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The Effects of Gamification on Young Learners' Motivation in Foreign Language Learning

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Abstract: ***Gamification involves adding game elements to non - game activities to make them more engaging and effective. With these important elements in effect, the focus of the activity is no longer on games Using game rules for an activity is intended to enhance the learning process (Becker, 2013). According to Prince 2013, gamification makes simple tasks more appealing by adding game elements such as prizes and interactivity. Similarly, Kapp (2012) defines gamification as the application of game mechanics, aesthetics, and game theory to inform, engage, and facilitate problem - solving in individuals. The main objective of this research is to investigate how gamified, game - based learning affects individuals' motivation. Gamification, the application of game elements to non - game contexts, is increasingly used in education to boost motivation and engagement. This study explores the effects of gamified learning on the motivation of 7 - 8 year - old Turkish primary school students learning English as a foreign language. Over an eight - week period, 48 students were divided into experimental and control groups, with the experimental group engaging in Pictionary games. Results indicate that gamified learning significantly enhances student motivation and interest in language learning, with students expressing positive opinions towards game - based vocabulary learning.***

Keywords: Gamification, Game - Based Teaching, Pictionary Game, Game Elements, Motivation, Foreign Language Learning

1. Introduction

The development of students' fluency in foreign languages is one of the most crucial components of English language instruction in Turkey. Karahan (2007) discussed about Turkish individuals who are demotivated because they are unable to reach their desired level of English competency, even with their best efforts. In Turkey's foreign language school system, the expression "can understand but not speak English" has become ubiquitous over time.

Encouraging students to feel that English is more than just a subject they are studying in class requires a laid - back learning atmosphere. The chance for meaningful engagement and well - chosen assignments stimulates young learners significantly. It is widely accepted that engagement and motivation are necessary before completing a task. It has been demonstrated that a lack of motivation increases stress and depressive symptoms (Dörnyei, 2014). Gamification can significantly impact children's learning process, even though it may be challenging to guarantee that kids, who already have a very short attention span, are motivated both intrinsically and extrinsically. Unlike conventional classrooms, when the focus was on the teacher, modern classrooms are focused on the students. Using gamification as an educational method, teachers may enjoy the benefits of learner - centered language sessions with motivated pupils. Gamification is the practice of applying game mechanics, strategies, and aesthetics to non - gaming environments (Kapp, 2012). Therefore, the best way to define gamification is the application of game mechanics, components, and techniques to situations that are not gaming - related.

Gamers are encouraged to progress by games that provide objectives with realistic short - term goals. Periodic incentives also serve as a source of drive. Gamification is one method for sustaining motivation in language acquisition. A relatively new concept called "gamification" raises learner motivation when studying a foreign language by presenting the content in a fun way and promoting learning. To make lesson plans more interesting and motivating, gamification in education refers to choosing the finest game aspects for educational purposes and implementing them. In classroom settings for language education and foreign language learning, gamification has become more and more popular as a teaching tool recently.

Due to a lack of previous research, the purpose of this study is to examine the effects of gamification on second graders' motivation. Finding out how gamified game - based learning influences young learners' motivation is the main objective of this study.

The following research question will be investigated in this study:
Is there a significant difference in terms of overall motivation of the students during the learning process in second language learning after gamification elements are applied?

2. Theoretical Framework

This section will address the concepts of gamification and motivation as the guiding theoretical frameworks for this study.

Gamification
Gamification is the use of game components or game design principles in non - game contexts (gamification. org, 2010; Werbach, 2013; Lee, 2012). Gamification is also described by Kapp (2012) as "using game - based mechanics, aesthetics, and game thinking to motivate and encourage users and assist users in overcoming difficulties. " (p.75) Gamification is a systematic, goal - oriented activity, not merely a play. Educators have recently become interested in the idea of game - based learning. This idea has its roots in the idea that play and games are inherent to all cultures and are

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increasingly being recognized as significant components of learning as well (Poulsen, 2011).

Every learner should have the best experience possible, according to Rose and Meyer's (2002) Universal Design for Learning (UDL). Both of them concur that learning should be facilitated in a number of methods for pupils. Students must to be able to select the evaluation system that best showcases their ability, for example, according to UDL. One can design material for different types of learners by using the three strategies of what, how, and why. The UDL paradigm is useful in producing meaningful gamification.

