

classcraft

By khoirul anwar

The Effect of Classcraft on Enhancing Grammar Performance of Adult Learners

Iyun Witari¹, Khoirul Anwar², Yudi Arifani³

¹Iyun Witari, Universitas Muhammadiyah Gresik, e-mail: iyun.witari@gmail.com

²Khoirul Anwar, Universitas Muhammadiyah Gresik, e-mail: khoirulanwar@umg.ac.id

³Yudhi Aifani, Universitas Muhammadiyah Gresik, e-mail: yudhi_arif@umg.ac.id

Abstarct. This study aims to investigate the effect of Classcraft on enhancing grammar performance of adult learners. A quasi-experimental study employed involved 27 adult learners from graduate and postgraduate program. The participants were from beginner level and divided into Control Group (14 learners) and Treatment Group (13 learners). Data collection instruments were pre-test and post-test scores and a questionnaire. The result of Independent T-test revealed that there was statistically significance difference on the post-test scores between the Control Group and Treatment Group at significance level of 0.05 indicating that the implementation of Classcraft improved grammar performance of adult learners. The findings propose that a learning process that gives adult learners a sense of competitiveness, autonomy, recognition, competence, and relatedness can enhance adult learners' learning performance. The result of the questionnaire showed that overall, adult learners have positive attitude towards the implementation of Classcraft in the class. Future studies could be conducted by combining different gamification platforms into one course to maintain an element of surprises or by applying the gamification across different level of proficiency.

Keywords Grammar performance, adult learners, gamification, Classcraft

1. Introduction

Grammar is considered the basic element in learning English since it helps learners to master the skills (reading, writing, speaking) needed to effectively comprehend English [1,2]. Instructions of grammar also play an important role in SLA in that learners can use them to construct sentences to express themselves correctly [3].

For many adult learners, learning grammar is essential because they realize its social value [4]. Furthermore, mastering grammar can be beneficial for adult learners' career in terms of employment, promotion, and their academic achievement [4,5]. Notwithstanding its importance in language learning, grammar is still considered a difficult subject to learn since its technical language and intricate rules can be daunting. In addition, during the teaching and learning process, grammar can be demotivating for both teacher and learners [6]. Cozma [7] stresses that when adult learners become the learners in a language classroom, the teaching process tends to be problematic; yet, it is also fascinating and satisfying.

Countless teachers have tried to change the classroom atmosphere into something more comforting, pleasurable, and exciting in dealing with teaching grammar to adult learners. One of the ways to lift the classroom's mood is by applying gamification on the learning process. The use of gamified teaching approach enhances the effectiveness of learning process experienced by adult learners because gamified activities engage learners to activate their cognitive ability [8]. It is argued that applying game elements to a classroom setting helps improve learners motivation [9-11] and gives learners excitement in the learning process [12].

Despite the innumerable studies conducted on the effect of gamification on learner performance [1], [13–15], the studies in this field are mostly conducted on children, teen or young adults. The growing number of adult learners in formal and non-formal education seems to be overlooked by scholars and the prospect of applying gamification to uphold adult learning has not been delved into.

Classcraft together with Kahoot!, Rezzly, Seppo and Youtopia, is a favorite educational digital game platform [16]. A number of studies on the effect of Classcraft on educational settings have shown positive results on improving student motivation [17–19], student engagement [20], and student performance [21]. This brings to the notion of conducting a study to investigate the effect of using *Classcraft* to enhance adult learner performance in learning grammar.

2. Literature review

2.1. Principle of Adult Learners

Andragogy, a term introduced by Knowles [22] as opposed to pedagogy, emphasizes that the way of adult learners in acquiring knowledge is different and distinct from that of younger ones. Therefore, teachers should employ methods suitable for adult learning style. Some of the principles of adult learners as explained by Knowles [22] are self-directed in which they can guide and lead their own learning process; full of life experiences that can help them navigating their learning process; ready to learn when they are directed by new social roles; problem-centered instead of subject-centered meaning that they focus more on the task or assignment in the learning process; and internally motivated. Likewise, adult is more likely to have characteristics such as autonomous, self-directed, and goal-oriented [8].

