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The Effects of a Simple Word Game on Students' Willingness to Communicate

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Abstract

A student's willingness to communicate (WTC) in a second language (L2) is the extent to which they choose to use that language in different circumstances. It is affected by various factors, including a student's disposition and their confidence in their L2 skills. Playing games in an L2 can potentially improve a student's WTC in a foreign language if the games can assist in developing their L2 abilities. This study examines how regularly creating and playing a simple English word-puzzle affected the WTC in English of first-year Japanese university students enrolled in a mandatory English discussion course. Classes of students enrolled in this course were separated into two groups. For their weekly homework, one group (n = 57) was tasked with creating an English word-puzzle for their classmates to play and playing at least one puzzle created by their peers, and the other group (n = 59) served as the control group and was not assigned this homework task. Both groups were given a pre- and posttest to measure their WTC in English at the beginning and end of the semester. Differences in the changes to WTC between the control group and experimental are then compared to assess the effect playing the word-puzzle had on WTC. Findings show that the experimental group had a greater increase in WTC than the control group by the end of the semester, but a t-test showed no significant difference between the two groups, or between the experimental group's WTC before and after the treatment. This differs from other research findings but could be due to sampling problems in the current study.

Keywords: games, Japanese students, second language, willingness to communicate, word puzzle

1. Introduction

Games of different types have become commonplace in modern society, serving as diversions, hobbies, or leisure pursuits for people from all walks of life. Their pervasiveness has brought them into schools, where games of various forms have been incorporated into education as a means of making learning fun. Classroom games have been used to liven up lessons while achieving lesson goals, and as such, can be integrated into courses not just for children, but also for adult learners. In-class educational games used as teaching tools aid

student retention (Selvi & Çoşan, 2018) and lead to greater engagement in lessons and higher motivation even among graduate students (Gareau & Guo, 2009). Computer games have also been made or adapted for instructional purposes in an effort to leverage the popularity of video games in education. In the beginning, many decried the use of video games as learning tools, but recent research has shown their potential merits (de Aguilera & Mendiz, 2003). Part of this negative perception could be due to the view that playing video games excessively leads to poorer student performance. Research by Wakil et al. (2017) certainly corroborates this, with students who play video games for more than three hours a day having significantly worse grades per hour played compared to their peers who play video games less. However, using video games for educational purposes can lead to improved outcomes when done well. In their study, Cheung and Ng (2021) found that traditional learning methods in conjunction with the use of a digital game improved student motivation and increased student test scores. Coller and Shernoff (2009) also noted that playing computer games as homework increased student engagement more than conventional types of homework. Nevertheless, Farrington (2011) cautions that digital games cannot improve learning outcomes on their own, and need to be used mindfully in combination with teaching strategies to improve student outcomes.

With games being used across the width and breadth of education, they have naturally found their way into language learning curriculums. Games can further increase exposure to a second language and make the learning process more active for learners. Whether played in class or at home, games engage those who play them and this aspect of them can lead to second language (L2) improvement. Rudis and Poštić (2018) claim that the growing prevalence of video games over the past two decades is also why English learners have improved their skills over the same time period, finding that vocabulary and pronunciation have improved significantly and that such games create an attractive method for acquiring English. Using computer games for language learning is not without its problems though, and teachers must be aware that not all games may be suitable for learning purposes and the interactivity of some games may actually be an impediment to learning (Klimova & Kacet, 2017). Still, playing games in the classroom can increase the motivation of language students (Gozcu & Caganaga, 2016), helping students who would otherwise be reluctant to participate in an activity engage in the lesson. Additionally, playing video games with foreign language inputs can improve vocabulary in a foreign language (Jensen, 2017). Finally, research by Liu et al. (2021) has even found that playing games in class can appear to improve students' attitudes towards learning English and even increase their willingness to communicate (WTC).

