The Gap between Theoretical and Practical Understanding of Gamification

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Abstract: Gamification is a topical issue through the last decade for researchers and practitioners involved in education, marketing, business, and *organizational consulting.* Research has shown that gamification has a special role to play in organizations - it helps to select and develop the best talents, thereby developing the organization as well as it helps to achieve individual and collective goals more successfully. Gamification is also used to improve corporate relationships with customers to ensure their loyalty and involvement. There is a lot of discussion about gamification, but at the same time there is often a lack of a common understanding of this concept. This study aims to investigate how the concept of gamification is understood and explained by an ordinary person, as well as where the gamification experience is gained from. The questionnaire developed by the authors consists of three parts: associations regarding the gamification definition, free form interpretation of the gamification concept, as well as the personal experience of the respondents related to gamification in certain environments such as professional development courses, educational establishments, or work. This mixed-method research includes both qualitative and quantitative data. The questionnaire was sent to the respondents electronically, it was filled in online mode. 436 responses were received. Research shows that the understanding of the gamification concept is very different and contrary to the theorists' assertions – the concept is far from mature at this stage. Gamification is still an untapped resource among the Latvian organisations - therefore it is important to promote this concept within organizational as well as in the educational environment, thus promoting and developing the participants' experience in gamification.

Keywords: gamification, organisation, game-based learning, engagement.

Introduction

Gamification has been a topical item in education, marketing, business and organisational consulting in the past decade (Zakrizevska-Belogrudova et al., 2021). As anticipated by some future strategists, gamification has constantly increasing impact on human lives not only within organisations, but also outside them (Schnell, 2010). The use of gaming experiences has become ubiquitous, multi-platform, and within variety of contexts (Ferro, 2021). Y.K. Chou also specifies that, over the past few years, gamification has reached a social breakpoint and is starting to emerge in every aspect of life from education, work, marketing, upbringing of children, sustainability to even the healthcare sector and scientific testing (Chou, 2019). Nowadays, all generations in the labour market, also in social means, daily encounter elements of gamification. We are already used to participating in various campaigns and basically, we are being gamified: the question of whether we notice it or not (Zalans, 2019). Gamification is developing not only thanks to the proliferation of smart devices, but also as a result of increased awareness of the gamification system as the architectural method of the human behaviour (Mordor Intelligence, 2021). A significant part of the gamification market is retail and marketing; however, gamification has the potential to significantly change the process of recruitment, onboarding, corporate training, and workforce adequacy assessment (Mordor Intelligence, 2021).

Studies of gamification have matured, as evidenced by a shift in their focus: gamification has moved away from fundamental questions as "what?" and "why? to questions around "how?", "when?" and "how and when not?" (Rapp et al., 2018). However, research on gamification still faces empirical and theoretical challenges. Very few empirical studies are verifying the impact of contextual factors and individual differences on effectiveness of gamification (Rapp et al., 2018). The previous most important questions in gamification research were incompatibility of theory and practice: on the one hand, the theoretical works were not empirically confirmed; on the other hand, research referred to the theory but did not test it for empirical validity (Rapp et al., 2018). Academic studies of gamification have been slow in improving techniques and methods, through which gamification systems and

services are generated; instead, researchers are investigating what practitioners have implemented and realized: it has led to criticism, that research and practice of gamification does not have a complete picture, and what has been done and revealed so far - is a simple version of what gamification should be (Rapp et al., 2018). Gamification will continue to evolve and meet real needs if practitioners and the general gamification community also evolve in their understanding of its principles and practice (Chou, 2019).

It is difficult to recognize the origins of gamification. Yu-Kai Chou, who is one of the best-known gamification practitioners, points out that, in ancient history, people have tried to make their daily tasks more motivating, more intriguing, and even more fun (Chou, 2019). The term "gamification" reached its critical mass in Google search in 2010, but the history of the concept is older. It was invented in 2002 by British consultant Nick Pelling, it was created as a "deliberately ugly word" designating a specific user interface design application to keep electronic transactions attractive and fast. The author of this term applied it only to technologies and introduced the term of gamification to describe consulting services of company "Conundra" (Bruke, 2014). However, according to Andrzej Marczewski, Nick Pelling was ahead of its time, as the term has been regularly used just in 2010 and it had evolved both - in wording and in meaning (Marczewski, 2018). In 2011, the Oxford Dictionary recognized the term "gamification" as one of the words of the year (Bruke, 2014). Brian Bruke talks about the large-scale activities of the beginning of gamification, noting that one of the early and inspiring ways of gamification is people marking in different places, mentioning an application called Foursquare, introduced in 2009, as an illustrative example (Bruke, 2014).

