



A Comparative Study of Grades 10 and 11 Students' Motivation for Learning English as a Foreign Language under Gamification and Teacher-Centered Activities at a Private School in Bangkok

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Abstract

The purpose of the study was to compare motivation for learning English as a foreign language under gamification and teacher-centered activity of Grade 10 and Grade 11 students at a private school in Bangkok, Thailand. The study was included seven objectives and was conducted during September 2020 to August 2021. 24 of Grade 10 and 32 of Grade 11 students of the second semester in the academic year 2020 at a private school were sample of the study. Both grade level students were divided into two groups; experimental group and control group. A pre-post quasi-experimental study was conducted for eight weeks. The data were analyzed by means, dependent samples t-test, and independent samples t-test. According to the findings, there was no significant difference between Grade 10 and Grade 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a significant level of .05. From the eight weeks of the experiment with two different activities, the students who participated in experimental group which participate in class that used gamification activity were not significantly different compared to the students who participated in control group which participate in class that used teacher-centered activity.

Keywords : Gamification activity, Teacher-centered activity, Grade 10, Grade 11, Motivation for learning English as a foreign language
JEL Classification Code : I20

1. Introduction

English is one of the most widely spoken foreign language in the world (Teixeira, 2021). Thai students must learn English as a foreign language from the first year of the study (MOE, 2008). In comparison to other countries, their English ratings are extremely low (ETS TOEIC, 2020). However, gamification trend has gained popularity as learning advanced technology, resulting in a new method of teaching in the classroom (Wang, 2015) Gamification can be used at every subject, every level, students of every age could enjoy gamified lessons (Maloney, 2019).

The researcher was an English as a foreign language teacher at the private school. Many of the students confronted with the problem of English as a foreign language learning in the school. They showed anxieties and demotivation in learning. On the other hand, some studies suggested problems in English as a foreign language learning in Thailand. One of the problems in English language learning in Thailand mentioned in those studies was the lack of motivation (Chunsuvimol et al., 2021; Darasawang, 2007; Imsa-ard, 2020; Noom-ura, 2013; Simpson, 2011). As the researcher found there are studies mentioned gamification can be used in English language learning to help in students' autonomy development quickly

with less stress as well as increase students' motivation and engagement (Dicheva, 2017; Maloney, 2019).

As a result, the researcher sought to see if gamification may help students become more motivated in their English as a foreign language class. This study looked into the Grade 10 and Grade 11 students at a private school on their motivation for learning English as a foreign language under the gamification activity and teacher-centered activity.

2. Research Objectives

There were seven research objectives:

1. To determine the level of Grade 10 students' motivation for learning English as a foreign language under gamification activity at a private school in Bangkok, Thailand
2. To determine the level of Grade 10 students' motivation for learning English as a foreign language under teacher-centered activity at a private school in Bangkok, Thailand
3. To determine if there a significant different between Grade 10 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a private school in Bangkok, Thailand

4. To determine the level of Grade 11 students' motivation for learning English as a foreign language under gamification activity at a private school in Bangkok, Thailand

5. To determine the level of Grade 11 students' motivation for learning English as a foreign language under teacher-centered activity at a private school in Bangkok, Thailand

6. To determine if there a significant difference between Grade 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a private school in Bangkok, Thailand

7. To determine if there a significant difference between Grade 10 and 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a private school in Bangkok, Thailand

3. Research Hypotheses

There were three research hypotheses developed for this study:

1. There is a significant different between Grade 10 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a significant level of .05.

2. There is a significant different between Grade 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a significant level of .05.

3. There is a significant different between Grade 10 and grade 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a significant level of .05.

4. Theoretical Framework

4.1. The ARCS Model of Motivation

The ARCS model of motivational design was founded by John Keller in 1983 as he wanted to find how might people can design learning experience to develop sustain motivation on students (Keller, 2010). There are four key elements in the learning process which can encourage and sustain learners' motivation. It comprised of Attention, Relevance, Confidence, and Satisfaction (Keller, 1999).