Motivation

According to Dörnyei and Otta (1998), motivation is the stimulus that starts and shapes cognitive and motor skills, and Ryan and Deci (2000) put it this way: "to be motivated means to be moved to do something. " Thus, motivation is important for learning because, as Brophy (2004) states, it is what motivates students to be involved in the process and put in the work required to finish an assignment. According to Jovanovic and Matejevic (2014), gamification influences people's motivation and maintains learning success, success and motivation are also associated.

Muntean (2011) asserts that gamification integrates and amplifies extrinsic and intrinsic motivation. Gamification components such as competitiveness, teamwork, a sense of community, etc. encourage intrinsic motivation, whereas aspects such as badges, levels, points, etc. encourage extrinsic incentive (Viola, 2011, as paraphrased in Muntean, 2011).

Gamification promotes intrinsic motivation, which in turn makes the learning environment more fertile (Lepper, 1988; Ryan & Deci, 2000). These four primary factors are responsible for inducing intrinsic motivation: (1) Control: The education that students receive is their own responsibility and power. Challenge (2) Learners are consistently assigned a range of assignments and goals to strive for. (3) Inquiry: Activities that encourage inquiry are provided, based on the students' interests. Contextualization (4) Each assignment is created through gaming and presented in a natural and applicable environment. Three features of games motivate people, according to Malone (1981): (1) Challenge: It is more interesting and motivating for learners if the player's outcome is unknown. (2) Fantasy: Imagination aids in memory retention by providing players with "mental images" to visualize. (3) Curiosity: It's critical to offer input when things are unclear or uncertain. If players and learners don't know when or what kind of feedback they will receive, they will be curious about the learning process.

Dörnyei and Ushiada (2009) state that students are more likely to be inspired to keep trying for success if they think they can achieve their goals after putting in adequate effort. also provide students control over their performance and learning through games, which results in organically motivated pupils. Additionally, because gamification creates a desire for particular tasks and the desire to complete a task through gamification turns extrinsic motivation into intrinsic motivation, students no longer need an outside source to motivate them and take charge of their own learning processes (Bíró, 2014). To increase motivation, gamification, according to Flores (2015), makes use of both the pleasurable aspect and game aspects.

3. Literature Review

Gamification and motivation

The use of games and game - based learning in education has slowly gained favor as a way to motivate students to study more efficiently (Broussard, 2012). Gamification improves learning by promoting socialization and making students more enthusiastic to learn in an atmosphere of encouragement (Wells & Norken, 2011; Kingsley & Hagen, 2018). By giving them visual aids, video games assist children in learning and practicing vocabulary (Squire, Giovanetto, Devane, & Durga, 2005). Guichon and McLornan (2008) assert that presenting language in a range of contexts improves understanding and expands vocabulary knowledge. Yip and Kwan (2006) discover that employing online gamification technologies that let students explore and review vocabulary across a variety of texts improves vocabulary learning.

Alemi (2010) investigated the relationship between vocabulary acquisition and gamification. The study comprised experimental and control groups with sixty students each. Students' vocabulary grows as they play gamified vocabulary games; in the experimental group, five distinct vocabulary games were played at the conclusion of each session. The findings showed that pupils who played word games and had the chance to build their vocabulary succeeded better than those who did not.

Two online speaking tasks were part of the method that Young and Wang (2014) used for their research. In this investigation, fifty - two Taiwanese pupils were split into two groups: the experimental and control. While the experimental group used games to practice speaking, the control group's students participated in drills. Students in the experimental group showed fewer anxieties when they spoke, according to the study. On the other hand, students in the control group recalled the language better.

In second - year students enrolled in preparatory classes, Karaaslan, Kılıç, Yalçın, and Güllü (2018) used gamification to create a drive for intrinsic learning. Students who had failed their previous year were less motivated and more cautious than their peers who were in their first year of preparatory class. Students responded to questions on gamified vocabulary learning after an 8 - week gamification process. The researchers concluded that students had a positive understanding of gamification; they enjoyed working in groups because they had shared responsibilities and could benefit from each other's experiences; additionally, participants reported that target words or phrases were easier to remember because they were connected to positive experiences and motivated.