The simplest and most widely spread definition of gamification is as follows: gamification is the use of game design elements outside the game context (Deterding et al., 2011). Similarly, according to Kapp, gamification is the use of game-based mechanisms, game design and game thinking to involve people, motivate action, promote learning, and solve problems (Kapp, 2012). Gamification is the process of engaging the audience by bringing together the best of loyalty programs, game design and behavioural economics. However, without the involvement of employees and customers, even the best strategies and tactics are doomed to failure (Zichermann et al., 2013). Involvement is a combination of three components: deep emotional connection, high level of active participation, long-term relationship (Paharia, 2013).

The importance of involvement is also emphasized by Brian Bruke, who gives the following definition of gamification: "Gamification is the use of gaming mechanisms and design experience to digitally engage and motivate people for achieving their goals" (Bruke, 2014). Gamification creates entirely new models of involvement, reaching out to new communities of people and motivating them to achieve goals they may not even have known about (Bruke, 2014). The main factor of the gamification success is the involvement of people on an emotional level, motivating them to achieve their goals (Bruke, 2014). Gamification is ability to derive fun and engaging elements, which are typical of games and apply them to the real world or productive activities - this is how gamification is defined by Yu-Kai Chou, one of the most influential gamification experts of today (Chou, 2019). In general, the aim of gamification is to turn something into a game so that the behaviour is changed, in other words - the game becomes more than absolute entertainment (Hayward, 2017). Gamification is sometimes incorrectly applied to all educational games. As Deterding noted earlier in 2011, it is a unique field that differs from serious games, playful designs, playfulness - gamification does not mean turning everything into a game, it is looking for ways to take gamification principles as well as how and why do they motivate. These principles are then applied as a layer of interaction in a non-gaming environment (Chapman et al., 2018). A similar approach is taken by Andrzej Marczewski, who chooses the term "game thinking" to describe the use of games in non-play educational settings, marketing, human resource management and business in general. He defines game thinking as the use of a game and its elements for solving problems and creating a better experience (Marczewski, 2018).

Study on the use of gamification in organisational consulting was conducted in 2020, which showed that gamification is not a frequently used method in Latvia. The theory and the results of the research study led to a conclusion that organisations see substantial benefits in the use of gamification, supports the use of gamification as an effective tool in working with teams or groups. At the same time there is very limited information regarding the theoretical approaches to gamification, the views of various globally renowned experts, or successful game designs. The concept of gamification has not been sufficiently

explained and there is still no common understanding regarding it in Latvia (Zakrizevska-Belogrudova et al., 2021).

Another study in Latvia confirmed that use of gamification elements significantly increases employee engagement in training and also job engagement (Ludviga et al., 2017). Human resources is one of the business areas where gamification has been successfully used in different companies worldwide: processes like recruitment, onboarding, training and development, performance management, reward and recognition, internal communication, team building are most commonly being gamified (Ergle, 2020).

In the meantime, new companies are emerging and offering gamification platforms for organisations and employees, and this suggests that gamification is developing in Latvia (Zakrizevska-Belogrudova et al., 2021).

The aim of the study is to find out how the concept of gamification is understood and explained by an ordinary person, and where the experience of gamification is gained.

Methodology

Four research questions are raised in this work: How does an ordinary person understand the concept of gamification? Are there statistically significant differences in gamification experience among respondents with a different gender, age, or place of residence? Where gamification is most experienced: in professional educational courses, at school or in the work environment? Are there clear differences in understanding of the gamification concept between respondents with and without gamification experience?

Procedure: Primary data have been obtained using a questionnaire developed by the authors of the research study. The survey was conducted online on the Webropol platform, the link of the survey was sent electronically on a convenient sampling basis, as well as posted on the social media profiles of the authors. The study lasted for a period of May - September 2021.

Materials or Measures: Mixed-type study was performed and SPSS software and word-cloud generator was used for data processing. To analyse the differences between several groups of respondents, the Pearson Chi-Square test was used. The content analysis has been used for qualitative data analysis, including the word cloud.

Participants: 436 respondents participated, and their demographic data are shown in Table 1. Most respondents are women (81.8%), predominant in the age group from 26 to 40 (58%), most often the place of residence is Riga and most of the respondents have higher education.