4.2. Self-determination Theory

Self-determination theory was the theory developed by Richard M. Ryan and Edward L. Deci in 1985 (Cherry, 2021). In the theory, Ryan and Deci postulated three psychological needs of human motivation. They are autonomy, competence, and social relatedness. Autonomy refers to the ability to feel independent and be able to have own choice in a way that meets one's needs. Competence is considered as the desire to get achievements in those actions. Lastly, relatedness, which is the need to be connected in a sense of interaction with others (Bovermann & Bastiaens, 2020). Self-determination theory was used as a framework for examining students' motivation in learning context.

4.3. Behaviorist Learning Theory

Behaviorists profess a belief in the theory of behaviorism as behavior comprised of the reactions and movements that respond to rewards and punishments in a certain situation that can be observed from outside (Akdemir et al., 2016). The teacher is the person who takes full control of the lessons and class (Serin, 2018). The effectiveness of learning depends on the teacher as they direct the classroom and give feedback to students.

5. Conceptual Framework

The conceptual framework of this study was to find motivation for learning English as a foreign language of Grade 10 and Grade 11 in a private school in Bangkok, Thailand. Both Grade 10 and 11 were the source of data in this study. The variables in this study were gamification activity [experimental group] and teacher-centered activity [control group]. The dependent variables were Grade 10 students' motivation for learning English as a foreign language under Gamification [experimental group], Grade 10 students' motivation for learning English as a foreign language under teacher-centered activity [control group], Grade 11 students' motivation for learning English as a foreign language under Gamification [experimental group], Grade 11 students' motivation for learning English as a foreign language under teacher-centered activity [control group], Grade 10 and 11 students' motivation for learning English as a foreign language under Gamification [experimental group] and, Grade 10 and 11 students' motivation for learning English as a foreign language under teacher-centered activity [control group] (See Figure 1).

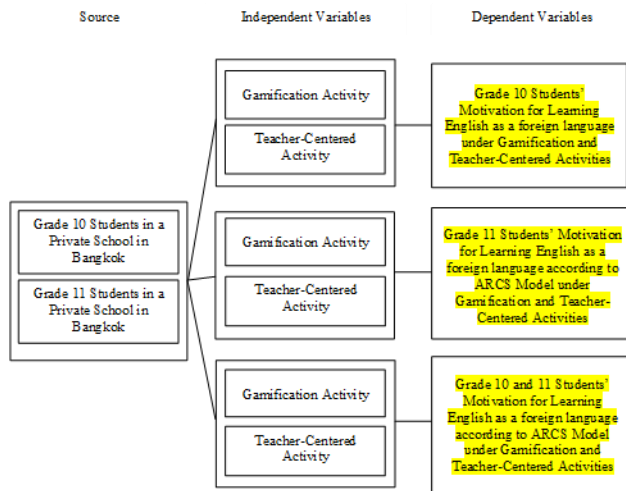


Figure 1: Conceptual framework of the study

6. Literature Review

6.1. Gamification

Gamification was defined as the usage of game design techniques or game elements to apply to the non-game context. Any tasks or assignments can be gamified (Werbach and Hunter, 2012). It can be seen that in recent years, the popularity of games is increasing (Figueroa-Flores, 2016). Therefore, the gamification activity was used by applying game mechanics to the lessons in order to increase the participation of a student during the lesson and provide motivation to each person. The game elements can be awards, badges, prizes, and leaderboards.

6.2. Teacher-centered Activity

A teacher-centered activity was one of the activities that followed behaviorists learning theory which mainly about human behavior that can be observed and focused (McLeod, 2019). Behaviorist was one of the techniques that used by teachers (Koch, 2009). However, there was critique on behaviorist that rewards and punishments cannot improve students' internal mechanisms (Hardesty, 2018).