2.2. Gamification

Gamification is a newly coined term used to describe the implementation of game components, such as game psychology, game mechanics, and game dynamics to non-game situation [23]. Gamification is the process of incorporating game mechanics and game thinking into activities aside from non-game situations to increase student engagement and solve problems [24]. Gamifications can also be defined as the utilization of game mechanics and experience design to engage people digitally and to motivate people to attain their goals [25].

Gamification garners attention due to its ability to affect behavior and provide successful outcomes. Games stimulate strong emotional responses, such as frustration, curiosity, and joy [26]. In addition, people's productivity and engagement increase when playing game [27].

The indispensable reasons to promote gamification in educational setting are its stimulating components, such as instant feedback, contentment, challenge, and triumph [28]. Gamification in educational settings poses a number of benefits, such as increased excitement, unperturbed atmosphere, more noticeable learning progress, and more ownership of learning [29]. Additionally, gamification can be used to give rewards for expected behavior and to assure that these behavior facilitate learners to achieve intended learning outcomes [30], [31]. By applying gamification in the teaching learning process, learners can study in a more relaxed atmosphere. This will lead to a better engagement in the lesson taught and result in an intended learning outcome. As learners now are accustomed to interactive media and games, classroom gamification might interest and motivate them [32].

2.3. Classcraft

Classcraft, a cloud-based digital game platform that operates across various devices, is one of five popular educational digital game platforms [16]. It is designed as an educational tool for learners. Since Classcraft is working in a browser connected to the internet, it does not require any installation unless one chooses to use it as a mobile app. Classcraft has been successfully employed in primary, school, high school, and even several university courses.

The main theme and general model of Classcraft is inspired by role-play game (RPG) and it is named after a massively popular multiplayer online role-playing game (MMORPG), World of Warcraft. Shawn Young created the first version of Classcraft in January 2011 for personal use. Classcraft works as augmented reality and employs a layer of fantasy over life in the classroom [17], [18]. The main objective of Classcraft is to make the learning atmosphere engaging and reflexive and to stimulate the collaboration among learners [33].

Usually, learners are divided into teams consisting of 4-6 learners. Learners are then given an opportunity to decide which game character they want to play, a warrior, a mage or a healer. Different personas have their own unique set of powers and diverse rewards to support their team. Just like any other game, each character has five attributive cores namely XP (Experience Points), AP (Action Points), HP (Health Points), PP (Power Points), and GP (Gold Points). XP is used for levelling up; AP is for using student's power; HP is for representing student's energy life; PP is for unlocking new powers; and GP is for customizing student's avatar

In addition to basic game elements such as PBL (point, badge, and leaderboard), Classcraft also provides other game elements such as instant feedback, quest, avatar, and reward. Classcraft is not only incorporating reward-based component but it also attempts to make student intrinsically motivated by allowing learners to manage their own learning process [16]. This philosophy, primarily used in video games, is based on Self-Determination Theory [34] postulating human's innate needs for competence, autonomy and relatedness. Competence is human's need to control the environment and form a desirable outcome; autonomy is the desire to act based on individual's will and interest; relatedness is the sense of belonging to a group or related to others. Another advantage of Classcraft is the design of Classcraft that is purposely created to manage courses, maintain learners' presence in the class and involve learners' participation during the learning process [35].

3. Methodology

This study aims to investigate whether the implementation of Classcraft had a significant effect on the grammar performance of adult learners.

4

3.1. Research Questions

The study aims to address the following questions:

1. Does the implementation of Classcraft have a positive effect on enhancing grammar performance of adult learners?
2. What are adult learners' attitudes towards the use of Classcraft on grammar learning?

3.2. Participants

The population of this research comprised 120 graduate and post graduate students, first-year students from 2019/2020 academic year who participated in a free training program to improve their English. They were from various departments: immunology, law, nursing, public policy, sharia economics, pharmaceutical science, and public health.

The samples of this study were chosen randomly with a cluster random sampling technique from the beginner classes. The control group consisted of 14 students (9 females and 5 males) and the treatment group comprised 13 students (8 females and 5 males). The students were between 22 and 54 years old with the average age was 27 years old. They had studied English at least for 6 years during their secondary school and Bahasa Indonesia is their native language.

