

Perceptions of Non-English Major College Students on Learning English Vocabulary with Gamified Apps

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Abstract—As gamified English vocabulary learning Apps are increasingly popular among Chinese English learners, this study explores how non-English major college students, who may lack initiatives in foreign language learning, perceive those Apps. Following a qualitative approach, this study analyzed interview data from fifty-three students who have used gamified English vocabulary learning Apps in latest 12 months. The major findings of this study include: (1) the preferred game settings included challenge, team, leaderboard, competition, coins, and badges; (2) students perceived the motivation activation effects of the apps by receiving instant feedback, enjoyment, and sense of achievement, and inactivation effects considering the attention distraction, additional competitive pressure, and imperfect words matching; and (3) some students believed that the apps helped to form vocabulary learning habits because of its convenience, rewarding mechanism, and group setting, while others did not because they had fixed learning routines. Then, this study explained and discussed the findings considering factors from or related to both the gamified Apps and students. This study explored the potential of the popular vocabulary learning Apps in enhancing students' English learning motivation and learning habits and extended the scopes of research on gamification in foreign language education.

Keywords—English vocabulary learning, gamification, learning motivation, learning habit, Apps

1 Introduction

Vocabulary learning is quite crucial for second language learners and requires frequent and continuous input [1]. For Chinese non-English major college students, several factors contributed to the insufficient efforts in English vocabulary learning [2]. For example, some students may suffer from academic pressure with their professional curriculum and leave limited time for English. Also, they may lack learning initiatives because English course grades are not calculated into their grade point average (GPA) in college.

In recent years, English vocabulary learning Apps with game features have become increasingly popular among Chinese college students. There are two major reasons for the popularity. First, mobile technology-assisted vocabulary learning improves learning

efficiency with its characteristics of portability, ubiquity, pervasiveness, and personalization [3], [4]. Compared to learning with books, mobile Apps can help students acquire more words with a better learning experience [5]. Second, with multiple game features, the gamified vocabulary learning apps have yielded a variety of satisfactory outcomes [6]–[7]. As defined by [8], gamification is to use game elements in non-game contexts. With appropriately selected and designed game elements, such as points, badges, levels, leaderboards, prizes, progress bars, storyline, and feedback [9]–[11], gamification affected students' motivation in the learning process and improved their learning performances [12]–[15].

Although a considerable body of studies have documented the effects of gamification on English vocabulary learning, there lacks an investigation of how students perceive the role of specific game settings in English learning Apps. Therefore, by conducting semi-structured interviews, this study aims to explore what App features are preferred by non-English major college students and their perceptions about the effects of these Apps and gamification settings on their vocabulary learning motivation and habits. The findings are expected to promote an in-depth understanding of the benefits of gamified vocabulary learning Apps, which is expected to provide implications for both researchers and language instructors. The following three research questions will be addressed:

- RQ1. What functions of the gamified English vocabulary learning Apps do Chinese non-English major college students prefer?
- RQ2. How do Chinese non-English major college students perceive the influence of the gamified English vocabulary learning Apps on their learning motivation?
- RQ3. How do Chinese non-English major college students perceive the influence of the gamified English vocabulary learning Apps on their learning habits?

2 Methods

Semi-structured interviews were conducted to explore participants' perceptions of gamified English vocabulary learning Apps. This method enabled an in-depth exploration of specific issues in which participants can explain their experiences in details [16]. For recruiting participants of interviews in this study, participant recruitment letters (in Chinese) were sent through social media (WeChat and QQ), which indicated the research purpose, definition and examples of gamified English vocabulary learning Apps, interview outline, participant recruitment criteria and rights, and compensation. Through snow-ball sampling strategy, this study finally recruited fifty-five Chinese college students from a university in southern China. Besides the willingness to participate, there were two other criteria for participant recruitment. First, participants must come from non-English majors. Second, participants should have experiences of using gamified English vocabulary learning Apps within latest 12 months. The demographic information of participants is presented in Table 1.

Since participants of this study were mostly at home and distributed across the country during the pandemic of Covid-19 in 2020, the interviews were carried out through online video calls, which is a more feasible method breaking the limitation of time and

place [17]. The interview outlined 11 questions, such as “Could you please describe your routine of using these Apps?”, “What are your most used functions of the Apps, and why?”, “What differences in learning motivation/habit do you perceive before and after using the Apps?”, and “How do you evaluate your overall experience with learning English vocabularies with the Apps, and why?”