6.3. Self-determination Theory

The self-determination theory was the theory developed by Richard M. Ryan and Edward L. Deci. According to Ryan and Deci (2000), they clarified that the types of motivation depending on the difference in reasons or aims which cause an action. The difference between

intrinsic motivation and extrinsic motivation was intrinsic motivation affects humans in any outcome as the thing was interesting or enjoyable while extrinsic motivation affected humans in any outcome as doing activities could prevent them from the undesirable consequences.

6.4. The ARCS Model of Motivation

The ARCS model of motivational design was founded by John Keller in 1983 as he wanted to find how might people design a learning experience to develop sustain motivation in students (Keller, 2010). The challenge made Keller developed the ARCS model motivation (Keller, 2000). The model was used as a guideline for educators to create a strategy to build learner's motivation and make it sustain. The attribute of the ARCS Model of Motivation was divided into two major parts. The first part was the part that the model was divided from the synthesis of motivational characteristics. The characteristic into four parts. They were attention, relevance, confidence, and satisfaction. The second part of the model was the learning design which was the part of creating a lesson that builds up learners' motivation. Therefore, the ARCS Model of Motivation was both a motivational and instructional model (Molaei & Dortaj, 2015).

7. Methodology/Procedure

7.1. Population and Sample

The population in this study was 24 of Grade 10 and 32 of Grade 11 students at the private school. The number of samples were divided according to the two programs. The programs were English-Chinese program and Science-Mathematics program. There was one section in each program. For example, Grade 10/1 was English-Chinese program, Grade 10/2 was Science-Mathematics program, Grade 11/1 was English-Chinese program, and Grade 11/2 was Science-Mathematics program.

Before the experiment, the researcher gave the Course interest survey pretest to students in order to ensure that they have the same motivation level. The sample was chosen according to the sections then was divided into two groups; experimental group students which were examined students' motivation in gamification activity and control group students which were examined students' motivation in teacher-centered activity. Table 1 showed information about each group of the sample.



Table 1: Information of the Sample in this Study

Scale	Sample	Experiment al Group	Control Group
Grade 10 students	24	17	7
Grade 11 students	32	24	8

7.2. Research Instrument

Course Interest Survey developed by Keller was used as a research instrument in this study (Keller, 2010). It was a survey that developed according to ARCS model of motivation. It consisted of 34 items. Students were asked to pick one of the five-point Likert-type scales. Keller (2010) stated that the score of the survey was scaled from 1 to 5. The minimum score of the survey is 34, the maximum is 170, and the midpoint of the survey is 102. However, the maximum, midpoint and minimum of each subscale are different as per number of items in each subscale. Therefore, the score can be determined by finding the average of each subscale. Also, there are 9 items marked reverse are negative which needed to be reversed score before added into the score determination.

7.3. Validity and Reliability

Course Interest Survey (CIS) has been validated by (Keller, 2010) which was the creator of the instrument. He used the course interest survey with 200 university students to estimate the internal consistency of course grades and grade point averages. This resulted as the correlations with course grades are significant. Therefore, this supports the validity of the course interest survey as a situation-specific measure of motivation. For the reliability, it was reported in overall Cronbach's alpha coefficient of .95 (Keller, 2000; Keller & Subhiyah, 1993). The survey was translated from English to Thai version. Back translation method was also used to ensure that the translation meet validity.

8. Data Analysis and Treatment

The research process was summarized in Table 2.

Table 2: Summary of the Research Process

Research objective	Source of Data	Research Instrument	Method of Data Analysis
Objective 1	17 of Grade 10 students	Course Interest Survey	Descriptive statistics (Mean and standard deviation)
Objective 2	7 of Grade 10	Course Interest Survey	Descriptive statistics (Mean and standard deviation)
Objective 3	24 of Grade 10 students		Dependent samples <i>t</i> -test
Objective 4	24 of Grade 11 students	Course Interest Survey	Descriptive statistics (Mean and standard deviation)
Objective 5	8 of Grade 11 students	Course Interest Survey	Descriptive statistics (Mean and standard deviation)
Objective 6	32 of Grade 11 students		Dependent samples <i>t</i> -test
Objective 7	56 of Grade 10 and Grade 11 students		Independent samples <i>t</i> -test

The researcher taught English as a foreign language using the gamification activity and teacher-centered activity for eight weeks. The classes were available for three periods per week and each period last for 50 minutes. The lessons were planned according to the book provided by the school. The experimental group was the class that leaning activities was gamified by Classcraft and Kahoot! The control group was the class that studied in traditional learning activity.