WTC is an individual's disposition towards engaging in communicative activities in a given situation. Applied to language learning, it is a concept that has gained traction recently due to a growing emphasis being placed on improving students' communication skills rather than simply their knowledge of a foreign language and the growing usage of communicative

teaching strategies (Yashima, 2002). While language teachers can work to give their students the tools they need to communicate in the L2 being learned, using these tools is not merely a matter of knowing them. An individual's disposition can influence how readily they communicate, both in their native language and in their L2. Language teachers must therefore work to improve the WTC of their students, as only possessing the tools for communication without the inclination to use them is of little benefit. MacIntyre et al. (1998) proposed a framework for WTC that included factors such as personality, various intergroup and social elements, as well as L2 self-confidence and communicative competence. Many aspects of an individual's WTC are difficult for an instructor to affect, such as whether a student is introverted or extroverted, but other components of WTC can be ameliorated through instruction and practice.

Building on the research by Liu et al. (2021), this study looks out how games can improve WTC among English language learners. However, instead of using in-class games to do this, this study involves students playing a word-puzzle game similar to Wordle as homework. Wordle is a word puzzle that can be played on any device with an internet connection. It requires players to guess a 5-letter word in six guesses. With each guess, incorrect letters are displayed in gray, correct letters in the wrong position are displayed in yellow, and correct letters in the correct position are displayed in green. Using a website that allows individuals to create and share their own Wordle-like word puzzles, this study seeks to determine if making and playing these word puzzles can increase WTC among first-year university students in Japan.

2. Method

For this study, participants were drawn from 12 English Discussion classes at Rikkyo University in Tokyo. English Discussion is a mandatory course that all first-year students must take at Rikkyo University. The class meets once a week for one-hundred minutes for the duration of the fourteen week semester. Each class was composed of approximately 10 students from typically the same major. Classes are further divided into four English levels according to students' TOEIC scores. Included in this study were two Level 1 classes, which were made up of students with TOEIC scores of 700 and above; six Level 2 classes, which have students with TOEIC scores ranging from 480 to 699; and four Level 3 classes, which have students with TOEIC scores between 280 and 479. There were no Level 4 classes in this study, which are made up of students with TOEIC scores of 279 and below.

Classes were separated according to these levels and assigned to either the experimental (n = 59), or control group (n = 57), so that there would be an equal number of classes from each level in each group. Therefore, there was one Level 1 class in both the experimental and control groups, three Level 2 classes in either group, and two Level 3 classes in each group.

This was done to reduce the impact prior English knowledge may have on the results. In total, there were

Both groups were given an online pretest survey to evaluate their willingness to communicate in English at the start of the spring semester. The survey was developed by Gol *et al.* (2014) to evaluate a students' willingness to communicate in different classroom situations. The experimental group was then given a homework task each week, beginning on the second week and ending on the twelfth week, for a total of eleven times during the 14 week spring semester. The homework task involved creating their own Wordle-like word puzzle using a website, sharing it on the class's Blackboard forum, and then attempting the word puzzle of at least one other student. Afterwards, students in the experimental group were asked to share their attempts in their class's Blackboard forum each week, posting the results of each attempted puzzle in the forum thread of the puzzle's creator. Finally, students in the experimental group also talked about the word puzzle they played as part of one of the questions in the weekly 3-2-1 fluency activity, modeled after Nation's 4-3-2 activity (1989), at the beginning of class each week. The frequency students created at least one word puzzle each week and shared it on the forum, as well as the frequency students played the word puzzle of a classmate at least once a week and posted in the forum, was counted at the end of the semester.

The first time this homework was assigned, the instructor explained how to play the game, demonstrated an attempt together with each class in the experimental group, and also explained how to share the link of the result in the class forum. Digital games are extremely varied, and many of them by themselves may not provide suitable language learning opportunities. With this in mind, Newcombe and Brick (2017) suggest that instructors must provide guidance to students to ensure that playing such games can have meaningful benefits to language learners. Therefore, how to create and play these word puzzles, as well as the intended benefit of improving students' vocabulary, was explained to those in the experimental group. Throughout the semester, the instructor also checked whether each class in the experimental group had problems with the task and provided further instruction or demonstrations as needed.