Mert and Samur (2018) researched into how students felt about gamification. The results of the study demonstrated that gamification raised the motivation and academic performance of twelve students in different grades who had positive views toward game elements. Using game features like points, badges, and leaderboards gave players a sense of accomplishment and confidence. Through the use of

gamification, they were able to observe the effects of their activities on other people and modify their behavior accordingly.

Taking into consideration the pertinent data, there are several advantages to gamifying vocabulary in EFL classrooms. By making retention easier and encouraging learners to gain insight from their mistakes, it increases vocabulary knowledge. Additionally, it encourages students and helps them succeed in a fun and practical way while also having a beneficial impact on their perception of learning.

Muntean (2011) asserts that gamification integrates and amplifies extrinsic and intrinsic motivation. Gamification components such as competitiveness, teamwork, a sense of community, etc. encourage intrinsic motivation, whereas aspects such as badges, levels, points, etc. encourage extrinsic incentive (Viola, 2011, as paraphrased in Muntean, 2011). Motivating students to be involved and put in the work needed to complete an assignment is what drives them, claims Brophy (2004). Jovanovic and Matejevic (2014) assert a connection between motivation and achievement, stating that gamification influences people's motivation and maintains learning success.

Gamification is supported by a variety of motivation theories: The ARCS Model, Fogg's Behavior Model, Csikszentmihalyi's Flow Theory, Motivation, and Self - determination Theory. Self - determination theory (SDT) is based on human psychology, motivation, and well - being (Deci & Ryan, 2008). According to the theories put forward by Ryan and Deci (2000) and Gagné and Deci (2005), there are three different types of motivation: amotivation, autonomous motivation, or intrinsic motivation, which is also referred to as autonomous motivation, and extrinsic motivation, which can be either controlled or autonomous. Dörnyei & Ushioda (2011) define amotivation as the absence of either extrinsic or intrinsic motivation, while amotivation is the opposite of both (Gagné & Deci, 2005). When someone enjoys an activity, they are motivated by intrinsic factors (Ryan & Deci, 2000; Gagné & Deci, 2005). Instead of coming from outside sources, this kind of motivation emerges on its own (Zicherman & Cunningham, 2011). Zicherman and Cunningham (2011) make a distinction between intrinsic and extrinsic motivation, noting that the latter is influenced by outside forces. According to Dörnyei & Ushioda (2011), conduct that is done in order to receive a reward or avoid punishment is known as extrinsic motivation. The important thing is the result, not the activity itself (Ryan S. Deci, 2000). External motivation has the potential to either raise or diminish intrinsic motivation, depending on the specific conditions around the activity. According to Kankanhalli, Taher, Çavusoglu, and Kim (2012), gamification specifically increases intrinsic motivation by fulfilling individual desires while encouraging voluntary participation, which fosters greater self - determination.

The ARCS technique aims to motivate students for the duration of the lesson (Keller, 1984). Educators frequently believe that students are the only ones who can motivate themselves; external sources lack the capacity to provide it. That being said, there are several ways to maintain or increase students' motivation (Keller, 1984; 1987). Keller (1987) argues that in order to maintain or increase students' motivation, the educational process should address four key areas: attention, relevance, confidence, and fulfillment.

Three elements need to be present for a behavior to occur, according to Fogg's Behavioral Model: ability, motivation, and triggers. According to Fogg (2009), at least one of these three components is missing if there is no behavior. To produce the desired action, ability, motivation, and triggers are three necessary elements that must all be present at the same time. For people without the requisite skills, motivation alone may not be enough to induce target action. While being highly driven motivates people to seek out opportunities to develop their skills, possessing these traits by themselves does not ensure that the desired action will occur if triggers are not there when needed.

The goal - setting theory was created in the 1960s. The hypothesis states that every living thing has goals, and those goals dictate its behavior. Since an individual's goals determine their potential for success, successful people have goals and behave in a way that advances those goals (Locke & Latham, 1990).

Goal setting is influenced by four main factors, according to Locke and Latham (2006): "the complexity of the task, to the extent that task knowledge is harder to acquire on complex tasks; situational constraints; commitment to the goal, which is enhanced by self - efficacy and viewing the goal as important; and feedback, which people need in order to track their progress."

4. Methodology

The purpose of the present research was to determine how gamification affects student motivation in a private primary school in Turkey.

