

Assignment 2: A research analysis and critique

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The purpose of this paper is to describe and critique the following study: “The key elements of gamification in corporate training – The Delphi method (Wang, Hsu, & Fang, 2021).

The purpose of the study was stated clearly in the introduction. This is a hallmark of a good study, for the purpose of the research, “should not be embedded in arcane language or buried in extraneous detail.” (Suter, 2014, p. 5). The study focused primarily on two goals: firstly, “the exploration of key elements of successful gamification in corporate training practices”, and secondly, “evaluate key gamification elements and their degree of importance, and how corporate trainers apply such elements in their practice.” (Wang, Hsu, & Fang, 2021, p. 1). It is a very relevant and important purpose since gamification is a relatively new phenomenon so there is very little qualitative research on it. Many issues regarding it are still undeciphered, such as its effectiveness. Furthermore, what the research successfully accomplished is unique and much needed as it provides a list of key elements of successful gamification and practical tips for teachers in the development of training gamification. Indeed, the interest in gamification and its application in educational contexts is growing that it is becoming necessary to investigate it closely through research.

Significant prior work includes, but is not limited to, that of Lamders (2019), Rebeiro (2018), Majuri (2018), and Perryer (2016), all of whom contributed abundantly by publishing studies and reviews of empirical literature in the fields of educational technology, adult education, and corporate training. Also, the works of Dicheva et al. (2015) and Deterding et al. (2011) were used as the bases for the categorization of the elements of gamification in this study. Dicheva et al. (2015) conducted a comprehensive analysis research of educational gamification by

incorporating the gamification element definition of Deterding et al. (2011) and proposed two major categories of gamification elements: gamification design principles and game mechanics. Abundant previous literature was reviewed for this study. It revolved around the definition of gamification, its importance, its positive effects on education, the key elements of successful gamification and the different ways they have been divided and categorized according to different learning theories. Also, possible gamification problems were covered in the literature review. Indeed, the literature review is excellent since after reading it, the readers understand an aspect of gamification that was not clear before. This, according to Suter, signifies a good literature review, "A good literature review will reach an understanding of the topic that was not apparent before the review." (Suter, 2014, p. 5). The gap this research bridges is the lack of qualitative research on gamification. The research also attempts to clarify the effectiveness of gamification which is something previous research has not yet completely deciphered. Despite the growing interest in gamification for adult education, many issues are still unresolved such as what elements of gamification are the most effective. Therefore, this study is of utter importance as it provides a list of key elements of successful gamification in corporate training practices. Since this study gathers deep information and perceptions about a certain phenomenon through qualitative methods, it is logical to conclude that it falls in line with the paradigm and

the qualitative research tradition of phenomenology. It is suitable for the purpose of this research since it seeks to deeply understand the phenomenon of gamification and its implications. This study used the Delphi method which is the ideal method for the purpose of this research since, “When a problem or phenomenon is not fully understood, then the Delphi method is a suitable framework for research.” (Wang, Hsu, & Fang, 2021, p. 2). The classical Delphi method includes the following four key features: anonymity, iteration, controlled feedback, and statistical summary. For the pre-round, data was collected through interviews that were held by email or over the phone with experts in training gamification to establish the basis for the subsequent rounds. After this pre-round, a list of 35 key gamification elements was constructed. It is noteworthy that this list of key gamification elements was generated from both experts’ opinions and from research reviews of empirical literature by Majuri et al. (2018) and a review of related gamification research. The study has set the consensus criteria as IQR (inter-quartile range) ≤ 1 and SD (standard deviation) ≤ 1.5 . “After a consensus has been reached, when an item received an average score greater than 4 in the expert evaluation, and more than 51% of the expert evaluations gave a score of 4 or above, the item is considered a gamification key element.” (Wang, Hsu, & Fang, p. 2-3, 2021). The fact that the interviews were held exclusively via email or over the phone and not in person means the researchers were not able to include non-verbal behavior as part of the data. However, the iterative nature of the Delphi method and the possibility of expanding on one’s answers and revising them ensure the gathering of the most information possible. Moreover, for the first, second, and third rounds of the Delphi method, experts answered questionnaires to evaluate the importance of the 35 gamification elements using a five-point Likert scale. They had the opportunity of adding key elements that were not in the questionnaire. This ensured that the rich experiences of the participating experts were

properly conveyed. The choice of the study design is congruent with the desired end results, and the required level of understanding and description that experts on training gamification can provide. The theoretical perspective the researchers used was the empirical literature by Majuri et al. (2018) and other relevant gamification research such as that of Dicheva et al. (2015) and Deterding et al. (2011).

