A Review of the Research on the Influence of Game-based Learning on Second Language Learners' Learning Motivation

Jiawei Bai[1,a,*]

[1]*Chinese International Education, Anhui University, Hefei, Anhui, 230099, China*
a. F02014022@stu.ahu.edu.cn
corresponding author

Abstract: Motivation, as an important factor of individual differences in second language acquisition, has been widely discussed by teaching researchers. At present, many studies have discussed how to continuously stimulate learning motivation. Games have been proven to have a positive effect on learning. The application of game-based learning as an emerging teaching method in the field of education has also expanded significantly. Therefore, this study aims to review the research on the relationship and application of motivation and Game-based Learning (GBL) in second language (L2) acquisition. It is found that the impact of GBL can be positive in the motivation of L2 learners through an immersive learning environment, game experience and reward mechanism, competition and cooperation mechanism, and has achieved positive results in student learning. The research shows the potential for using digital games to teach a second-language., and looks forward to the application of the combination of gameplay and learning theory in the future teaching field.

Keywords: Motivation, Game-based learning, Digital games, Second language acquisition

1. Introduction

Games are widely considered to help human beings develop intelligence, critical thinking and response-ability, and have a positive impact on teenagers' growth. As a learning method based on gameplay, Game-based Learning (GBL) includes the addition of game elements and scientific teaching methods, which has attracted the attention of researchers. Due to the massive increase in the use of instructional video games, GBL has become a recognized area of study [1].

Learning through games is beneficial for language instruction. It is considered to be more promising than other disciplines in the application of language learning, mostly due to the benefits suggested by several theories on language acquisition, including increased usage of the target language for engagement in video games, enhanced language learning by reducing some affective barriers, and immersive exposure to the language learning environment [1]. Different from traditional teaching methods, GBL provides a sense of immersion and a relaxed and pleasant teaching atmosphere, which can reduce students' pressure and anxiety in learning foreign languages. At the same time, it can also be combined with the excellent mechanism and design of games to enrich the teaching content and achieve better learning effects.

However, the current empirical research and theoretical research on the impact of GBL on motivation lack a comprehensive summary, and utilizing GBL in the field of classroom instruction needs to be enriched. This study aims to examine the influence of GBL on motivation in L2 acquisition, explore the specific application and attempt of gamification learning in the field, and better stimulate learners ' interest in learning. Through the study of GBL in the field of L2 acquisition motivation, it may open up new ideas for L2 teaching, and also have certain reference values for the compilation of textbooks and the design of courses. On the other hand, the combination of popular culture like games and foreign language teaching will provide a new opportunity for better development of L2 teaching.

2. Research on the Influence of Motivation on L2 Acquisition

Motivation is the internal impetus that motivates individuals to engage in certain behaviors, and it has also been widely valued and studied in L2 acquisition. Dornyei believes that motivation is the primary driving force behind beginning L2, and then learning is the driving force behind maintaining a long and tedious learning process [2]. Motivation represents learners' attempts to learn an L2. Motivation is a crucial factor in L2 acquisition, as can be seen.

Gardner is one of the pioneers in the study of motivation in L2 acquisition. Gardner argued that motivation conveys the strong desire to promote learners to learn and master the L2 [3]. It is divided into four aspects: purpose, desire to achieve purpose, attitude to learning and efforts to act. However, with the deepening of the research, the shortcomings of Gardner's view are gradually reflected.

Drawing on the viewpoints of personality psychology, Dornyei further developed the motivation theory and proposed the L2 motivational self-system. It emphasizes the study of students themselves and their identity. The system is divided into three parts: Ideal L2 Self, Ought-to L2 Self and L2 Learning Experience (L2LE). And put forward the relative L2 acquisition strategy [4]. This study provides a new way to explain the motivation of L2 learners in the context of globalization.

However, the part of L2LE has not been paid much attention by researchers at the beginning. Dornyei shows that the dimension of the L2 learning experience lacks theorization. In addition to being a strong predictor of several criteria measures, the L2LE is often the best predictor of motivated behavior. Dornyei argues that the L2LE is the quality of the learners' involvement with different components of the language learning process [5]. Through interviews with L2 learners, Hiver investigates the relationship between L2LE and various aspects of language learning cognition and behavior, and demonstrates that learners' situational narratives have emotional, motivational, and cognitive factors. are related to the adaptation of important characteristics of the learning environment [6]. Therefore, it is worth trying to stimulate learners ' learning motivation by adjusting the language learning environment and conditions of L2 learners to develop L2LE.

