

## Using Gamification and Gaming in Order to Promote Risk Taking in the Language Learning Process

Itamar Shatz

Tel Aviv University

### Abstract

Taking risks is an important part of learning. The current study explores the relationship between risk taking and other pertinent factors in the second language acquisition process. Participants (N = 526) performed a foreign vocabulary learning task, followed by a questionnaire evaluating several aspects of their experience, as well as their tendency to take language-related risks. High levels of language risk taking were associated with improved performance in the task, increased self-confidence, and reduced anxiety, all of which are beneficial to learning. This indicates that the willingness to take risks is positively associated with learners' ability to successfully acquire a foreign language.

The paper further examines the use of gamification and gaming as educational tools, which can be used in order to promote risk taking in learners. The idea of using gamification and gaming for pedagogical purposes is strongly supported by a theoretical framework, as well as by numerous real world examples where these techniques were successfully implemented. Overall, this paper highlights the importance of risk taking in the language learning process, and frames gamification and gaming as tools that can be used in order to promote it in learners.

**Keywords:** risk taking, gamification, video games, second language acquisition, foreign language teaching.

### Risk taking in the language learning process

Risk taking is defined as: "a situation where an individual has to make a decision involving choice between alternatives of different desirability; the outcome of the choice is uncertain; there is a possibility of failure" (Beebe, 1983, p. 39). In accordance with this definition, the willingness to take risks is deemed as crucial to success in the second language acquisition process (Cervantes, 2013; Oxford & Ehrman, 1995; Zafar & Meenakshi, 2011). Ely (1986), who developed a scale used to measure language-related risk taking, lists some relevant examples of risk taking in the language learning process: "lack of hesitancy about using a newly encountered linguistic element; a willingness to use linguistic elements perceived to be complex or difficult; a tolerance of possible incorrectness or inexactitude in using the language" (Ely, 1986, p. 8).

Despite the importance of language risk taking, there are relatively few empirical studies which investigate its role in the learning process (Burgucu, Han, Engin, & Kaya,

2010). The primary goal of the current study is therefore to explore the relationship between risk taking and other factors in the language learning process. Furthermore, the study seeks to examine the potential use of both gamification and gaming as tools which can facilitate risk taking in the learning process.

### **The current study: the importance of risk taking**

#### **Methodology**

There were 526 participants (360 men, 166 women). Mean age was 22.75 (SD = 6.34, Min = 12, Max = 53). The native language of the majority of the participants (67.3%) was English.

Participants memorized the definitions of foreign vocabulary words (in Finnish) in a set amount of time. Then, participants were shown the vocabulary words, and filled in the definitions they remembered. Participants' performance was judged based on the number of correct definitions they were able to recall.

After completing the testing portion of the task, participants rated their self-confidence, task motivation, and anxiety, all in relation to the current task. These factors were chosen due to the important role that they play in language learning (Dörnyei, 2002; Peterson, 2009; Shatz, 2014). Afterwards, participants filled a questionnaire which gauged their language-related risk taking tendencies, based on a questionnaire developed by Ely (1986). This questionnaire has been used for similar purposes and with similar modifications in several studies on the subject (e.g. Liu & Jackson, 2008; Saito & Samimy, 1996).

During data analysis, a tertiary split was used in order to divide participants into three groups based on their language risk taking (LRT), resulting in groups of participants with low, moderate, and high LRT. A MANCOVA was then used to determine whether the groups differed in score, self-confidence, task motivation, or anxiety, followed by Bonferroni-corrected pairwise comparisons across these factors.

#### **Results**

The MANCOVA revealed a statistically significant difference between the LRT groups in performance score, self-confidence, task motivation, and anxiety ( $F(8, 1032) = 7.527, p < .0005, partial \eta^2 = .055$ ). This difference was significant for three of the variables: score ( $F(2, 523) = 4.788, p = .009, partial \eta^2 = .018$ ), self-confidence ( $F(2, 523) = 15.092, p < .0005, partial \eta^2 = .055$ ), and anxiety ( $F(2, 523) = 21.400, p < .0005, partial \eta^2 = .076$ ), but not for task motivation.

The pairwise comparisons show that the high LRT group had a significantly higher score and self-confidence, and significantly reduced anxiety levels compared to the two other LRT groups. The moderate LRT group had significantly reduced anxiety compared to the low LRT group, but did not differ from it on any of the other factors. These results are illustrated in figure 1.