Table 1

Demographic data of the survey respondents

Gender		Age (years)			
female	male	up to 25	26 - 40	41-55	56 and older
357	78	23	253	142	18
81.8%	179,0%	5.3%	58,0%	32.6%	4.1%
Place of residence					
Riga	Kurzeme	Zemgale	Vidzeme	Latgale	outside Latvia
207	30	43	131	9	16
45.5%	6.9%	9.8%	30.0%	2.1%	3.7%

In addition to the demographic data shown in Table 1, respondents answered the question about the level of education: 5 or 1.1% of respondents have acquired basic, 77 or 17.7% secondary and 354 or 81.2% higher education.

Results and Discussion

Having or not having experience with gamification appeared to be non-related to any of the demographic variables. Since both variables are nominal, Pearson Chi-Square tests were performed, and the following values were obtained (Table 2).

Table 2

Chi-Square Tests results (all respondents, n=436)

	Pearson Chi-Square Value	Degrees of freedom	Asymp. Sig. (2-sided)
Gender	2.61	2	0.27
Age group	5.56	3	0.14
Place of residence	6.35	5	0.27
Level of education	2.39	2	0.30

Since all Sig values are above 0.05, this allows to conclude that the experience related to gamification is not related to gender, age, place of residence or education of the respondents. Out of those who had experienced gamification (n=164), 73 (or 45.5%) had this experience in professional educational courses; 62 (or 37.8%) at work; and 30 (18.3%) at school. Fifty-five respondents (33.5%) stated that they have no experience, but they have heard about gamification

As the results of the Chi-Square test show, respondents who have experienced gamification at work, no statistically significant differences were found among respondents, based on differences of gender, age, place of residence and education level.

Table 3

Chi-Square Tests results (n=62)

	Pearson Chi-Square Value	Degrees of freedom	Asymp.- Sig. (2-sided)
Gender	0.17	2	0.92
Age group	4.59	3	0.21
Place of residence	5.18	5	0.39
Level of education	2.99	2	0.22

A total of 1308 words were collected on the request to indicate association with the concept of gamification. The most frequently mentioned associations: play (173), passion (47), entertainment (35), and fun (28).

What are the differences in perception of gamification between those who have experienced it and those who have not? Summarizing the answers given by respondents without gamification experience to the question about associations with gamification, many of the respondents had stated that they do not know and have no idea or understanding of the concept. However, some shared their associations and the most common ones are as follows: games, gambling, fun, addiction, entertainment, computer games, board games (see Figure 1).

Below the word cloud are also the most typical statements, mentioned by respondents as the associations. It is obvious that, for the majority, these associations are different from how gamification is being defined. Gamification is especially often associated with everyday gaming on smart devices and leisure with family and friends (Figure 1).

"*Playing games on your phone*", "*Playing games against each other online*", "*Problem solving in a frivolous way, with game techniques*", "*Development of brain logic*", "*Playing computer games made by streamers*", "*Application of game design elements and game principles outside of a game*", "*Cognition and unification of co-workers*", "*Gaming tournament with friends*", "*Somehow an explanation of turning into a game*", "*Playing multiple games in a row - marathon (including computer games)*", "*Games on your mobile device*", "*A new direction in a social science*", "*Spending free time with various games*", "*The science of games*".

Figure 1. Word cloud and sample statements (respondents with no experience in gamification, n=272)

For respondents who have gamification experience in the work environment, the picture appears to be different. The following words predominate in the associations - interesting, fun, entertainment, game, involvement, learning, creativity, competition, challenge (see Figure 2).

"*Games in groups*", "*Pathological changes of the cognitive system*", "*Interest in various games, both context and news*", "*One or more people are engaged in activities*", "*You can win something*", "*Collecting games with or without active use*", "*Spending creative, meaningful time*", "*The chosen term is philologically good (I have a master's degree in philology), but you should work hard on its advertising and wide implementation of the concept/term*", "*The desire to accumulate tokens*".

Figure 2. Word cloud and sample statements (respondents with experience in gamification at work, n=62)

The associations of this group of respondents, mentioned in the form of statements, are also summarized and shown below the word cloud (Figure 2). They show that, in general, the understanding of the gamification concept also differs in this group and not always in accordance with the most recognized definitions.

The data obtained on survey question - interpretation of the gamification concept in a free form – were analysed using content analysis. To do this, three broad groups of responses have been selected according to experience: group 1 (g1) – those who have not experienced gamification at all; group 2 (g2) - experienced in professional educational courses; group 3 (g3) - experienced gamification at work. The authors have divided these explanations of the gamification concept into the following categories:

Playing (meaning - carefree, with fun and without purpose). Although this category includes quotes from all the groups of respondents defined above, a large majority are survey participants of group 1, or those who have indicated that they have not experienced gamification at all. The brightest quotes in this category:

"*Games played with children*" *(g1),* "*Spending free time with friends or family*" *(g1* "*Something similar to photo orientation activities*" *(g1),* "*A large number of people get together (usually friends) and play board games*" *(g1),* "*An unfinished gaming process, which can be continued at a place and time convenient to oneself, can only take place in outdoor*" *(g1).*

Computer games / games on the Internet. There are also mostly quotes from respondents of group 1, in other groups this section does not appear at all.

