, Pag'es and Martinez-Herraiz (2013), carried out a work to explore the effects of employing game elements on learning for university undergraduate students. They developed an online learning application using game strategies. A quasi-experimental design was employed to determine if gamification can influence students' motivation, attitude to learning and academic accomplishments. Both qualitative and quantitative data were collected. Pre-test, Post-test, questionnaire, and interviews were collected and analysed. The outcome of the work unveils that there was a significant difference in the initial knowledge of the learners (using independent 2-sample t-tests). The experimental group scored higher in the initial activity(p=.004)and in practical exercises (spreadsheet=.007) ,software presentation :p=.000,and database :p=.000.On the other hand, the group taught with games got significantly lower scores in the final examination(p=.006), on the scores (p=.090)and the final participation scores(p=.090).In essence, the traditional method (control group) had significantly higher scores in written examination and the participation scores. Thus, in their research, gamification increased motivation and learners involvement but had no impact on the academic performance. The variables explored in the study were motivation, attitude to learning and academic accomplishment. While the work above used both qualitative and quantitative data: achievement test, questionnaire, and interviews, this study would utilize achievement test and questionnaire.

Perez (2015) carried out work on applying game components to Education: using e-learning as a case study. The primary aim of the work was to enhance the motivation and engagement of computer science and Engineering students studying "Programming II" at the University of Madrid. Questionnaires were administered to the students' to ascertain which player type and gamification mechanics that would meet each user's personality, taste, and needs. After evaluating each student's player type and gamification mechanics, the study investigated which of the player types and game mechanics were effective in the e-learning environment. The study also examined how the learners assessed the proposed game. The major purpose of this investigation was to design a suitable gamified e-learning environment that would meet each student's learning need. Four instruments were employed to gather data for the study. Four questionnaires on player type's, game mechanics, the efficiency of the player type and game mechanics chosen by the learners and students assessment of the activities in the game. Four player types were selected, but three were considered two player types recorded all the mechanics assumed for them. There were a positive appreciation and acceptance. The students showed a general recognition, acceptance, and engagement in the gamified lesson than the conventional lectures.

The above work looked at applying game components to an e-learning class. The aim of the work was to ascertain if gamification would enhance motivation and engagement in Computer Science and Engineering class, this research, however, would explore the impact of gamification in an English class. The research above looked at motivation, engagement, and attitude to games. This work would look at learning outcomes and engagement.

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Erfani, EL-Nasr, Milam, Aghabeigi, Lamanaan, Riecke, Maygoli and Mah (2010) did a work on the impact of age, gender, and former game experience on game play performance. The study used 60 kids of six-sixteen years old (18 females and 42 males). They were engaged in three video games to determine their influence on their age and gender. The males were more motivated to play than females. The female learners had a better understanding than the male learners.

Statement of the Problem.

The authors, through interaction with English teachers, observed that students' interest and participation in English classes have not improved. This could be due to lack of instructional materials and lack of effective teaching methods. Therefore students are bored in English classes and this, in turn, has affected learners' academic accomplishments in the subject over the years. This issue has been of great concern to the researcher.Therefore, the reasercher will investigate the influence of gamification on the learner. Is gamification just used to captivate students and make them enjoy the lessons or do they have positive results on the learning outcomes of learners? This is what the study intends to explore.

Aim and Objectives of the Study.

The aim of the research was to determine the influence of gamification on the learning outcomes of students in primary school in Bonny Local Government Area of Rivers State, Nigeria.

The specific objectives of the study were to:

1. determine the mean score of English learners taught with games and learners taught with cooperative learning method.
2. investigate the engagement rate of learners taught with games.
3. ascertain the difference in the engagement rate of male and female learners taught with games.

Research Questions

The research questions that guided the study include:

1. What is the mean score of learners taught with games and learners taught with cooperative learning method?
2. What is the engagement rate of learners taught with games?
3. Is there any difference in the rate of engagement of female and male learners taught with games?

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance:

1. Ho_1: - There is no significant difference in the mean score performance of the learners taught with games and learners taught with cooperative learning method.
2. Ho_2: - There is no significant difference in the rate of engagement of female and male learners taught with games.

METHODS

The study dealt with the learning outcomes and engagement of English pupils, which is the dependent variable and the effects of gamification, which is the independent variable. Other variables such as level of retention, development of understanding and 21st-century skills in students are not within the scope of the study, and these will not be studied about gamification.

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The study employed analogue games (picture and word games) to teach two English grammar topics (Nouns and verbs to primary three pupils) at chosen elementary schools in Bonny Island local Government Area. The study adopted the quasi-experimental research design. This design employs a means to compare groups without using randomization. The sample size was forty-four (44) primary three pupils in two private elementary schools in Bonny. Twenty (20) pupils for the experimental group (12 males and 8 females) and twenty-four (24) for the control group (14 males and 10 females).