9. Findings

The findings of this study based on seven objectives.

9.1. Research Objective One: to determine the level of Grade 10 students' motivation for learning English as a foreign language under gamification activity at a private school in Bangkok, Thailand.

A motivational experiment survey pretest was given to the students before starting the gamification activity and then it was given after the instruction as a posttest. Table 3 presented means and standard deviations of Grade 10 students' motivation pretest and posttest for learning English as a foreign language under gamification activity.

Table 3: Mean and Standard Deviation Grade 10 Students Motivation for Learning English as a Foreign Language under Gamification Activity (n=17)

Gamification Activity	Mean	Standard. Deviation	Interpretation
Pre-test	3.87	0.33	High
Post-test	3.96	0.35	High

Finding showed the pretest was ($M=3.87$) and posttest was ($M=3.96$). The results indicated that the students who participated in gamification activity has high motivation for learning English as a foreign language.

9.2. Research Objective Two: to determine the level of Grade 10 students' motivation for learning English as a foreign language under Teacher-centered activity at a private school in Bangkok, Thailand.

A motivational survey pretest was given to the students before starting the teacher-centered activity and the motivational survey posttest was given after the instruction to determine students' pre and post motivational level. Table 4 presented means and standard deviations of Grade 10 students' motivation pretest and posttest for learning English as a foreign language under teacher-centered activity.

Table 4: Mean and Standard Deviation Grade 10 Students Motivation for Learning English as a Foreign Language under Teacher-centered Activity (n=7)

Teacher-centered Activity	Mean	Standard. Deviation	Interpretation
Pre-test	3.83	0.52	High
Post-test	4.21	0.35	High

Finding shown the pretest was ($M=3.83$) and posttest was ($M=4.21$). The results indicated that the students who participated in teacher-centered activity has higher motivation for learning English as a foreign language.

9.3. Research Objective Three: to determine if there a significant different between Grade 10 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a private school in Bangkok, Thailand.

The dependent sample t-test was used to determine if there a significant different between Grade 10 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a private school in Bangkok, Thailand which was also the hypotheses of the study. Data from both groups were analyzed the data variances. Dependent sample t-test result on pre-test and post-test was shown in Table 5.

Table 5: Dependent Sample t-test of Grade 10 students' Motivation for Learning English as a Foreign Language under Gamification Activity and Teacher-centered Activity the Pre-test and Post-test

Analysis	Group	N	M	SD	t	df	Sig. (2-tailed)
Pre-test	Experi mental	17	3.87	0.33	.196	22	0.845
	Control	7	3.83	0.33			
Post-test	Experi mental	17	3.96	0.35	1.620	22	0.119
	Control	7	4.21	0.35			

Table 5 comprised of the analysis where the experimental group which was the gamification activity pre-test and post-test.

For pre-test ($n=17$, $M=3.96$, $SD=.35$) and the teacher-centered activity pre-test ($n=7$, $M=4.21$, $SD=.35$) were compared. The analysis recorded that $t(.196)$ and $p=.845$.

For post-test ($n=7$, $M=3.96$, $SD=.35$) and the teacher-centered activity pre-test ($n=7$, $M=4.21$, $SD=.35$) were compared. The analysis recorded that $t(-1.620)$ and $p=.119$.

As a result, the objective was not linked to the research to the hypotheses and there is no significant different between Grade 10 students' motivation for

learning English as a foreign language under gamification activity and teacher-centered activity at a significant level of .05.