"Playing various computer games" (g1), "Playing several computer games in a row, such as a game marathon" (g1), "Using video games for leisure time spending" (g1). "Addiction to computer games!" (g1). Indeed, development of gamification is mainly based on technological progress. However, gamification is not just about digital technology. Andrzej Marczewski is also supporting this idea by writing into his gamification site, that Brian Bruke has announced the need for changing the Gartner`s gamification definition, which now has been applied just to digital environment. Marczewski points to the illogical nature of such a change (Marczewski, 2014). Emmanuelle Savignac, referring to the Gamification World Congress of 2011, also notes that this issue has been widely discussed. Majority of Conference speakers have expressed an opinion, that opportunities of gamification are not limited solely by digital solutions (Dymek et al., 2016). Digital games are far behind so-called board games, because the greatest contribution in the participants` learning and development process is created specifically through the physical presence, communication and cooperation between participants of the game (Lejiete, 2016).

The use of game or its elements for an additional purpose. Only a small number of respondents explained gamification close to its established definitions, see below. Responses in this category mainly come from group 2 and group 3.

"Transforming content into a game format to increase attention of audience" (g1), "Achieving a result or goal, using the elements and relationships of the game" (g1), "Acquisition of skills using game elements" (g2), "Use of game elements to motivate non-game activities" (g3), "Doing serious things with elements of the game / play, thus lowering barriers of starting or continuing something" (g2), "The use of game elements in work teams to promote healthy competition, to develop personal growth, awareness of one's abilities, development of creativity and diversification of daily activities" (g2), "The use of game elements in training or in the management of the enterprise, or in any other process" (g3), "A method of training, development, problem-solving through the game elements, to increase involvement, enthusiasm and encourage thinking outside the ordinary and the standardized" (g2), "The use of methodically and appropriately selected game elements in learning or any other process, focused on human interaction and collaboration" (g3), "Incorporating the different game elements into learning / working processes. This is a way to increase people's motivation to work / learn by using the game type elements and incorporating them into school or business. Gamification elements are a great for non-formal education; great approach which can be used to motivate and interest people. It is increasingly being used and gaining popularity in companies" (g3), "Applying the game elements to get people more involved. For example, on-the-job training developed with elements of games may seem more interesting, it is easier to remember what has been learned" (g3), "Use of game elements in common life and work situations" (g3).

In this category many explanations apply to the work environment. Indeed, gamification has huge potential for use in human resource management. For example, Ergle and Ludviga found that teambuilding and internal communication are organisational internal processes which very well respond to gamification (Ergle et al., 2018). In the same time managers must be careful about the blind use or broad implementation of gamified technologies: even if they appear trendy to be effective, they must fit with the companies's overall culture and strategy (Hammedi et al., 2021).

It should be pointed out that a large number of respondents answered that they cannot provide an explanation because they really do not know what gamification is.

Conclusions

This study aimed to is to find out how the concept of gamification is understood and explained by an ordinary person in Latvia, and where the experience of gamification is gained. Although, in scientific publications and studies of recent years, the gamification is considered as a mature and developed concept, this research shows that in Latvia the situation is different. In practice, the average person does not understand or only partially understands the concept of gamification. More than half of the respondents who filled in the survey note that they have no gamification experience. However, those respondents who have experience, mostly experienced it through professional development courses,

including the workplace. Few - in educational institutions. Associations are also different: respondents who have not experienced gamification, mostly associate it with video and computer games, gambling and playing; however, respondents with experience in gamification, indicate associations such as learning through games, interesting, fun, entertainment, involvement, learning, creativity, competition, challenge. Only a small number of respondents explain gamification close to its established definition.

This study has certain limitations leading to avenues of future research, in order to collect more responses, the survey was intentionally designed as very short. Therefor data on organisations and industries represented by the respondents were not included. Future research could identify in which industries and which type or organisations use gamification more. Moreover, the impact of gamification activities of the organisational outcomes is another area of future research.

However, the finding reported here could spur future research and practical application of gamification in Latvia. Gamification is still untapped resource among the Latvian organisations and educational institutions - therefore it is important to promote this concept within business, organisational as well as in the educational environment.