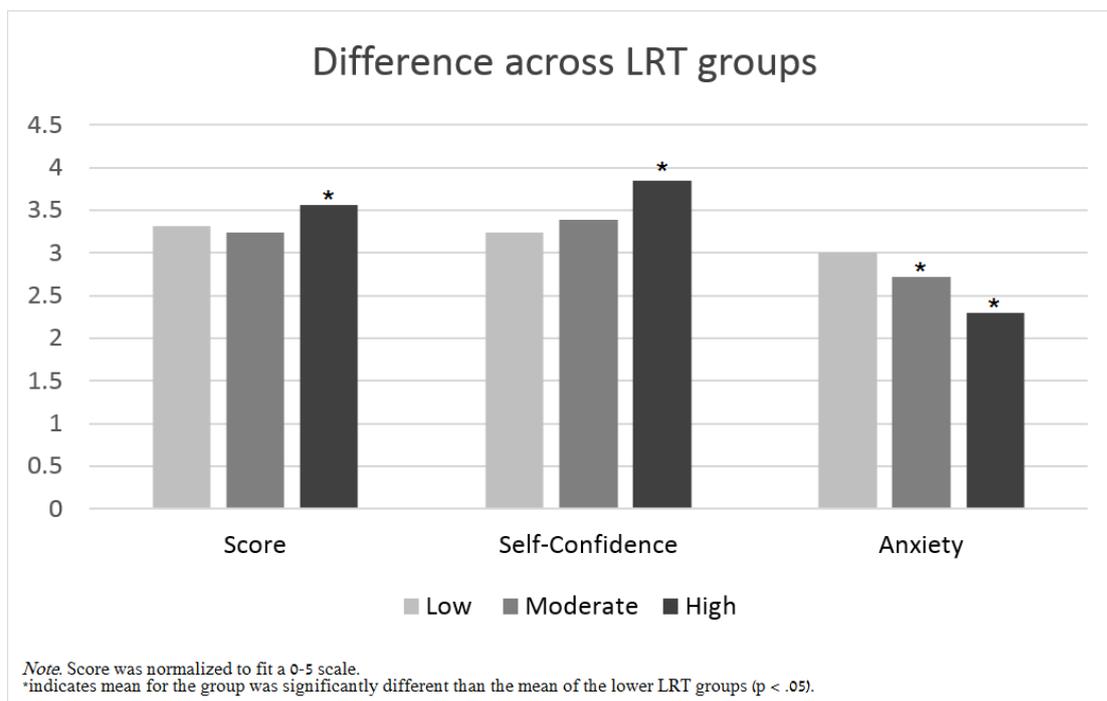


Figure 1. Difference across LRT groups

## Discussion

Increased willingness to take language related risks was associated with improved performance, increased self-confidence, and reduced anxiety levels, all of which are advantageous to learning (Dörnyei, 2009; Kohler, 2009; Wen & Clément, 2010). The difference across these factors between the high and the moderate LRT groups was greater than the difference between the moderate and low LRT groups, suggesting that high levels of risk taking are more strongly associated with a positive change in these factors than moderate levels of language risk taking. While further research is required in order to establish the nature of the relationship between these factors, particularly in terms of the causality between them, these results nonetheless show that risk taking plays an important role in language learning, and that learners who are willing to take language-related risk to a high degree are more successful at the second language acquisition process than learners who tend to be risk averse.

It is important to note the fact that while the study looked at performance in a short-term memorization task, these results are indicative of long-term learning processes, as literature shows that there exists a powerful connection between the two (e.g. Ellis, 1996; Payne & Whitney, 2002; Williams & Lovatt, 2003).

## Promoting risk taking through gamification

Gamification is “the application of game dynamics, mechanics, and frameworks into non-game settings” (Stott & Neustaedter, 2013, p. 1), and both the research and the pedagogical communities view it as a useful educational tool (Sombrio, Ulbricht, & Haeming, 2014). One of the primary advantages of using gamification in an educational setting is that it lessens the cost of making an error in the eyes of the learners, thus promoting them to be more risk taking (Sombrio et al., 2014). Furthermore,

emphasizing the concept of 'freedom to fail' and encouraging learners to feel comfortable to take risks, allows learners to shift from being mostly outcome oriented to being able to focus on learning, and this shift in focus is viewed as favorable by modern pedagogy (Stott & Neustaedter, 2013).