Two sets of instruments designed by the authors titled: English Language Achievement test (ELAT) and Gamification Questionnaire (GQ) were used. The ELAT contained 25 items. It measured pupils' learning outcome in the English language. The items were dichotomously scored, each item on the test was allotted one mark thus a minimum of 0 and a maximum of 25. The GQ contained two sections- Section A: Demographic data of pupils, and Section B: Engagement. Respondents were required to rate their level of engagement in class using games on 15 items on a four point Likert scale of (1=strongly disagree, 2=disagree, 3=agree and 4=strongly agree). While a mean score of 25.00 above would indicate high level/rate of engagement, and a mean score of 24.99 and below would indicate low rate/level of engagement

The face and content validity of the ELAT and GQ were determined using experts of measurement and evaluation; and English Language subject experts. The reliability of the ELAT was checked using Kuder-Richardson (KR20), and a reliability coefficient of .857 was obtained showing internal consistency. GQ was estimated using the Cronbach Alpha method of internal consistency. It was pilot tested on a sample of 20 respondents and a coefficient of .689 was obtained. The instruments had good psychometric properties of validity and reliability.

To collect data for the research, the authors had to establish the baseline knowledge of the respondents in English Grammar by administering a pre-test. A post-test was also administered to both the control and the experimental group. This test was used to determine the learning outcomes of the two groups (cooperative class and the gamified class). Standard deviation and mean were used in answering the research questions. Criterion mean point for accepting was set at 25.00 and rejection was set at 24.99 and below. Hypothesis one was tested using ANCOVA, while hypotheses two was tested using independent sample t-test.

Results/Findings

Research question 1: What is the mean score of learners taught with games and learners taught with cooperative learning method?

Table 1**. Mean and standard deviation analysis showing the mean score of pupils taught with games (experimental group) and pupils taught without games (control group)**

Groups	N	Mean	Std. Dev
Games(Exp. Gp)	20	20.6500	4.2087
Non Games(Cont. Gp)	24	19.1667	5.1047

Hypothesis 1: There is no significant difference in the mean score of the performance of learners taught with games and learners taught without games.

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Table 2. **ANCOVA analysis showing the no significant difference mean score of the performance of learners taught with games and learners taught without games.**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	658.437[a]	2	329.219	44.777	.000
Intercept	7.943	1	7.943	1.080	.305
PRETEST:	634.434	1	634.434	86.289	.000
GROUP	2.869	1	2.869	.390	.536
Error	301.449	41	7.352		
Total	18281.000	44			
Corrected Total	959.886	43			

The result from table 1 shows that learners taught with games had a higher mean score (20.6500, SD 4.2087) than those taught without with cooperative learning method (19.1667, SD1047). This reveals that using game to teach had a positive effect on the learning outcomes of pupils. However, when this result was subjected to statistical analysis, it was revealed that the difference in the mean scores between both groups was not significant. This can be seen from table 2 which shows that the computed F of .390 is statistically not significant at the chosen alpha level of 0.05. Therefore, there is no significant difference in the mean scores of learners instructed with games and learners instructed cooperative learning method, as $F(1,41) =.390$, $p > 0.05$. The null hypothesis of no significant difference is retained, and the alternate rejected.

Research question 2: What is the engagement rate of pupils taught with games?

Table 3. **Mean and standard deviation analysis showing the engagement rate of pupils taught with games.**

	N	Mini stat	Max. Sta	Mean	Std. Dev	Std. Er
Engagement rate	20	20.00	42.00	31.000	7.9405	1.7755

Table 3 reveals that the engagement rate of learners instructed with games is high (mean 31.000, SD 7.9405). This is hinged on the premise that the criterion mean point of 25.00 and above indicates a high engagement rate while below 24.99 indicates low engagement rate. And as seen from the table above the mean of 31.000 is greater than the criterion mean of 25.00 thus showing an elevated engagement level.

Research question 3: Is there any difference in the rate of engagement of male and female pupils taught with games?