Bibliography

1. Bruke, B. (2014). Gamify: How Gamification Motivates People to Do Extraordinary Things. Routledge.
2. Chapman, J. R., & Rich, P. J. (2018). Does Educational Gamification Improve Students' Motivation? If So, Which Game Elements Work Best? Journal of Education for Business, 93(7), 315-322. https://doi.org/10.1080/08832323.2018.1490687
3. Chou, Y. K. (2019). Actionable gamification: Beyond Points, Badges, and Leaderboards. Octalysis Media.
4. Deterding, S., Sicart, M., Nacke, L., & Dixon, D. (2011). Gamification - using Game-Design Elements in Non-Gaming Contexts. CHI EA 11 Proceedings of the 2011 Annual Extended Abstracts on Human Factors in Computing Systems. New York NY: Association for Computing Machinery, 2425-2428. https://doi.org/10.1145/1979742.1979575
5. Dymek, M. & Zackariasson, P. (2016). The Business of Gamification. A critical analysis. Routledge
6. Ergle, D. (2020). The Impact of Gamification on Employee Engagement in a Complex System of Human Resource Management Processes. Retrieved from https://dspace.lu.lv/dspace/handle/7/50300
7. Ergle, D., & Ludviga, I., (2018) Use of gamification in human resource management: impact on engagement and satisfaction. Proceedings form 10th International Scientific Conference Business and Management 2018, Vilnius Gediminas Technical University, 409-417.
8. Ferro, L.S., (2021). The Game Element and Mechanic (GEM) framework: A structural approach for implementing game elements and mechanics into game experiences. Entertainment Computing, 36. https://doi.org/10.1016/j.entcom.2020.100375
9. Hammedi, W., Leclercq, T., Poncin, I., & Alkire, L. (2021). Uncovering the Dark Side of Gamification at Work: Impacts on Engagement and Well-Being. *Journal of Business Research,* 122, 256-269. https://doi.org/10.1016/j.jbusres.2020.08.032
10. Hayward, B. (2017). The Gamification of Customer Behaviours. Credit Control, 38(1/2), 36-40.
11. Kapp, K.M. (2012). The Gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education. John Wiley & Sons.
12. Lejiete, Z. (2016). Spēļota darba vieta [Gamified workplace]. Retrieved from https://itiesibas.lv/raksti/ibizness/uznemuma-vadiba/spelota-darba-vieta/10576 (in Latvian)
13. Ludviga, I., & Ergle, D. (2017). An Investigation Into Gamification as Employee Training Tool: Engagement and Game Components ICLEL 2017 (3rd International Conference on Lifelong Education and Leadership for ALL-ICLEL 2017), Proceedings Book, Sakarya Publication: ICLEL Conferences Sakarya University Faculty of Education, 1128 – 1137.
14. Marczewski, A. (2014). A Response to Gartners New Definition of Gamification. Retrieved from https://www.gamified.uk/2014/04/05/a-response-to-gartners-new-definition-of-gamification/
15. Marczewski, A. (2018). Even Ninja Monkeys Like to Play. Independently published.

16. Mordor Intelligence. (2021). Gamification Market - Growth, Trends, COVID-19 Impact, and Forecasts (2022 - 2027). Retrieved from https://www.mordorintelligence.com/industry-reports/gamification-market

17. Paharia, R. (2013). Loyalty 3.0: How to Revolutionize Customer and Employee Engagement with Big Data and Gamification. McGraw-Hill Education

18. Rapp, A., Hopfgartner, F., Hamari, J., Lineah, C., & Cena, F. (2019). Strengthening gamification studies: Current trends and future opportunities of gamification research. International Journal of Human-Computer Studies, 127, 1-6. https://doi.org/10.1016/j.ijhcs.2018.11.007

19. Schnell, J. (2010). Design Outside the Box Presentation. DICE 2010. [Video file]. Retrieved from https://www.youtube.com/watch?v=nG_PbHVW5cQ

20. Zalans, J. (2019). Spēļošana krietni atšķiras no spēles [Gamification is very different from game]. [Video file]. Retrieved from https://www.triviums.lv/blogs/spelosana-juris-zalans (in Latvian)

21. Zakrizevska- Belogrudova, M., & Leimane, S. (2021). Gamification and Using It in Organisational Consulting. In V. Dislere (Ed.), The Proceedings of the International Scientific Conference Rural Environment. Education. Personality (REEP), 14, 484-492. Latvia University of Life Sciences and Technologies. http://dx.doi.org/10.22616/REEP.2021.14.054

22. Zichermann, G., & Linder, J. (2013). The Gamification Revolution: How Leaders Leverage Game Mechanics to Crush the Competition. McGraw-Hill Education.