Context

This study was conducted at a private elementary school in Istanbul, Turkey. This school provides 15 hours of general English teaching per week to students in the second grade. Throughout the process, each class finished 90 hours of English instruction. The aim was to increase student's vocabulary and assist them become more proficient in speaking, writing, listening, and reading. In addition to weekly homework assignments and speaking - based activities, learners receive two "Checkpoint - Exams" per semester to assess their proficiency in the material they have already learned.

During the data collection period, there were two intact second grade classrooms available, and both of these classes participated in the study.

Participants

Including 25 male and 23 female second graders who were beginning English language learners, the 48 participants ranged in age from 7 to 8. In addition to having comparable socioeconomic backgrounds—such as middle - class or upper - class—the majority of the students had similar L1 and cultural backgrounds.

Method

To evaluate how the gamification process affected the students' motivation to learn English, a questionnaire was used both before and after the process. The study "Effects of Explicit English - Collocation Instruction and Vocabulary - Learning Motivation on L2 Collocation and Reading - Recall Performances" by Lin and Cortina (2014) served as its foundation. Five items with high interest value, five items with high utility value, and six items with high expectancy for success in learning English language formed the 16 - item survey. On a 5 - point Likert scale, the responses varied from "strongly disagree" to "strongly agree. " Their age group caused a modification to the Likert Scale.

Data Collection

Before the gamification process began, a questionnaire was given to the students for assessing their level of motivation for learning English vocabulary. The questionnaire originated from by the 2014 study "Effects of Explicit English - Collocation Instruction and Vocabulary - Learning Motivation on L2 Collocation and Reading - Recall Performances" by Lin and Cortina.

While conducting the research, card games, Kahoot, and Pictionary were used to design the treatment. The experimental group played the games for a total of forty minutes in class on Mondays and Tuesdays for eight weeks. Based on the students' general academic and linguistic proficiency, the researcher, who was also the participants' teacher, separated the students into groups.

At the end of the process, the questionnaire which was created by Lin and Cortina (2014) to compare the effects of gamification on students' motivation was implemented again.

Data Analysis

The data from the pre - test and post - test were analyzed using the SPSS (Statistical Program for the Social Sciences) program version to respond to the study's question.

5. Findings

The results of the study to examine the impact of gamified game - based learning on second graders' motivation is presented in this chapter. As stated in the methodology section, a questionnaire was used to collect the data. In order to address the research question posed by the study, these results are presented below.

A 2x2 mixed ANOVA was performed to examine the group (experimental vs. control) and time effects (pre - test vs. post - test) on students' motivation scores. The results showed that the effect of time was significant, F (1, 46) = 97.08, p <.001, η^2 =.68. The main effect of the group was significant as well, F (1, 46) = 12.56, p =.001, η^2 =.22. Furthermore, the interaction effect between the group and time was significant, F (1, 46) = 18.36, p <.001, η^2 =.29. In terms of total motivation, while there is no significant difference between the two groups in terms of motivation in the pre - test, the experimental group is more motivated in the post - test. In other words, pair - wise comparisons indicated that the difference on motivation between experimental and control group was insignificant in the pre - test, p =.22. Yet, the difference was significant in the post - test, p =.000 (Figure 1).