Table 1. Participant Description

	Categories	Quantity	Percentage
Gender	Male	36	65.45
	Female	19	34.55
Majors	Science	14	25.45
	Technology	5	9.09
	Engineering	33	60.00
	Mathematics	3	5.45
Grades	Freshman	15	27.27
	Sophomore	1	1.81
	Junior	2	3.63
	Senior	6	10.90
	1st year of Master student	25	45.45
	2nd year of Master student	4	7.27
	3rd year of Master student	1	1.81
3rd year of doctoral student	1	1.81	

In order to avoid possible misunderstandings, Chinese was adopted as the interview language. With the consent forms collected from participants, all the interviews were recorded. Each interview lasted approximately 30–50 minutes and followed the interview outline. In order to help participants to express their thoughts and feelings, interviewers changed the manner and order of some questions based on different answers and reactions of the participants and asked follow-up questions to capture their deeper thoughts. All the interviews were carried out in March 2020, and the total length of the recordings was 38 hours and 59 minutes.

After data collection, content analysis was selected to process the interview data. First, we cleaned the collected interview data and removed two damaged files due to audio quality issue. Second, we transcribed the remaining 53 files and coded them initially by labelling the texts. Third, the researchers extracted and combined the content with similar meanings, as well as classified and marked participants’ statements based on different meanings to perform the original coding. Fourth, through preliminary coding, the researcher obtained themes about participants’ preferred functions and their perceptions on influence of the apps.

3 Research findings

The most popular functions with the participants were, in descending order, memorizing words in challenges, study groups, ranking in the team, word competitions, word learning for coins collection, and word learning for badge collection (see Figure 1). The examples of the six popular functions are presented in Figure 2. Memorizing words in challenges was the most used and liked function as participants explained that they

enjoyed the feeling of autonomy in tackling challenges they chose based on their own learning goals and English levels (see Figure 2 (a)). The second most popular function was the study group in which group members carried out activities together and encouraged and reminded each other to complete learning tasks (see Figure 2 (b)). The next popular function was ranking in the team, which was learners' performance leaderboard based on the number of words learned within certain amount of time (such as 24 hours or 7 days) (see Figure 2 (c)). Participants enjoyed having an easy and clear track of their learning performance and other group members. The followed one was the function of word competitions, which were between two learners with same multiple-choice questions at the same time (see Figure 2 (d)). Participants indicated that they felt satisfied when winning those competitions with a higher accuracy rate and shorter time. The last two functions were word learning for coins and badge collection (see Figure 2 (e) & (f)). Participants reported feeling of progress when their coins or badges gradually increased or upgraded because of their hard work and daily check-in in terms of words learning on these Apps. Besides, coins or badges obtained by learners can be used for exchanging gifts on these Apps, such as online courses and e-books.

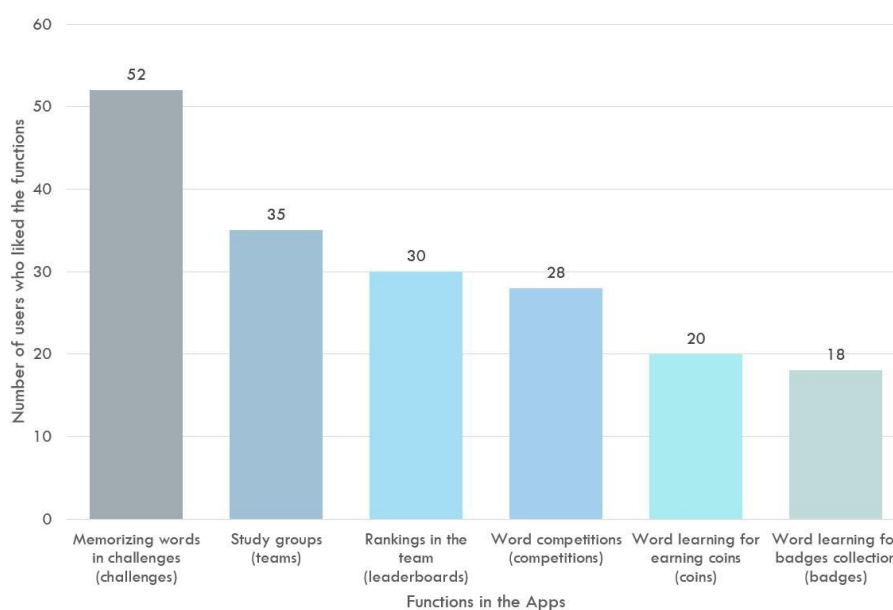


Fig. 1. The popularity of gamified functions

From different perspectives, 62% participants ($N_1=33$) expressed that the use of the gamified English vocabulary learning apps increased their learning motivation. First, the apps encouraged learners with instant feedbacks. Participant 47 said, “after using the app, you will gradually find that your vocabulary is enlarged and the good results made me more willing to learn.” Similarly, participant 14 indicated, “when I kept learning for 100 days and got a corresponding badge, I felt a sense of achievement, which injected me with endless vigor.” Second, the fun settings of the apps augmented the

enjoyment of vocabulary study. Participant 8 stated, “studying with ‘Baicizhan’ (app name) is absolutely not boring, which makes me want to learn because the learning process is enjoyable”. Third, learners’ self-confidence was built and increased through gaining the sense of achievement. Participant 12 said, “when I started to use the app to memorize words, I planned to learn 50 words every day. Later I found it was easy to achieve the goal so I memorized 200 to 400 words a day. I gained self-confidence in learning and would keep learning.”