The sample in this study consisted of 14 experts, 12 males, 2 females most of whom had more than 9 years of experience in gamification. They were chosen purposefully relying on the snowballing method of sampling. Very strong criteria were considered for the nomination of experts to participate in the study. For instance, “ Moreover, (1) The nominee has utilized common gamification elements such as points, scoring, and leaderboards within their training courses. (2) The nominee has more than three years of experience with educational gamification. (3) The nominee has been a lecturer at one of the top 500 listed companies in Taiwan over the past year.” (Wang, Hsu, & Fang, 2021, p. 3). Moreover, one of the two experts on the nomination team ‘is a coach specialized in training corporate lecturers, and a published author of several books on educational training and gamification teaching methodology. The other is gamification research scholar.’ (Wang, Hsu, & Fang, 2021, p. 3). Furthermore, to ensure the total completeness of the process, multiple sources were used to collect the list of

experts. This sampling method is ideal for the study design. The researchers clearly state when redundancy in data was reached. The readers of the research are easily able to understand the characteristics of the participants involved. However, nothing about their ages, ethnicity, or socioeconomic background was mentioned. Of course, invitations to participate were sent via email so the readers assume ethical procedures were followed even though no details about that are mentioned. One weakness that the researchers admit is that the sample size was relatively small and further research is required with a different and larger sample that is more representative of the population.

The procedures of data collection and data analysis were vividly, clearly, and sufficiently described so it is safe to say that descriptive clarity was achieved (Letts et al., 2007). Moreover, the researchers provide sufficient information on the professional qualifications of surveyed experts in a very well-organized manner. There is no mention of the role of the researchers as participants or their relationships with the experts. The amount of data collected and the time spent collecting it are both described clearly so the readers can easily understand the procedures undertaken to collect the data. Overall, procedural rigor has been achieved.

The method of data analysis in this study is very suitable for the nature of data. The researchers used the method of collection and organization which is typical of the inductive qualitative analyses. They organized expert opinions into six major gamification design principles which made it very easy and clear to know which elements the participating experts agreed upon and which of them are the most effective in successful gamification. The high reliability is one strength of this study. It is seen in the use of multiple indicators for measurement at the same time. The researcher used IQR (inter-quartile range), SD (standard deviation), and a five-point

scale to obtain consensus. The researchers mention one control procedure which is randomizing the order of the questions in each questionnaire to avoid ordering bias.

The study's major findings were that some gamification design principles would enhance learner participation and learning results in corporate training. They include integration with the curriculum, provision of rapid feedback, team-based competition, gradual increase of the difficulty of tasks, fair and clear rules, and the freedom to fail. Furthermore, the experts often relied on points and leaderboards to boost participation. The most important points in the discussion are that it is important to focus on the design of key gamification elements to enhance learning effectiveness, and that ambiguous gamification directions may lead to erroneous results. The findings logically follow the purpose of the research. Furthermore, they were consistent with and reflective of data. The process of analyzing the data was described adequately and in a very well-organized manner that it is easy and pleasant for the readers to follow. In addition, a meaningful picture of the phenomenon of training gamification emerged. The phenomenon of successful gamification is more deeply understood and a clear and credible connection to the key elements that contribute to successful gamification is easily made.

Conclusions are congruent with the findings and contribute to theory development and to future research on gamification.

The limitations the researchers admit were that the sample size was relatively small. Also, their findings cannot be generalized to different populations and timeframes such as students in high school taking courses that span 3 or 4 months of time. Further research is required for this. So, it is logical to say the research lacks transferability. Its credibility is also modest because it was not enhanced by triangulation or member checking or any other strategies that promote trustworthiness. (Suter, 2014)

To sum up, this study provides valuable references and insights in the research and application of training gamification. It provides a unique list of key elements of successful gamification based on expert opinions and evaluations. It was very well written and succeeded in bridging the gap in qualitative research on gamification. The sample size could have been larger to ensure that the findings would be more generalizable. Overall, corporate trainers could use this study for its valuable conclusions and unique perspectives.

References

- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining "gamification". 9-15. <https://doi.org/10.1145/2181037.2181040>
- Dicheva, D., Dichev, C., Agre, G., & Angelova, G. (2015). Gamification in education: A systematic mapping study. *Educational Technology & Society*, 18(3), 75-88.
- Letts et al., (2007). Guidelines for critical review form: qualitative studies (version 2.0)
- Suter, N. (2014). SAGE publications, inc. *Introduction to educational research: a critical thinking approach* DOI: <https://dx.doi.org/10.4135/9781483384443>
- Wang, Y., Hsu, Y., & Fang, K. (2022). The Key Elements of Gamification in Corporate Training- The Delphi Method The key elements of gamification in corporate training – the delphi method. *Entertainment Computing*, 40, 100463. <https://doi.org/10.1016/j.entcom.2021.100463>