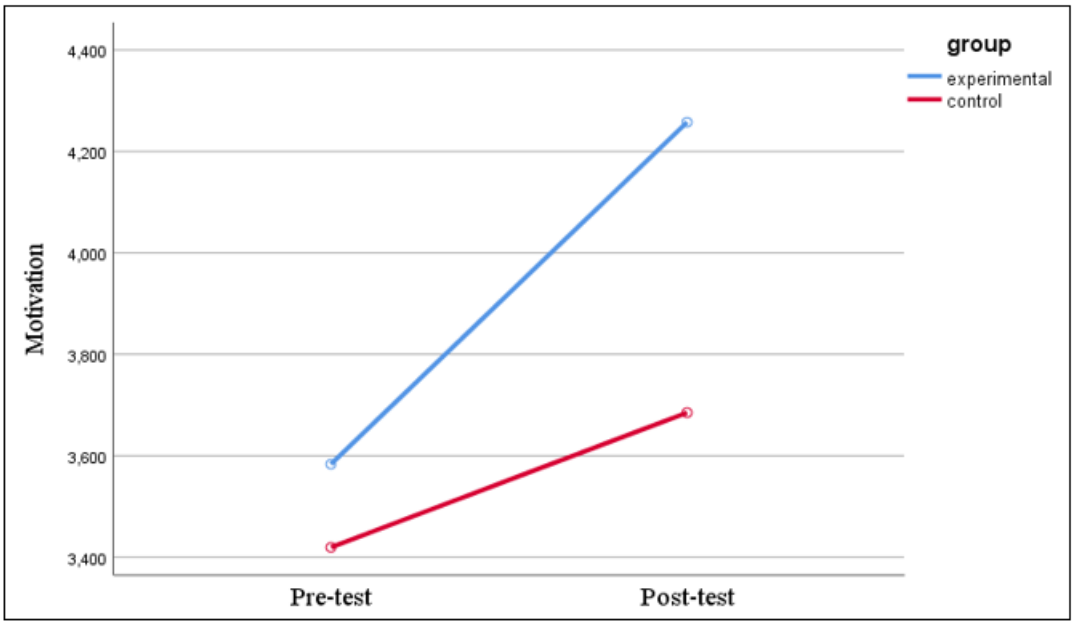

Figure 1: Students' Motivation Scores on the Pre - test and the Post – test

A 2x2 mixed ANOVA was done to check whether the effects of group (experimental vs. control) and time (pre - test vs. post - test) on students' expectance for success scores were significant. The results indicated that the effect of time was significant, F (1, 46) = 51.77, p <.001, η^2 =.53. However, the effect of the group was not significant, F (1, 46) = 1.68, p =.20, η^2 =.04. Similarly, the interaction effect between the group and time was also not significant, F (1, 46) =.22, p =.64, η^2 =.01 (Figure 2). As a result, only the time effect was noticed in terms of expectations. The scores of the groups are the same.

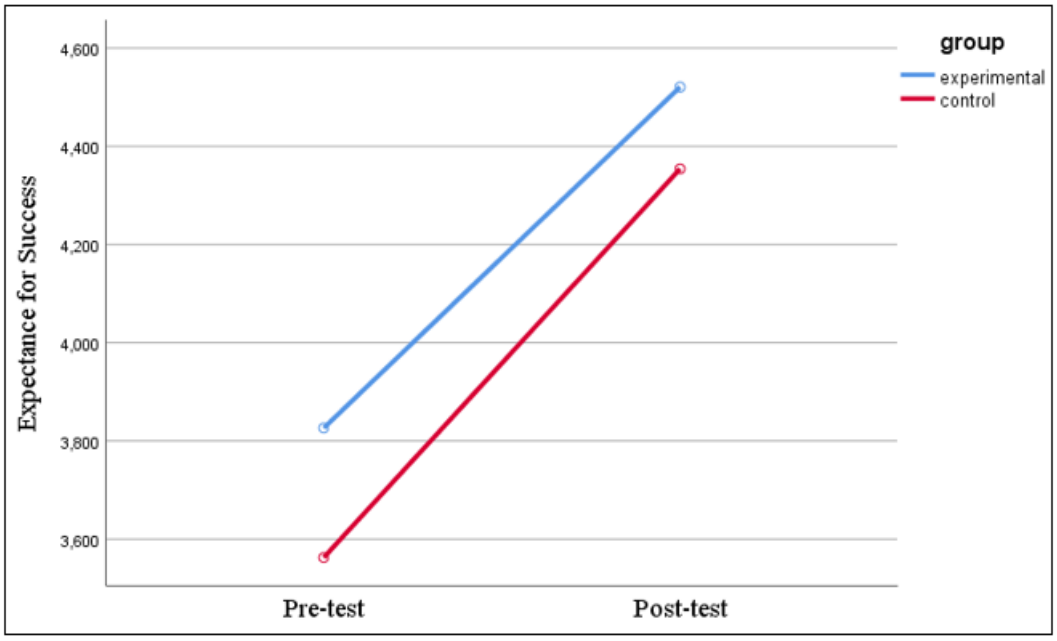

Figure 2: Students' Motivation Scores on the Pre - test and the Post- test

A 2x2 mixed ANOVA was carried out to test the group (experimental vs. control) and time effects (pre - test vs. post - test) on interest value scores. The analysis showed that the effect of time was significant, F (1, 46) = 9.11, p =.004, η^2 =.17. The effect of the group was significant too, F (1, 46) = 4.03, p =.05, η^2 =.08. Additionally, the interaction effect between the group and time was significant, F (1, 46) = 34.31, p <.001, η^2 =.43. Pair - wise comparisons indicated that the difference on motivation between experimental and control group was insignificant in the pre - test, p =.75. Yet, the difference was significant in the post - test, p =.000 (Figure 3). As a result, for the time and time - group interactions, interest - value was evaluated. In the pre - test, there was no difference in the two groups' levels of interest; however, in the post - test, the experimental group showed greater interest.