When creating their own word puzzles, students were asked to use a 5-letter English word related to the theme of the weekly homework reading from their course textbook. This reading is between two and three pages long, and covers themes from becoming independent to social issues in Japan. Students were asked to use words related to the reading as the reading itself contains words students should mostly be familiar with. The goal here was to help students become more familiar with the words that appeared in their reading, and in so doing, improve their communicative competence and confidence in using English. In this way, it was hoped that students' WTC would improve over the course of the semester due to making and playing these word puzzles with their classmates.

Lastly, at the end of the semester, both the control group and experimental group of classes were given the same survey as a posttest. Results from the pretest were added up and compared to results from the posttest. To test if there was a significant difference between the pre- and posttest results of the experimental group, as well as the posttest results of the experimental group and control group, a series of t-tests were performed using online calculation tools. If making and playing word puzzles had a meaningful impact on students' WTC, then it would be expected that there is a significant difference between the posttest results of the control group and experimental group, and between the pretest and posttest of the experimental group. To test for significant difference, a t-test was performed using an online calculator.

3. Results

The table below shows the completion rate of the word-puzzle homework across the 11 weeks students from the experimental group's 6 classes were asked to complete it. The average number of times members of a class made a puzzle at least once over the 11 weeks is displayed in the Make-Puzzle column, and the average number of times members of a class played a puzzle over the 11 weeks is displayed in the Play-Puzzle Column. At the bottom, the total average of all 6 classes is given. The English level of each class is also noted in the class column. The standard deviation (SD) is shown next to each value.

Table 1: Word-Puzzle Homework Completion Rates

Class	Make-Puzzle	Play-Puzzle
Class A (Level 1)	7.55 (SD = 3.50)	4.88 (SD = 3.69)
Class B (Level 3)	7.50 (SD = 3.37)	0.20 (SD = 0.42)
Class C (Level 2)	9.88 (SD = 1.76)	5.33 (SD = 4.30)
Class D (Level 2)	11.00 (SD = 0)	9.44 (SD = 3.57)
Class E (Level 2)	9.90 (SD = 2.60)	8.00 (SD = 2.74)
Class F (Level 3)	8.70 (SD = 4.34)	6.50 (SD = 4.88)
TOTAL:	9.08 (SD = 1.41)	5.72 (SD = 3.19)

From the table above, the average number of times a student in the experimental group made at least one puzzle over the 11 weeks this homework was assigned was 8.92 times, and the average number of times a student played at least one puzzle over the 11 weeks was 5.725 times.

The table below shows the mean results of the pretest and posttest for the experimental group and control group. There are 28 questions in Gol et al.'s (2014) WTC test, and questions are Likert-scale style, with possible answers between 0 (Never) and 4 (Almost Always), making the total possible score between 0 and 112. The number of responses (n) and the standard deviation (SD) is also shown for each test.

Table 2: WTC Pretest and Posttest Mean Answers

Test	Experimental Group	Control Group
Pretest	61.55 (n = 51, SD = 12.41)	60.73 (n = 34, SD = 11.81)
Posttest	65.28 (n = 28, SD = 15.24)	62.81 (n = 38, SD = 11.29)

As can be seen in the table, the experimental group began with a slightly higher mean score on the WTC test than the control group at the beginning of the semester. At the end of the semester, both groups had higher mean scores on the WTC test, but the experimental group's mean score had increased more than the control group's mean score.

In looking at the mean WTC scores of the experimental group and the control group, it seems that making and playing the word puzzle may have had a positive effect on students' willingness to communicate in English due to in increase in the mean WTC scores between the pretest and posttest of the experimental group, and the fact that the means WTC scores of the experimental increased more than those of the control group. However, after performing a t-test on the mean pretest and posttest WTC scores of the experimental group, it was found that there was no significant difference in WTC among the experimental group at the start ($M = 61.26$, $SD = 12.36$) or end ($M = 65.28$, $SD = 15.24$) of the semester, $t(76) = -1.26$, $p = .104$. Furthermore, when performing the t-test on the mean posttest WTC scores of the experimental group and control group, there was also no significant difference in WTC among the control group ($M = 62.81$, $SD = 11.29$) and experimental group ($M = 65.28$, $SD = 15.24$) at the end of the semester, $t(55) = -0.756$, $p = .226$. These results suggest that making and playing word puzzles each week had no effect on students' willingness to communicate in English.