One example for the successful implementation of gamification is Duolingo, a free online language learning site, where learners advance up a language skill tree and translate texts in their target foreign language, collecting points as they progress in their studies (Garcia, 2013). A study which examined Duolingo's effectiveness concluded that the element of gamification had a definite positive impact on learning: "Gamification works: the learner feels a sense of achievement when getting the points and challenged when not." (Garcia, 2013, p. 21). Further support for this notion comes in the form of anecdotal comments from learners, such as one who stated that "I came here to learn Spanish, but I'm staying to gain the points." (Garcia, 2013, p. 22).

In another case, researchers presented evidence supporting the use of gamification to supplement the teaching of Polish as a foreign language, by listing numerous benefits for its usage, such as increased motivation and improved understanding of grammar (Danowska-Florczyk & Mostowski, 2012). In addition, while both these examples pertain specifically to language learning, gamification has also been utilized for educational purposes in other domains, such as psychology (Landers & Callan, 2011) and personalized health (McCallum, 2012). Overall, the evidence stemming from the successful use of gamification frames it as an effective educational tool, with one of its primary benefits being the fact that it encourages risk taking in learners.

### **Promoting risk taking via gaming**

Video games, both with and without an educational focus, are another instrument capable of promoting risk taking in learners, as players are immersed in a target language environment where they can engage in organic communication via listening, reading, speaking, and writing, all in a manner which enables risk taking and reflection in their target language (Rama, Black, van Es, & Warschauer, 2012). In this environment, there is a reduction of social context cues, and this reduction can lessen anxiety and pronunciation concerns, while enhancing risk taking (Peterson, 2009). Massively multiplayer online games, for example, encourage risk taking by language learners, and reduce inhibition in target language interaction (Rama et al., 2012). Similarly, playing massively multiplayer online role playing games (MMORPG) helps reduce anxiety levels and encourage opportunities for taking risks using the target language (Reinders & Wattana, 2014).

There are many examples for the successful use of video games as language learning instruments. In the *Forgotten World*, for instance, English learners participate in an online comic-strip drama that allows them to develop new linguistic skills while solving an adventure story (Blake, 2011). In another case, by playing *THE SIMS*, a game where players guide a virtual family through a simulated life, English learners were able to efficiently learn new vocabulary (Peterson, 2009). A final example are Thai students,

who were able to improve their English while playing *Ragnarok Online*, a popular MMORPG (Reinders & Wattana, 2014).

Overall, these examples illustrate several cases where video games were successfully employed in order to facilitate language learning. Though there are many reasons why video games serve as effective pedagogical supplements, one of their primary advantages is their ability to encourage risk taking, which aids those engaged in the language learning process.

## Conclusions

The willingness to take language-related risks is positively associated with several important factors in the second language acquisition process, in a manner indicating that increased levels of language risk taking are beneficial to learners. Gamification and gaming are two possible methods to encourage risk taking, which highlights their potential use as effective educational tools, and suggests that they should be integrated into foreign language teaching practices.

## References

- Bebee, L. M. (1983). Risk-taking and language learner. In Seliger H.W & Long M.L. (Ed.), *Classroom oriented research in second language acquisition* (pp. 36–66). Rowley; Mass: Newbury House.
- Blake, R. J. (2011). Current Trends in Online Language Learning. *Annual Review of Applied Linguistics*, 31, 19–35. doi: 10.1017/S026719051100002X
- Burgucu, A., Han, T., Engin, A. O., & Kaya, M. D. (2010). Who are Our Students? Investigating Learners' Risk Taking Ability and Achievement on Second Language Acquisition. In *2nd International Symposium on Sustainable Development*.
- Cervantes, I. M. (2013). The Role of Risk-Taking Behavior in the Development of Speaking Skills in ESL Classrooms. *Revista de Lenguas Modernas*, 19, 2–10.
- Danowska-Florczyk, E., & Mostowski, P. (2012). Gamification as a new direction in teaching Polish as a foreign language. In *ICT for Language Learning, 5th edition*. University of Warsaw, Poland.
- Dörnyei, Z. (2002). The motivational basis of language learning tasks. In P. Robinson (Ed.), *Individual differences in second language acquisition* (pp. 137–158). Amsterdam: John Benjamins.
- Dörnyei, Z. (2009). Motivation in second and foreign language learning. *Language Teaching*, 31(03), 117. doi: 10.1017/S026144480001315X
- Ellis, N. (1996). Working Memory in the Acquisition of Vocabulary and Syntax: Putting Language in Good Order. *The Quarterly Journal of Experimental Psychology Section A*, 49(1), 234–250. doi: 10.1080/713755604
- Ely, C. M. (1986). An analysis of discomfort, risktaking, sociability, and motivation in the L2 classroom. *Language Learning*, 36(1), 1–25.
- Garcia, I. (2013). Learning a Language for Free While Translating the Web. Does Duolingo Work? *International Journal of English Linguistics*, 3(1), 19–25. doi: 10.5539/ijel.v3n1p19