Fig. 2. The examples of gamified English vocabulary learning app features

Beside these opinions, 38% participants ($N_2=20$) in this study indicated that they did not perceive obvious influence of the gamified apps on their learning motivations. The reported explanations were mainly reflected in the following three aspects. First, game elements were over-designed and distracted attention. Participant 28 said, “What I care

about is just word learning, and many game designs of the apps are superfluous.” Second, the game mechanism placed additional pressure. As participant 51 claimed, “I don’t really like competition. It makes me feel so stressed.” Participant 45 expressed a similar view, “It made me feel as if everyone was competing with one another and I really didn’t like this feeling.” Finally, the game design did not fit their desires and competencies. As participant 42 expressed, “I’ve participated in word competitions where many words were too easy for me and it was a waste of time.”

In terms of the influence on learning habits, 55% participants ($N_3=29$) reported a positive effect and indicated they developed word learning habits owing to the apps for three major reasons. First, the apps broke the time and space limits of vocabulary learning. Participant 9 said, “I can learn words even when I’m walking down the road or waiting for the elevator.” Second, the rewarding system reinforced the positive learning behavior. For example, participant 17 said, “I learn words every day to collect coins so that I can exchange them for online courses that I need.” Third, group reminders and encouragement fostered a routine to finish learning tasks in time. Participant 21 stated, “When I see other members finish the learning, I would finish my learning as soon as possible.”

Differently, 45% participants ($N_4=24$) expressed that their existing learning habits were not influenced by these apps. Some participants felt the use of apps made no differences to their English vocabulary learning frequency since they just took the apps as a learning tool. Participant 18 said, “I learn vocabulary before going to bed every day with or without the app”. Similarly, participant 14 stated, “I use the apps to learn words because I have already had a habit of learning new words on daily basis. I just select the mobile phone as a tool.” Meanwhile, there were participants thinking the apps were good, but not enough to increase their actual behaviors of vocabulary learning on a regular basis. As participant 35 described, “the apps were fun to use, but it didn’t make me spend more time on English vocabulary learning.”

4 Discussion

The findings show the Chinese non-English major college students’ preference in functions of gamified English vocabulary learning apps and the different perceptions of participants towards the influence of using those apps on their English vocabulary learning motivation and learning habits.

We found that enjoyable learning approaches provided by the gamified apps increased the fun of learning, which played a vital role in improving students’ learning habits as well as contributing to autonomous learning behaviors. Echoing with affective filter theory [18], this result confirmed that non-English major students with better learning experience were more willing to learn English vocabulary through using these apps. Also, the portability and ubiquity of apps gave learners feelings of autonomy, which boosted students’ continuous and regular word learning behaviors [19]. Moreover, the research findings revealed and explained that some students’ learning motivation and learning habits were not affected by using the apps. As suggested by [20], non-English major students’ motivation for English learning is mainly the instrumental type,

which means that they learn English to achieve goals like preparing for exams, applying for jobs, and writing English papers, etc. These students' motivation and actual habit of English vocabulary learning are not easy to be influenced by using the apps.

5 Conclusion

Through an exploration of Chinese non-English major college students' perceptions of using gamified English vocabulary learning apps, this study provides both academic and practical implications. From the theoretical perspective, findings suggest that students' enjoyable experience in learning words with gamified Apps is helpful to improve their motivation and cultivate autonomous learning behaviors. Meanwhile, not all the game elements have a positive effect on English vocabulary learning. These findings extend the depth of relevant research on gamified learning and provide a critical perspective in the effects of gamification. From the practical perspective, teachers can add game elements to instructional design based on the characteristics of different students so as to create a better learning experience and cultivate students' learning interest and autonomous learning behaviors.

Certain limitations of this study should be acknowledged. First, as a qualitative study, the data of this study were from semi-structured interviews, which could be biased because they were based on students' self-reported perceptions. Future research could consider applying quantitative methods to triangulate with qualitative results. Second, this study did not follow up with participants after a long period. In the future, case studies can be added to understand the changes in participants' learning motivation and habits in the long term. Third, this study only included participants from limited majors, and future research is recommended to further enrich the sources of samples.

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