3. Research on GBL

As for the definition of GBL, concepts of doubt, challenge, and autonomy is used to describe games, obscuring learning objectives and in-game activities, and implementing appropriate GBL methods that are in line with the learning characteristics and lesson content, in order to enable students to learn, hone skills, and cultivate emotions while having fun in a relaxed setting [7]. Plass argues that one concept of GBL entails using game components, including incentive systems, to persuade players to participate in a task that they may not find intriguing [8]. Gan believes that GBL is learner-centered, courses are designed with gamified thinking and gamified mechanisms, intelligent technologies are used to create fascinating learning scenarios, and through the game mechanism to understand and apply the knowledge content, or to carry out inquiry, experiential learning [9].

4. Research on the Influence of GBL on Motivation

There have been some attempts at gamed-based learning in the field of L2 acquisition, and studies have shown that GBL is beneficial to motivation. This paper will analyze from three aspects: providing an immersive learning environment, "flow experience" and reward mechanism, and competition and cooperation mechanism.

4.1. Immersive Learning Environment

The game will provide specific, real and interactive situations. As players, learners can interact with the non-player characters in games and complete the learning tasks by completing the tasks and activities in the game. In the game, knowledge points should not be directly presented in front of students. It usually needs to dress up as a small task, into a specific situation. Learners will encounter problems, explore and solve problems in the procedure for accomplishing the task until they finish the game. Hung said that immersive games, especially large multiplayer role-playing games, are the main types of current research [1].

Gan said that GBL can promote situational teaching and improve the teaching effect. Interactive scenes can promote students' positive expression, improve cross-cultural communication ability, meet communication needs, and strengthen the experience of language learning [9].

4.2. 'Stream Experience' and Reward Mechanism

The flow theory proposed by Csikszentmihalyi is used as a framework to promote players ' positive experiences [10]. 'Flow' describes a feeling of total immersion in the activity, referring to the best experience in the activity. In previous education, games were mainly used as a tool to support practical information practice. That is the practice and training of knowledge points. Players are just simple attempts and correct mistakes. Kiili pointed out the need to combine educational theory with game design, emphasizing the importance of design and creating the best learning experience for players requires balancing challenges [11].

Through a series of motivational game functions, it has been established that games can motivate learners to stay immersed. Therefore, when designing games, teachers should not only pay attention to fun, but also notice the deep combination of games and educational theory, so as to achieve the effect of deep participation.

Better reward settings can also promote learners' enthusiasm and initiative in learning. In commercial games, rewards are often linked to the content of players' interest such as weapons and equipment, virtual currency, prestige and rankings. In GBL, teachers can select the most attractive form of reward according to the specific needs of different students and the preferences of students [10].

Teachers can give students rewards according to different difficult tasks or specific situations of students. They can choose to give students rewards for every task they complete. The price level should be continuously improved as the difficulty of the task increases. In addition, for students who do not seriously complete the learning task, an appropriate punishment mechanism can be given to urge students to seriously complete the learning task.

4.3. Competition and Cooperation Mechanism

Cooperation has always been an important theme in the game. GBL can provide learners with a space for free communication. In the virtual world, learners can get rid of the limitations of space and time. Learners can share their successful experiences or seek the help of others to solve problems together. Communication can help students solve problems, improve grades and learning strategies, and enable

students to learn from each other. Learners form a team for common goals, work together, and use the power of the team to grow [10].

A healthy competition mechanism can also be designed in the game. Students can choose competitors with similar levels according to their own grades. Competitions can stimulate students ' enterprising spirit and challenging spirit, and then stimulate students ' intrinsic motivation. Teachers should provide learners with communication tools, as well as students' performance display tools or setting performance rankings. Learners can get each other 's information in time, know their position in the class, and take corresponding learning behaviors to improve their learning efficiency [10].