3.3. Design and Procedure

This study was quantitative research using a quasi-experimental-control group with a pre-test and a post-test design. A quasi-experimental design is an experimental study involving manipulation of independent variables with non-randomized subjects assigned to treatment group [36]. Furthermore, Ary et al [36] argue that a quasi-experimental design allows researchers to attain a sensible conclusion despite its lack of full control. Students in treatment group participated in an ELPT preparation class using Classcraft, while learners in control group attended a regular class without the gamification technique. At the end of the course, students from TG were given a questionnaire to know their attitude towards the use of Classcraft in the class. The questionnaire used was developed by Saovapa Wichadee and Fasawang Pattanapichet from Bangkok University. The questionnaire used a 5-likert-scale with point 1 for most disagree and point 5 for most agree. There were seven items in the questionnaire and students were to choose one out of five scales that most likely described their attitude.

Prior to the training, all students were given a pre-test to measure their proficiency level. The pre-test consisted of 40 grammar questions. Students were then divided into 7 classes consisting of 13 – 18 students each. There were 1 intermediate class and 6 beginner classes. To identify the improvement in the grammar performance after joining the training, students had to take a post-test. The validity of both tests was approved by three experts from English departments of Universitas Airlangga. Both pre-test and post-test had been tried out to English teachers and students from English department before administered to students.

The materials for the training were compiled from various books focusing on grammar mastery such as one clause and multiple clauses; part of speech especially about subject, verb, adjective, and verb; and agreement. The training is held four times a week for 100 minutes each and lasts for 3 weeks.

Both control and treatment groups followed the same lesson plans in accordance with the textbook. The textbook contains not only materials but also practices and exercises on the subjects taught. The control group studied in a conventional method, relying only on textbooks. In addition to studying the textbook, the treatment groups also used Classcraft as a tool to help them understanding the materials. At the end of every meetings, students would do exercises about the materials taught. Students in the control group worked individually to answer questions on the review section of the book and after that the teacher either read the answer key for the students or discussed the answer of the questions one by one with the class. In the treatment group, students did the exercises in the form of Boss Battle activity in Classcraft displayed on the screen for the whole class to see.

Boss Battle was one of the tools in Classcraft that could make review exercises enjoyable and exciting. It was an entertaining way to assess students' understanding of the materials taught and it can help them to prepare for the test. Moreover, playing Boss Battle gave the teacher opportunity to observe cooperation and autonomy. Teacher could choose whether to play it in an individual mode or a team mode. In the individual mode, the name of the student would appear randomly on a given question, whereas on the team mode, the name of the team would appear arbitrarily on a random question. In team mode, students could discuss the answer with the other members of the team.

The purpose of the Boss Battle activity was to defeat a boss. Teacher had to set the boss' HP (Health Point) when transforming exercise in the textbook into a Boss Battle activity. When a student or a team answered a question correctly, it would create a damage to the boss resulting in the decrease of the boss' HP. On the contrary, when students or teams gave a wrong answer, their HP would decrease. When the boss' HP turned to 0, the class won the battle, and all students would be rewarded with rewards, such as GP and XP points.

3.4. Data Collection

To know whether the treatments had significantly affected students' grammar performance, a statistical calculation was applied. After the pre-test and post-test scores were collected, they were then evaluated using SPSS version 24.0. The first step was to calculate the normality and the homogeneity of the data. To find out the normality of the data distribution, Shapiro-Wilk test was employed since studies show that Shapiro-Wilk test has better performances in most situation [37]. The significance level used to interpret the data was 0.05 [38]. As for the homogeneity test, Levene's test was used to identify the equality of variances throughout the samples. The next step was to pinpoint the mean difference of students' score between the pre-test and post-test using the paired-sample T-test. This aimed to tell whether there was a significant improvement in the grammar's score after the treatment was given to the groups. The last step was to test the hypothesis using independent sample t-test.

4. Results

The result of the normality and homogeneity test for control and treatment group was presented as follows.