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Table 4. **Mean & standard deviation analysis of rate of engagement of male and female pupils taught with games**

Gender	N	Mean	Std. D	Std. Error
Female	08	30.750	8.2418	2.9139
Male	12	31.166	8.0997	2.3382

Hypothesis 2: There is no significant difference in the rate of engagement of male and female learners ta with games

Table 5. **Independent samples t-test analysis showing difference in rate of engagement of male and female pupils instructed with games**

	Levenne's test for equality of variance		t-test for equality of means				
	F	Sig	t	Df	Sig (2-tailed)	Mean difference	Std. error
Engagement; Equal variances assumed	.096	.761	-.112	18	.912	-.41667	3.722

Table 4 indicates that there is a difference in the rate of engagement of female and male learners taught with games. As is evident from the results, the mean of male learners (31.166) is higher than those of the females (30.750. Thus the males were more engaged when using games to learn than the females. However, when subjected to statistical analysis, the difference in the engagement levels were not significant as can be seen from table 5 which shows that t (18) = -.112 $p > 0.5$, i.e $p = .912$ is greater than 0.05. Therefore, the null hypotheses of no significant difference in the rate of engagement of female and male learners taught with games is retained, and the alternate rejected. This implies that the rate of engagement of female and male is not significantly different.

DISCUSSION

Learning outcomes of learners taught with games and those taught without games.

Table 1 revealed that the mean score of pupils in the class taught with games was 20.65 and the standard deviation was 4.20 while the cooperative class had a mean score of 19.16 and a standard deviation of 5.10. This, therefore, implies that the mean score (20.65) of the experimental group (group taught with games) is greater than the mean score (19.16) of the control group (those taught with games) showing that the class taught with games had better achievement scores than the class taught without games. This indicates that using games to teach has a beneficial result on the learning outcomes. When subjected to statistical analysis, however, as seen from table 2, the computed F of .390 is statistically not significant at the chosen alpha level of 0.05. Therefore, there is no significant difference in the means scores of learners taught with games and pupils taught without games, as $F (1.41) = 3.90$, $p>0.05$. The null hypothesis of no significant difference in the mean score of the performance of learners taught with games and learners taught without games is retained, and the alternate rejected.

This result is consistent with the outcome of the work carried out by Dominguez, Siaenz-de-Navarrete, De-Marcos, Fernandez-Sanz, Pag'es and Martinez-Herraiz (2013), who conducted a study to examine the effect of game components on learning for university students. He

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developed an online learning application using game strategies. The outcome revealed that gamification increased motivation and involvement of learners but had no effect on the learning outcomes.

Contrary to the results of this study, Huang and Hew (2015), explored the impact of game components on student learning and activity. The group taught with games had greater scores than the class taught without game components. Similarly, in a study conducted by Ishtawi (2011) on the effect of employing games in learning English grammar. The outcome of the work revealed that there was a significant difference between the mean score of learners taught with games and learners taught without games. In the same vein, another study by Barata et al. (2013), the utilization of game components resulted in a better achievement score in favour of the gamified class.

The engagement rate of learners taught with games

Table 3 shows the mean score of 31.000 and standard deviation of 7.9405. This unveils that the engagement rate of learners taught with games is high. This is because the criterion mean point of 25.00 and above shows a high engagement rate. Hence the mean of 31.000 is greater than the criterion means of 25.00 thus showing an elevated engagement level. This implies that gamifying an English lesson enhances students' participation or involvement and therefore increases the engagement rate as against a cooperative classroom.

This result is not surprising because a study conducted by Huang and Hew (2015), to investigate the influence of game components on learners' engagement. The quantitative data form on participation rate was used, and the outcome showed that employing game components are effective in enhancing student's engagement Similarly, Perez (2015), did a work on employing game components to education. The primary objective of the work was to explore the motivation and engagement of computer science and engineering learners in a course (programming II) at the University of Madrid. The outcome revealed that learners in the gamified class were more engaged in the lesson than the learners in the conventional lectures.

The difference in the rate of engagement of female and male learners taught with games

Table 4 showed that the mean of the males is greater than that of the females showing that the males had a higher engagement rate than their female counterpart. However,, table 5 showed that t (18)—112p>0.5, i.e. p=.912 is greater than 0.05 therefore, the null hypothesis of no significant difference in the rate of engagement of female and male learners taught with games is accepted and the alternate rejected. This implies that the rate of engagement of female and male is not significantly different.

In contrast to the study, Craven (2015), did research on gamification in the virtual world for learning. He used a business simulation called piersim to survey 250 students. The outcome revealed that the female students derived a greater level of engagement, learning, and satisfaction than the males.

Conclusion

The research revealed that gamification has a positive effect on the learning outcome of English language learners, though the difference in the learning outcomes of the experimental and control groups was not significant. Games also had a positive effect on the engagement level of the learners. The use of game components in the classroom increased learner engagement;

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Games make learning enjoyable and interactive. Gamification improves knowledge absorption and retention. It also enhances the overall learning experiences and should be adopted in teaching English language in primary schools.