4.4. The Application of GBL in L2 Acquisition

GBL has already been tried in L2 acquisition. Moffitt's research shows that role-playing digital video games can promote language application and become a valuable resource for L2 acquisition. Thorne & Watters proposed game-enhanced L2 teaching and learning, arguing that even commercial games that are not specifically developed for language learning are also L2 game-based teaching resources. Franciosi, SJ found that computer game-based foreign language education can improve the memory and transferability of vocabulary. Cervi-Wilson & Brick mention Taleblazer, an AR platform for learning Italian developed by MIT's Schiller Faculty Laboratory. Through reading, writing, listening and speaking tasks, learners can interact with virtual characters and works of art in the context of real landscapes to learn the culture and language of the target language [9]. These attempts can provide a reference for researchers to further explore the application of GBL in the field of L2 acquisition.

5. Conclusion

This paper reviews and analyzes the previous research on motivation in L2 acquisition, related research on GBL, and related research on the impact of gamification learning on motivation. It is believed that GBL can enrich learners ' L2 learning experience and stimulate L2 learners' Learning motivation. Through an immersive communicative learning environment, a nice learning experience and reward mechanism, competition and cooperation mechanism and so on, GBL has the potential to enhance the learning interest and internal motivation of L2 learners, to meet the communicative needs or learning needs of learners, and provide new ideas and development directions for the development of L2 teaching.

GBL has achieved positive results and has application prospect in L2 acquisition. The characteristics of learner-centered L2 learning and the goal of cultivating language communicative competence are consistent with the characteristics of games that meet the needs of players in all aspects, including virtual reality and strong interest. This shows that L2 teaching can not only be limited to the classroom but also can make more use of other multimedia and technical means or cultural and entertainment facilities. For example, culture teaching can be combined with online museums. L2 teaching requires us to constantly try new ideas and new teaching methods to meet the needs of the development of the times and the needs of learners.

At the same time, teachers need to realize that new teaching methods must be combined with scientific teaching rules. The development of the teaching method is inseparable from the scientific basis. The teaching theory and teaching content studied by predecessors are still the focus and goal of our teaching. Teachers should effectively improve learners ' L2 application ability. There are still many deficiencies in GBL, which need to be further improved in game design, teaching process or satisfying students ' personalized needs.

References

[1] Hung, H. T., Yang, J. C., Hwang, G. J., Chu, H. C., & Wang, C. C. (2018). A scoping review of research on digital game-based language learning. Computers & Education, 126, 89-104.

[2] Dörnyei, Z., & Chan, L. (2013). Motivation and vision: An analysis of future L2 self-images, sensory styles, and imagery capacity across two target languages. Language learning, 63(3), 437-462.

[3] Masgoret, A. M., & Gardner, R. C. (2003). Attitudes, motivation, and second language learning: A meta-analysis of studies conducted by Gardner and associates. Language learning, 53(S1), 167-210.

[4] Csizér, K., & Dörnyei, Z. (2005). The internal structure of language learning motivation and its relationship with language choice and learning effort. The Modern Language Journal, 89(1), 19-36.

[5] Dornyei, Z. (2019). Towards a better understanding of the L2 Learning Experience, the Cinderella of the L2 Motivational Self System. Studies in Second Language Learning and Teaching, 9(1), 19-30.

[6] Hiver, P., Zhou, S. A., Tahmouresi, S., Sang, Y., & Papi, M. (2020). Why stories matter: Exploring learner engagement and metacognition through narratives of the L2 learning experience. System, 91, 102260.

[7] Niu Yuxia, & Ren Wei. (2006). Game-based Teaching. Educational Technology Guide

[8] Reinders, H., & Wattana, S. (2014). Can I say something? The effects of digital game play on willingness to communicate. Language Learning & Technology, 18(2),101-123.

[9] Gan ronghui, & He Gaoda. (2020). Exploring the gamification learning path of second language acquisition in the era of 5g. Foreign language teaching, 41 (5), 6.

[10] Zhang Jinlei, & Zhang Baohui. (2013). Research on the application of gamification learning concept in flipped classroom teaching. Journal of Distance Education (1), 6.

[11] Kiili, K. (2005). Digital GAME-BASED LEARNING: towards an experiential gaming model. Internet & Higher Education, 8(1), 13-24.