The result shows that from the normality test using Shapiro-Wilk, the p-value was 0.106 for the CG pre-test and 0.478 for the CG post-test, while TG, the p-value for the pre-test was 0.50, and for the post-test was 0.300. The p-value from pre-test and post-test for both control and treatment groups was greater than the significance level of 0.05. This specified that the data have normal distribution. This also demonstrates the p-value of homogeneity test in which the value was 0.226 for pre-test and 0.773 for post-test, higher than the significance level of 0.05, indicating that the data were homogeneous.

It reveals that the means of students' post-test scores are higher than those of students' pre-test score. There was a significant difference in the scores in CG for pre-test ($M=38.36$, $SD=2.437$) and post-test ($M=41.29$, $SD=3.407$), while students in TG had a mean score of 35.92 with SD of 3.796 for pre-test, and a mean score of 44.92 with SD of 3.570 for post-test. Even though students in both groups achieved higher scores in their post-test, students in TG showed a better improvement with a mean difference between pre-test and post-test of 9.000, higher than those of CG (2.929). To decide whether there was a statistically significant difference between the mean scores of pre-test and post-test, a Paired Sample T-Test was applied. The result illustrates the p-value for both groups. The value was 0.012 and 0.000 for CG and TG respectively, which was less than the significance value of 0.05. This indicated that there was a statistically significant difference between the pre-test and post-test for both CG and TG. This implied that in both groups, students got significantly higher score in post-test after joining the training program.

To answer the first research question whether the implementation of Classcraft significantly affected the grammar performance of adult learners, an independent sample T-test was employed. The result demonstrated that the p-value (sig 2-tailed) was lower than the significance level at 5% ($0.012 < 0.05$)

revealing that the implementation of Classcraft had a significantly positive effect on enhancing grammar performance of adult learners compared to the traditional way of teaching.

To answer the second research question, a questionnaire was given at the end of the course. The average mean score of the questionnaire was 4.231 indicating that overall, students had positive attitude towards the use of Classcraft in the class. Item number 3 (This technique increased engagement with the class) had the highest mean score (4.462) followed by item number 1 (This technique made the course more fun) with the mean score of 4.385. Item number 2 (I like competition on this technique) and item number 7 (I want this technique to be used in other courses) had the lowest mean score (4.077).

5. Discussion

This study aims to identify the effect of using Classcraft to improve grammar performance of adult learners. The result confirms that the implementation of Classcraft indeed produces a better grammar performance compared to the usual teaching technique. This finding is in line with the findings of previous studies that explore the effect of using gamification in language learning [55,56]. Similarly, [11], [14,15] conducted research on the effect of gamification on grammar performance resulting in the conclusion that gamification did improve grammar performance. Likewise, research carried out by Ge [41] demonstrated that applying reward strategies, one of gamification components, substantially improved adult learners' performance.

Better grammar performance in this study is possibly attributable to the fact that adult learners learn a lot from the review activities conducted through competition [42]. The result of students' questionnaire also supports this claim. Students' had a positive attitude towards item number 2 (I like competition on this technique) with a high mean score (4.077) showing that most students have a competitive drive. In the Boss Battle activity, students review the lesson taught through a competition, be it with other classmates individually, or with other teams in the class. The competition is not a direct rivalry between peers or between teams as the goal in Boss Battle is to defeat the monster together through collaboration of all students in the class by answering questions. In spite of that, individuals or teams (depending on the mode selected by the teacher) will gain more XP if they answer the questions correctly and will lose their HP if their answers are incorrect leading to a match between attaining more XP and avoid losing more HP.

The ability to choose between individual or team mode in Boss Battle allows teachers to control the atmosphere in the class. If the taught materials are arduous, teachers can choose the team mode so that students can discuss the answers with their friends. Thus, learners who are having difficulty with the materials can learn from their friends during the discussion and even if students give an incorrect answer, the members of the team share the same feeling. This way, the heavy atmosphere when an individual feels embarrassed for choosing an incorrect answer can be avoided. Merriem [58] argue that a successful adult learning process is dependent to the environment (physical, psychological, and social) where the process occurs. They reveal that the class atmosphere where a teacher provides warm and reassuring ambiance to attend to adult learner's feeling of fear and doubt can reduce their discomfort and diversion. Knowles et al. [59] claim that if the class atmosphere does not pressurize adult learners to lose control over the learning process, it is likely that they will succeed in obtaining new knowledge. Additionally, Huang and Soman [45] point out that one of the purposes of gamification is to lessen negative emotions usually present in a traditional way of education. They further explain that gamification allows learners master the materials taught using the technique of learning by mistake without feeling embarrassed.