9.4. Research Objective Four: to determine the level of Grade 11 students' motivation for learning English as a foreign language under gamification activity at a private school in Bangkok, Thailand.

A motivational experiment survey pretest was given to the students before starting the gamification activity and then the motivational experiment survey was given after the instruction as a posttest. Table 6 presented means and standard deviations of Grade 11 students' motivation pretest and posttest for learning English as a foreign language under gamification activity.

Table 6: Mean and Standard Deviation Grade 11 Students Motivation for Learning English as a Foreign Language under Gamification Activity (n=24)

Gamification Activity	Mean	Standard. Deviation	Interpretation
Pre-test	3.59	0.25	High
Post-test	3.67	0.36	High

According to Table 6, finding showed the pretest was (M=3.59) and posttest was (M=3.67). The results indicated that the Grade 11 students who participated in gamification activity has higher motivation for learning English as a foreign language.

9.5. Research Objective Five: to determine the level of Grade 11 students' motivation for learning English as a foreign language under teacher-centered activity at a private school in Bangkok, Thailand.

The motivational survey pretest was given to the students before starting the teacher-centered activity and the motivational survey posttest was given after the instruction to determine students' pre and post motivational level. Table 7 presented means and standard deviation of Grade 11 students' motivation pretest and posttest for learning English as a foreign language under teacher-centered activity.

Table 7: Mean and Standard Deviation Grade 11 Students Motivation for Learning English as a Foreign Language under Teacher-centered Activity (n=8)

Teacher-centered Activity	Mean	Standard. Deviation	Interpretation
Pre-test	3.54	0.33	High
Post-test	3.64	0.29	High

According to the Table 7, finding showed the pretest was (M=3.83) and posttest was (M=4.21). The results indicated that the Grade 11 students who participated in teacher-centered activity has high motivation for learning English as a foreign language.

9.6. Research Objective Six: to determine if there a significant different between Grade 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a private school in Bangkok, Thailand.

The dependent sample t-test was used to determine this objective which was also the hypotheses of the study. The data from both groups were analyzed the data variances. The dependent sample t-test analysis resulted on pre-test and post-test was shown in Table 8.

Table 8: Dependent Sample t-test of Grade 11 students' Motivation for Learning English as a Foreign Language under Gamification Activity and Teacher-centered Activity the Pre-test and Post-test

Analysis	Group	N	M	SD	t	df	Sig. (2-tailed)
Pre-test	Experi	24	3.59	0.25	0.42	30	0.674
	mental				3		
	Control	8	3.54	0.33			
Post-test	Experi	24	3.67	0.36	.389	30	0.699
	mental						
	Control	8	3.64	0.29			

Table 8 comprised of the analysis where the experimental group which was the gamification activity pre-test and post-test

For pre-test, (n=24, M=3.59, SD= .25) and the teacher-centered activity pre-test (n=8, M=3.54, SD= .33) were compared. The analysis recorded that t (.423.) and p=.674.

For post-test, ($n=24$, $M=3.67$, $SD=.36$) and the teacher-centered activity pre-test ($n=8$, $M=3.64$, $SD=.29$) were compared. The analysis recorded that $t(.389.)$ and $p=.699$.

As a result, the objective was not linked to the research to the hypotheses and there is no significant different between Grade 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a significant level of .05.

9.7. Research Objective Seven: to determine if there a significant different between Grade 10 and 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a private school in Bangkok, Thailand.