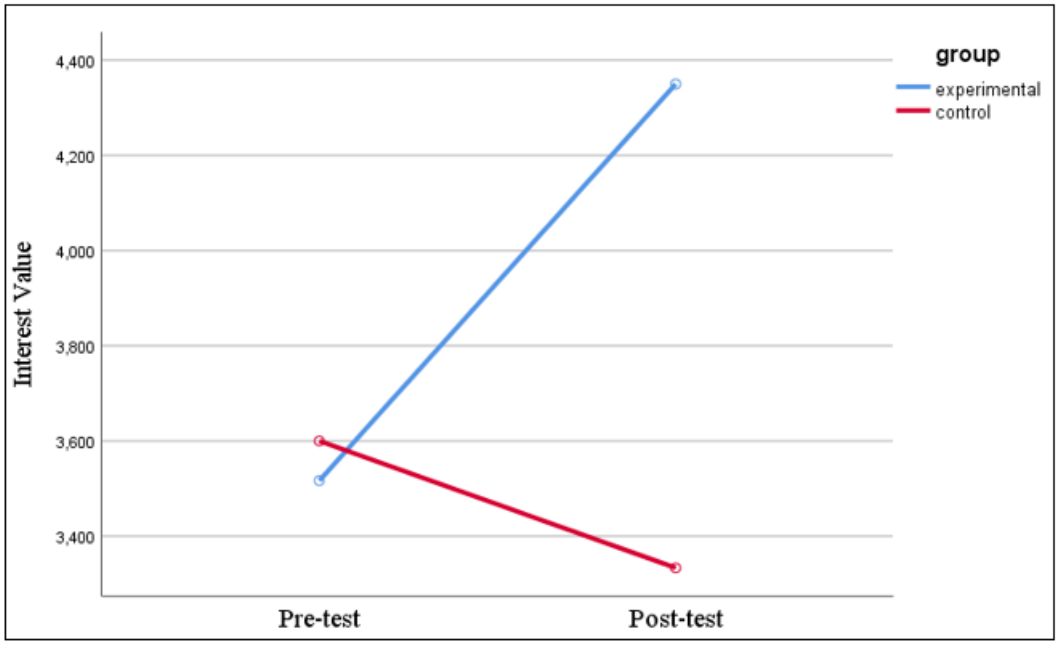

Figure 3: Students' Interest Value Scores on the Pre - test and the Post - test

A 2x2 mixed ANOVA was performed to examine the effect of the group (experimental vs. control) and time (pre - test vs. post - test) on students' scores on the utility value. The analysis indicated that the effect of time was significant, F (1, 46) = 17.03, p <.001, η^2 =.27. The effect of the group was significant as well, F (1, 46) = 19.14, p <.001, η^2 =.29. To add, the interaction effect between the group and time was significant too, F (1, 46) = 4.15, p =.05, η^2 =.08. Pair - wise comparisons indicated that the difference between the experimental and the control group was significant on both the pre - test (p =.04) and the post - test (p <.001). Yet, the interaction effect implies that the increase was more remarkable for the experimental group (Figure 4). Time, group, and time - group interaction utility - values were assessed. The experimental group demonstrated a substantially more positive attitude with respect to English in the post - test. Additionally, the utility - value difference

between the control and experimental groups was greater in the posttest.