Recommendations

Based on these findings, the following recommendations are thus put forward:

1. English language teachers should employ game elements in the classroom to enhance understanding, retention, engagement, and motivation of learners.
2. The Ministry of Education should encourage curriculum planners to explore creative ways of incorporating game elements when designing their instructions or subjects. They should also provide teachers with necessary facilities and training courses to educate them on the use of games for instructions.
3. Private schools administrators should also consider the benefits of utilizing games in the classroom and make adequate provisions for all the technological tools necessary to employ games in their schools. They should also educate teachers on the utilization of games in their instructions or lessons.

References

Aduwa-Ogiegbean, S. E & Iyamu, E. O. S. (2006). Factors affecting the quality of English language teaching and learning in secondary schools in Nigeria. Retrieved 15th January, 2017 from www.freepatentsonline.com>article>c...

Bally, J. (2017). Student engagement in learning and teaching. Retrieved 18th March,2017 from https://www.sheffield.ac.uk >als>students.

Barata et al. (2013), improving participation and learning with Gamification. Paper presented at the proceedings of the Gamification 13, 2013 ACM. Retrieved 3rd May 2017 from https://www.researchgat.net>publication.

Britland, M. (2013), How has technology transformed the role of a teacher? Retrieved sept 25, 2016 from https://www.theguardian.com>.jun>tec..

Craven, D. (2015), Gamification in virtual worlds for learning: A case study of PERSiM for business education. Retrieved May 5th, 2017 from https://www.researchgate.net>publication.

Deneen, L. (2010). What is student engagement, anyway? Retrieved 20th March 2017, from er.educause.edu>articles>what-is,stud…

Dominguez et al. (2013), Gamifying learning experiences: practical implications and outcomes. Computers and Education, 63, 380-392. Retrieved 10th May, 2017 from www.sciencedirect.com>article>pii.

Erfani et al. (2010), The effect of age, gender, and previous gaming experience on game play performance. Human- computer interaction. Volume 332, 293-296 Retrieved June 2, 2017 from https://link.springer.com>chapter.

Hall, M. (2014), what is gamification and why use it in teaching? Retrieved 17th January, 2017 from ii.library.jhu.edu>2014/05/13>what is…

Huang, B. & Hew K. F (2015) Do points, badges and leaderboard increase learning and activity: A quasi-experiment on the effects of gamification. Computers and Education, 275-280. Retrieved 15th May 2013 from https://www.researchgate.net>publication.

Ishtawi, H. R. (2011). The effects of game strategy on the learning of English Grammar for the Twelfth Grade students. Retrieved 5th April, 2017 from library.lugaza.edu.ps>thesis

Print ISSN: 2055-0820(Print), Online ISSN: 2055-0839(Online)

Johnson, D., Johnson, R. & Hollubec, E., (1998). Cooperation in the classroom. Retrieved 20th January, 2017 from www. intime. uni.edu /coop_ learning /ch1/ definition. htm.

Liu, M. (2014). Motivating student to learn using a game-based learning approach: Gaming and education issues. Retrieved 20th January, 2017 from www.edb.utexas.edu>liu>files>liu_G.

MingFong, J. (2013). Games for 21st country learning. Retrieved 18th January, 2017 from singteach.nie.edu.sg>surgteach-issue45

Nort, M. (2016). How game-based learning can help students of all ages learn. Retrieved 20th December, 2016 from http://www.edudemic.com/game-based-learning-hel

Perez, G. (2015), Applying gamification to education: A case study in an E-learning environment. Retrieved 20 April 2017 from https://repositorio.uam.es>handle

Prensky, M. (2001). Digital Natives, Digital immigrants-marc…Retrieved 20th Jan, 2017 from www.marcprensky.con>writing>prens...

Salen & Zimmerman (2003). What is a game? Retrieved 19th January, 2017 from http://hippasus.com/rrplvwe blog/rubeenrprp@hippasuscom

Teed, R. (2016). Game-based learning. Retrieved 25th January, 2017 from http://serc.carleton.edu/introgeo/games/index.html

The Glossary of Educational Reform (2016).Student Engagement Definition .Retrieved 29th January 2017 from http:www.edglossary.org>student-eng…

Trybus, J. (2014). Game-based learning: What it is, why it works, and where it's going. Retrieved 14th December, 2016 from www.newmedia.org>game-based-learni...

Yien, J., Hung, C., Hwang, G. & Lin, (2011). A game based learning approach to improving students' learning Performances in a nutrition course. Turkish online journal of educational technology- TOJET, Volume 10(2), 1-10. Retrieved 3rd April 2017 from https://eric.ed.gov>....

Print ISSN: 2055-0820(Print), Online ISSN: 2055-0839(Online)