4. Discussion

As Table 1 shows, students made puzzles at least once a week more often than they played puzzles at least once a week. This could be because it is much easier to make a puzzle than to play one. It should be noted that some students occasionally made and played multiple puzzles on some weeks, but this was not factored into the tally, as the activities of a few active students would have confused the rate a class as a whole completed the make-a-puzzle and play-a-puzzle homework. Additionally, one class (Class B) had a poor rate of playing the word puzzle of their classmates, as noted in Table 1 by the frequency students of that class

posted completed attempts in the class's Blackboard forum. However, this number may not actually reflect the amount of times students attempted the puzzles of their peers, since in listening to students discuss their puzzle attempts during the 3-2-1 speaking activity at the beginning of class each week, it seemed that students played the puzzles of their classmates more often than they posted about doing so in the forum. It is therefore plausible that the low frequency of homework completion shown in Table 1 could be due to students not correctly understanding how to share their attempts, even though this was explained carefully on multiple occasions. However, as all instruction was done in English, it is possible that language ability could have hindered understanding among students, particularly those with lower levels of English proficiency.

While the mean WTC scores of the experimental group increased over the course of the semester, and the increase was greater than that of the control group, there was no significance in the difference between the pre- and posttest or between the two groups. This increase is in keeping with findings by Liu et al. (2021), but the lack of significance is not. These opposing outcomes confound the actual value of the English word-puzzle homework on WTC, but could be due to sampling problems. Since the sample included unequal numbers of students from various levels of English proficiency, prior differences in English communicative self-confidence among students with higher and lower levels of English skill could have lead to the rather high levels of standard deviation across all tests, which in turn could have affected the calculation of significance in the t-tests. Additionally, since not all participants completed the WTC pretest and posttest, it is not clear whether students who regularly did their homework, or students who seldom did it, completed the WTC tests, and therefore it is not possible to reliably conclude that the word puzzle had a positive on students' willingness to communicate in English.

Nonetheless, the fact that students in the experimental group seem to have had a larger increase in WTC than those in the control group is promising, and therefore this study merits repetition but with more careful design. It would perhaps be better to repeat it with all students being of the same level of English skill in order to prevent varying pre-existing levels of English competence from affectings students' WTC. Furthermore, it may be useful to create an additional survey for the experimental group whereby respondents could indicate the extent to which they believe making and playing the word-puzzle each week as homework had an effect on their WTC, and the reasons for this effect. This self-reporting would serve to validate the results of any statistically significant differences in WTC between the pretest and posttest of the experimental group, and between the posttest of the experimental group and control group. Additionally, asking participants why they felt the word puzzle affected their willingness to communicate in English could help educators find, adapt, or create other games that are suitable for improving students' WTC. Understanding whether these games are successful in improving motivation to use English as others have

found (Gozcu & Caganaga, 2016), or legitimately improve vocabulary in English (Jensen, 2017) can help to identify the most suitable games for language education purposes.

5. Conclusion

Games can have educational benefits for students, and can be used in language teaching to improve student motivation, engagement, vocabulary, and even willingness to communicate. To find the most suitable games for various goals and purposes, researchers must test the efficacy of the games employed for language instruction, and in so doing, can help teachers find the most appropriate games for their objectives or develop games that meet the needs and aims of their students. This study noted that making and playing an English word-puzzle game as homework seemed to increase students' WTC, but found no significant difference in this increase or between the group that did this homework and the group that did not. More research is needed, and with more careful sampling, to properly determine properly whether such games can have a positive benefit on students' WTC.

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