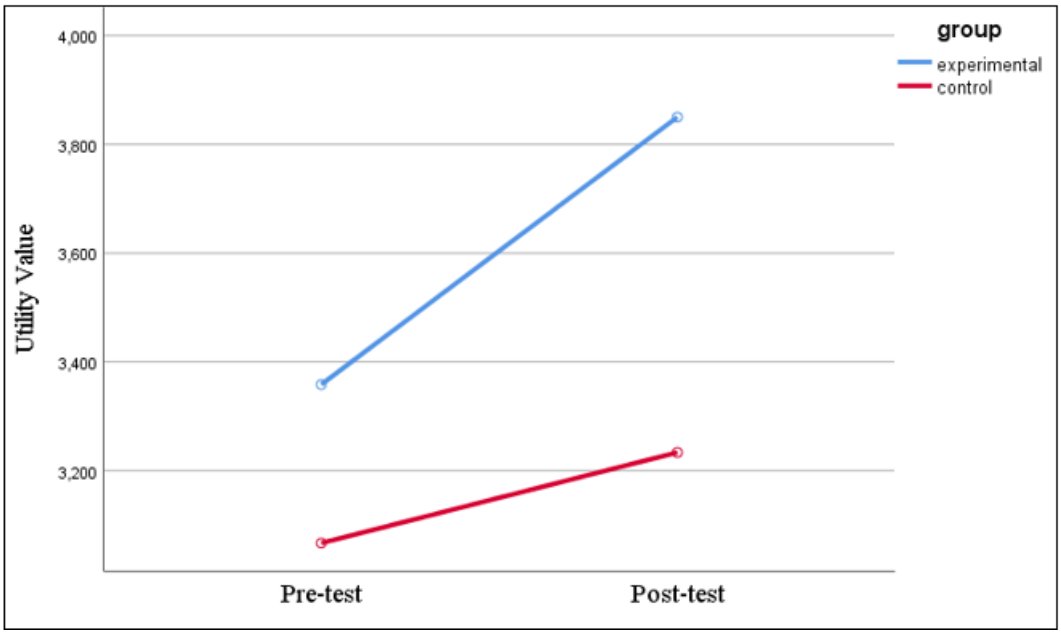

Figure 4: Students' Utility Value Scores on the Pre - test and the Post – test

6. Discussion

The purpose of this study was to determine how gamified, game - based L2 instruction affected students' motivation during the targeted learning process. The study was noteworthy because not much empirical research has been done on this age range. It involved second - grade pupils from a private primary school in Turkey. There were 48 participants in the study, 24 of whom were split between the experimental and control groups. There was a motivation questionnaire provided both before and after the treatment. The only group to receive the Pictionary game treatment was the experimental group.

The results of this study showed that motivation was increased and strengthened when L2 training was gamified.

The findings showed that because they enjoyed how games could facilitate courses, students in the experimental group were happy with the progress they had made in their English and enjoyed their classes during the gamification process. Furthermore, the lessons were more important to them because they had to win games against them and they were responsible for the concepts given in class. Gamification increased students' motivation, according to the ARCS model's required variables for motivation (Keller, 1984).

According to Goal - Setting Theory (Locke & Latham, 1990), targets encourage people to invest more time in an activity, which improves outcomes and increases achievement. During the gamification process, students had clear objectives and were more attentive and involved in the lectures. The goals that students create during the gamification process may therefore be partially responsible for their enhanced motivation and achievement.

The experimental group is shown to be more motivated overall in the post - test, despite the fact that there was no discernible difference in motivation between the two groups during the pre - test. Expectancy, utility, and interest were the three sub - value items that made up the motivation questionnaire.

The results of the interest value part of the questionnaire showed that there was a substantial difference between the control and experimental groups. Both groups outperformed the control group in terms of outcomes; however, the experimental group's interest in expanding their vocabulary and perception of the English language increased, especially in the post - test.

Similar to the interest value, there was a substantial difference in the utility value between the experimental and control groups, according to the questionnaire results in that section. It is also plausible to contend that students' parents' and teachers' efforts contributed to their acquisition of a certain level of awareness regarding the advantages of knowing English in their social lives, as well as their increased comprehension of the true significance of the language.

The final item on the questionnaire was expectancy - value, which included unfavorable notions about learning vocabulary in English, such as "I will make a lot of mistakes in choosing appropriate English words" and "Learning English vocabulary is a complicated task. " When analyzing the differences between the groups for the pre - and post - test, the questionnaire findings revealed that there was no discernible variation in the expectancy value between the experimental group and the control group. Student expectations for English increased with time, however this didn't result in a change in the motivation questionnaire.

7. Conclusion

This study highlights the positive impact of gamified learning on young learners' motivation in foreign language learning. The use of games like Pictionary significantly enhances student engagement and interest in vocabulary acquisition, making the learning process enjoyable and effective.

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