The dependent sample t-test was used to determine this objective. This objective was also the hypotheses of the study. The data from students who participated in class that researcher taught with gamification activity was experimental group and the other class that researcher taught with teacher-centered activity were the control group. Both groups were analyzed the data variances before using the dependent sample t-test. The dependent sample t-test analysis result was shown on Table 9

Table 9: Independent Sample t-test of Grade 10 and Grade 11 students' Motivation for Learning English as a Foreign Language under Gamification Activity and Teacher-centered Activity

Group	No. of students	N	M	SD	t	df	Sig. (2-tailed)
Experimental G.10	17	41	3.80	0.37	-0.894	54	0.375
G.11	24						
Control G.10	7	15	3.91	0.43			
G.11	8						

Table 10 comprised of the analysis that was the experimental group which was the data retrieved from Grade 10 and Grade 11. The data retrieved from Grade 10 and Grade 11 who participated in class that use gamification activity ($n=41$, $M=3.80$, $SD=.37$) and the control group that was the data retrieved from Grade 10 and Grade 11 who participated in class that used teacher-centered activity ($n=15$, $M=3.91$, $SD=.43$) were compared. The analysis recorded that $t(.894.)$ and $p=.975$.

As a result, the objective was not linked to the research to the hypotheses and there was no significant different between Grade 10 and Grade 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity at a significant level of .05.

10. Discussion

The result of this study determined that there is no significant difference of Grade 10 and Grade 11 students' motivation for learning English as a foreign language under gamification activity and teacher-centered activity. Students' motivation was measured with the course interest survey as a pretest and posttest. From the eight weeks of the experiment with two different activities, the students who participated in experimental group were not significantly different compared to the students who participated in control group which participate in class that used teacher-centered activity.

The result is similar to the study of Raeijmaeckers et al. (2019) investigated the effect of gamification activity. It was implemented in a usability test on intrinsic motivation. The finding showed the participant did not have higher intrinsic motivation compared with the participant group in no gamification condition. Also, the result is similar to Mekler et al. (2013), they examine on the effect of gamification on intrinsic motivation and students' performance which resulted as gamification is effective in increasing students' performance. However, in term of motivation, gamification is remained unaffected to intrinsic motivation. which leads to the suggestion that the educators should be aware in designing gamified learning lessons

In the teaching period, some of the students in experimental group said they were not smart enough to get to the top of the leaderboard. On the contrary, the control group students said they felt less stressed without the leaderboards. Therefore, it seems like this is the reasons that gamification activity showed no significantly different in motivation compared to the teacher-centered activity. Since confidence is one of the subcategories of the model that can create motivation (Keller, 1983). Furthermore, according to the self-determination theory, if a person has difficulty with a particular task or receives negative feedback, their feelings of competence can decline (Lopez-Garrido, 2021). On the contrary, in the control group students, the students seem to be less stressed with lessons. This can be concluded that students were lack of confidence. Which leads to the no significant difference in the hypotheses



In conclusion, applying both gamification and teacher-centered activities in lessons can lead the students to get highly motivated. But there is no significant different between the two activities. However, the result maybe different in term of different population and sample as well as the time ranges in experiment.

11. Recommendations

Based on the study results, recommendations are provided for students, school administrators, teachers of the targeted private school, Bangkok, Thailand, and for the future researchers interested in conducting a similar study.

11.1. For Students

This study can be an informative guide for them in case, they may have a chance to study English as a foreign language under gamification activity.

11.2. For Teachers

English as a foreign language teacher can use the information in this study to help them in preparing the gamification activity in their English as a foreign class. As well as to make them aware of designing gamification activities in English as a foreign language lesson. Since the English as a foreign language lesson under gamification and teacher-centered activities are not significantly different. Therefore, this study can help the teacher in preparing gamified activities in class.

11.3. For Administrator

This study can help the administrator to review the information on different activities used in English as a foreign language lesson as well as students' motivation during the lesson that using different activities. The school administrators should provide training for English as a foreign language teacher to let them understand the effect of activities that can be effective should be used to let students not restricted to teacher-centered activity all the time.

11.4. For Researchers

It is suggested for future researchers to adopt qualitative research to investigate different aspects of using gamification activities and teacher-centered activities in English as a foreign language class. Moreover, it is recommended to find out the motivation for learning English as a foreign language under gamification and teacher-centered activities in different population and

sample in order to investigate if the activities have an effective result. Which can lead to the awareness of using gamified activities in English as a foreign class in the future.

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