Teachers can also ask students to choose whether they want to play individually or in teams. This gives students a sense of self confidence to control their own learning process. If students think that they have already mastered the materials, they will choose to play individually and if most students think that the materials are too difficult, they can decide to play in teams. From a perspective of Self Determination Theory, this is related to human's need for autonomy [34]. Autonomy means the ability to come to a decision based on one's interest. To such a degree, this makes learners intrinsically motivated since they can oversee their own learning course. Leaning [29] reports that one of the advantages of applying gamification in an educational setting is more ownership of learning. Furthermore, Skinner et al.[46] state that autonomy can raise students' engagement behaviorally and emotionally. Being autonomous and self-directed are characteristics of adult learners that directed them to choose their own path and govern their learning process [8] [22]. Adult learners cherish the control over the learning process and are in favor of making the learning process their possession [44].

Another feature of gamification that helps creating a stimulating learning environment is the game elements attached to it. Elements like point, badge, and leaderboard motivate learners to achieve a better performance. Gaining more points after giving a correct answer or obtaining a badge after completing certain tasks contribute to the feeling of recognition. Bai et al. [47] conducted a qualitative study on 24 articles about the effect of gamification on learning outcomes. They attributed the positive impact of gamification on learning performance to three specific reasons, one of which is gamification can fulfill learners' need for recognition. Cavalcanti et al.[48] and Goehle [64] reported that points or badges can amplify learners' sense of attainment and recognition for fulfilling a certain task. Recognition provides a sense of pride leading to a continuous participation and improved learning [50].

Increased performance on the post-test of the treatment group can also be attributed to immediate feedback provided by gamification. Conformational feedback denoting the correct answer from the incorrect one [28] satisfies learners curiosity by giving direct feedback of their answer. Points obtained from answering questions correctly are also a feedback for learners on their achievements or mastery of the materials taught. Viewed from theoretical perspective of Self Determination Theory, feedback can fulfill learners need for competence [10]. Landers et al. [50] revealed that competence fulfillment can enhance student task performance as well as build up enjoyment.

Another important feature offered by Classcraft is the opportunity to play the game as an individual or as a team member. When playing as an individual, it serves to satisfy an individual recognition. However, being a team member gives learners a sense of belonging to a group. It serves to fulfill the need of relatedness in the viewpoint of Self Determination Theory. According to Ryan and Deci [47], relatedness means human's need to work or bond with other people. An increased relatedness stimulates the feeling of enjoyment and boosts student participation in playing the game [46]. Adult learners are indeed more cooperative, which stems from their observation of the situations they are in [7]. Their perceiving nature of the surroundings is drawn from life experiences as adults. Adults' experiences could influence the learning strategies utilized by the teacher in the learning process and this experience may enhance their grammar performance as adult learners partake in group or peer activities [51].

The result of the questionnaire also demonstrates that adult learners have positive attitudes towards the implementation of Classcraft in the class with item number 3 (This technique increased engagement in the class) showing the highest number of mean of 4.462. This confirms the previous research stating that the more learners engage themselves in playing the game, the more knowledgeable they become [11]. As such, implementing gamification in the classroom produces more motivation, involvement, excitement compared to the traditional way of learning resulting in a better grammar performance.

6. Conclusion and Recommendation for Future Research

The finding of this study affirms that implementing Classcraft in the classroom could enhance grammar performance of adult learners. This suggesting that adult learners whose characteristics are goal-oriented, autonomous, and self-directed, need to have their learning process designed to suit their needs. A learning process that gives adult learners a sense of competitiveness, autonomy, recognition, competence, and relatedness can enhance adult learners' learning performance. Classcraft provides those features and can convert boring and arduous grammar exercises into an exhilarating and comprehensible activity. Even though gamification can provide a better learning environment for adult learners, it is only an instrument to help make the learning atmosphere more pleasing. The teacher is still the boss who exploits the features attributed to gamification and utilize those features to the best of their flairs. "The purpose of teaching is to facilitate personal growth and development that impact the professional, social, and political aspects of learners" [52]. Irrespective of what platform teacher uses and how the class is arranged, it is imperative that the design and approach for the learning process be in the best interest of adult learners.