- Kohler, T. (2009). *Using Neurocognitive Theory To Develop A New Approach For Teaching German Grammar The Effect Of Color-Coding German Grammar On Language Acquisition*. Unpublished doctoral dissertation, University of Kansas.
- Landers, R. N., & Callan, R. C. (2011). Casual social games as serious games: The psychology of gamification in undergraduate education and employee training. In M. M. A. Oikonomou & L. C. Jain (Eds.), *Serious Games and Edutainment Applications* (pp. 399–423). Surrey, UK: Springer. doi: 10.1007/978-1-4471-2161-9
- Liu, M., & Jackson, J. (2008). An Exploration of Chinese EFL Learners' Unwillingness to Communicate and Foreign Language Anxiety. *The Modern Language Journal*, 92(1), 71–86.
- McCallum, S. (2012). Gamification and serious games for personalized health. *Studies in Health Technology and Informatics*, 177, 85–96. doi: 10.3233/978-1-61499-069-7-85
- Oxford, R. L., & Ehrman, M. E. (1995). Adults' language learning strategies in an intensive foreign language program in the United States. *System*, 23(3), 359–386.
- Payne, J. S., & Whitney, P. J. (2002). Synchronous CMC: Output, Working Memory, and Interlanguage Development. *Calico Journal*, 20(1), 7–32.
- Peterson, M. (2009). Computerized Games and Simulations in Computer-Assisted Language Learning: A Meta-Analysis of Research. *Simulation & Gaming*, 41(1), 72–93. doi: 10.1177/1046878109355684
- Rama, P. S., Black, R. W., van Es, E., & Warschauer, M. (2012). Affordances for second language learning in World of Warcraft. *ReCALL*, 24(03), 322–338. doi: 10.1017/S0958344012000171
- Reinders, H., & Wattana, S. (2014). CAN I SAY SOMETHING? THE EFFECTS OF DIGITAL GAME PLAY. *Language Learning & Technology*, 18(2), 101–123.
- Saito, Y., & Samimy, K. K. (1996). Foreign Language Anxiety and Language Performance: A Study of Learner Anxiety in Beginning, Intermediate, and Advanced-Level College Students of Japanese. *Foreign Language Annals*, 29(2), 239–249.
- Shatz, I. (2014). Parameters for Assessing the Effectiveness of Language Learning Strategies. *Journal of Language and Cultural Education*, 2(3), 96–103.
- Sombrio, G. D. S., Ulbricht, V. R., & Haeming, W. K. (2014). Games and Gamification: A Proposal for a Creative Learning Process in Education. *Journal of Education and Human Development*, 3(4), 117–129. doi: 10.15640/jehd.v3n4a12
- Stott, A., & Neustaedter, C. (2013). *Analysis of Gamification in Education*. (Technical Report 2013- 0422-01) (p. 8). Surrey, BC, Canada: Connections Lab, Simon Fraser University. Retrieved from <http://carmster.com/clab/uploads/Main/Stott-Gamification.pdf>
- Wen, W. P., & Clément, R. (2010). A Chinese Conceptualisation of Willingness to Communicate in ESL. *Language, Culture and Curriculum*, 18(1), 18–38. doi: 10.1080/07908310308666654
- Williams, J. N., & Lovatt, P. (2003). Phonological memory and rule learning. *Language Learning*, 53(1), 67–121. doi: 10.1111/1467-9922.00211
- Zafar, S., & Meenakshi, K. (2011). A study on the relationship between extroversion-introversion and risk-taking in the context of second language acquisition. *International Journal of Research Studies in Language Learning*, 1(1), 33–40.