Despite its effectiveness in enhancing grammar performance, some issues concerning the use of Classcraft in the class needed to be attended to. First, using Classcraft in every review exercise might raise anticipation from the students and make them loose interest to play the game. Future research can be conducted by combining different gamification platforms into one classroom for different learning activities to keep learners' enthusiasm by maintaining elements of surprise. Next, other researchers could conduct a study to investigate the effect of the duration of the application of gamification. The short period of time in this study can possibly make learners feel enthusiast due to its novelty factor. As gamification is a new learning technique for them, they invest their time in becoming accustomed to the new instrument. Lastly, future research can be carried out to know whether the effect of gamification applies across proficiency level by comparing students from low proficiency level and high proficiency level.

7.

4%

SIMILARITY INDEX

PRIMARY SOURCES

- 1** Raed S. Alsawaier. "The effect of gamification on motivation and engagement", *International Journal of Information and Learning Technology*, 2018 31 words — 1%

Crossref
- 2** Melinda Dincă, Anca Luștrea, Atalia Onițiu, Mariana Crașovan, Trond Berge. "The Effects of Disciplinary Composition on Virtual Learning Group Process Dynamics: Students' Perspectives", *Sustainability*, 2021 29 words — 1%

Crossref
- 3** Chien Yu, Sang Joon Lee, Wei-Chieh Wayne Yu, Angela Lenoir Walton. "chapter 6 Exploring Issues and Challenges of Project-Based Learning for Teaching and Learning", IGI Global, 2018 20 words — < 1%

Crossref
- 4** Afke J. M. B. Berkhout, Nicolle P. G. Boumans, Frans J. N. Nijhuis, Gerard P. J. Van Breukelen, Huda Huijer Abu-saad. "Effects of resident-oriented care on job characteristics of nursing caregivers", *Work & Stress*, 2003 15 words — < 1%

Crossref
- 5** Mujahidatul Muslimah, Khoirul Anwar, Candra Hadi Asmara. "THE EFFECT OF THINK PAIR ON STUDENTS'S WRITING SKILL THROUGH PADLET FOR TENTH GRADE AT SMA MUHAMMADIYAH IX BRONDONG", *Journal of English Teaching, Literature, and Applied Linguistics*, 2020 13 words — < 1%

Crossref

6 Sina Soltanabadi Farshi, Sholeh Dadashzad Baghbani. "The Effects of Implicit and Explicit Focus on Form on Oral Accuracy of EFL Learners", *Theory and Practice in Language Studies*, 2015 11 words — < 1%

[Crossref](#)

7 H. C. Yeh, W. Y. Chang, H. Y. Chen, L. Heng. "Effects of podcast-making on college students' English speaking skills in higher education", *Educational Technology Research and Development*, 2021 10 words — < 1%

[Crossref](#)

8 Malin Carlsson, Ingrid Olsson, Gudrun Hagberg, Eva Beckung. "Behaviour in children with cerebral palsy with and without epilepsy", *Developmental Medicine & Child Neurology*, 2008 10 words — < 1%

[Crossref](#)

9 Ahmed Mohamed Fahmy Yousef. "Augmented reality assisted learning achievement, motivation, and creativity for children of low - grade in primary school", *Journal of Computer Assisted Learning*, 2021 9 words — < 1%

[Crossref](#)

10 Buyun Xu, Liam Rourke, June K. Robinson, James W. Tanaka. "Training Melanoma Detection in Photographs Using the Perceptual Expertise Training Approach", *Applied Cognitive Psychology*, 2016 8 words — < 1%

[Crossref](#)

11 Eugene Dinkevich, Andrea Markinson, Sama Ahsan, Barbara Lawrence. "Effect of a brief intervention on evidence-based medicine skills of pediatric residents", *BMC Medical Education*, 2006 8 words — < 1%

[Crossref](#)

EXCLUDE QUOTES OFF

EXCLUDE MATCHES OFF

EXCLUDE BIBLIOGRAPHY OFF