Gamification in Austrian Museums. An Analysis of its Current Status in Educational Programming

The concept of gamification has been adopted by museum education in search for new ways to engage visitors, reach out to new audience segments and facilitate knowledge transfer. But despite the interest in games and gamified offers among the public and the growing number of examples created by museums due to the digital transformation and the impact of COVID-19, few research studies dedicated specifically to the implementation of gamification in museum education have been carried out. In the case of Austria, no specific research paper has been found in relation to the proposed topic.

This paper presents conducted research with the aim to analyse the status of applied gamification in analogue and digital museum education projects in Austria, the reasons for the (non) inclusion of gamification and to identify game elements used by museums. A quantitative method was applied to collect data via an online survey. After a thorough descriptive analysis, the results show that more than half of the surveyed museums in Austria offer gamified educational programmes and that the implementation shows a correlation with their location, focus, ownership, annual budget, and the existence of a department for education or digitalisation. The reasons for its use are centred around the visitor and the lack of financial, technological and time resources as well as know-how hinder its application.

This research was the first of its kind analysing the use of gamification in museum education across a specific country and it can serve as a basis for future global research to gain international insights on the topic. Leaning on the obtained results, this research paper also highlights the benefits of applying meaningful gamification in museum educational programming and aims at encouraging museum education professionals to try out the concept to elicit deeper engagement and learning among their audiences.

The results of this research confirm for Austria what was postulated in other studies (Johnson, Adams, Estrada & Freeman, 2015; Madsen, 2018; Cosovic & Ramic, 2019): gamification has made its way into the museum realm. As Madsen (2018) writes, "game-based learning and gamification has gained a lot of interest in academia, edutainment and learning [...] and this interest is also becoming visible within museums" (p.1-2). According to the objective, the analysed data illustrate that more than half of all surveyed Austrian museums with analogue and/or digital educational programmes have implemented gamification.

From the data collected, it can be deduced that gamification is a newcomer to the museum field, meaning that most museums have just started applying gamification, also taking into consideration that the concept of gamification emerged only two decades ago and the museum sector has not been the first to follow the trend. However, it is difficult

to predict the development of gamification in museums in the future. Johnson et al. (2015) expect an increase in game elements applied in museums for the next years. Nonetheless, it is also possible that the implementation of gamification will be reduced due to the fact that a theoretical framework and instruments are still missing to be able to analyse the effects of gamification on learning and audience retention in museums. It is assumed that gamification helps to improve learning and enhance the museum experience, but its effectiveness cannot yet be reliably measured.

Surprisingly, the most used game elements in other sectors that apply gamification, such as points, levels, badges, or time pressure, do not spearhead the ranking of use in museums. The mentioned elements mainly provoke extrinsic motivation in people and were responsible for gamification also being called "exploitationware" (Deterding et al., 2011; Buckley et al., 2018), "pointsification" (Robertson, 2010), or "chocolate-covered broccoli". These terms refer to the abuse of game elements to turn tedious tasks into something enjoyable without really understanding the context in which the elements are embedded, the needs of the target group and without having a narrative backbone. The list of the most used elements in museums includes the elements “storytelling”, “challenges”, “objectives” and “restricted choice” which evoke intrinsic motivation and create meaningful links with players.

These results coincide with the concept of meaningful gamification proposed by Nicholson (2012). According to the author, meaningful gamification refers to the “use of gameful and playful layers to help a user find personal connections that motivate engagement with a specific context for long-term change” (Nicholson, 2015, p.1). The use of external reward elements like points or badges does not effectively motivate people and does not benefit long-term learning. On the contrary, meaningful gamification places the players and their needs at the centre when integrating game elements in non-game contexts, which triggers intrinsic instead of extrinsic motivation. Meaningful gamification reintroduces the dimensions of freedom, choice and agency into the learning process that have been removed in gamified contexts overlaid with reward-based game elements.

Gamification applied in museums and its effects on visitors' learning are still "terra incognita" due to the lack of studies and a theoretical framework. Experts call for the creation of a universal and standardised scientific framework to analyse and evaluate the impact of gamification on learning about cultural heritage. As the first of its kind, this study opens up possibilities for future research that continues to analyse the development of the application of game elements in museums in Austria and on a global level creating a basis for international comparison that measures the impact it has on learning taking place in museums and on the visitor experience.

References:

Buckley, J., Exton, C., Exton, G. & Murray, L. (2018). A Gamification-Motivation Design Framework for Educational Software Developers. Journal of Educational Technology Systems, 47(1), 101-127. doi:10.1177/0047239518783153.

Cosovic, M. & Ramic, B. (2019). Game-Based Learning in Museums—Cultural Heritage Applications. Information, 11(22), 1-13. doi:10.3390/info11010022.

Deterding, S., Dixon, D., Khaled, R. & Nacke, L. (2011). From Game Design Elements to Gamefulness: Defining "Gamification". In MindTrek '11 Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments (pp.9–15), Tampere, Finland.

Johnson, L., Adams, S., Estrada, V. & Freeman, A. (2015). The NMC Horizon Report: 2015 Museum Edition. Austin, TX: The New Media Consortium. Retrieved from: https://files.eric.ed.gov/fulltext/ED559371.pdf.

Madsen, K.M. (2018). The Gamified Museum – A critical literature review and discussion of gamification in museums. In Jensen, T., Ertløv Hansen, O. & Foss Rosenstand, C. A. (eds.). Gamescope: The potential for gamification in digital and analogue places. Aalborg: Aalborg Universitetsforlag.

Nicholson, S. (2012). A User-Centered Theoretical Framework for Meaningful Gamification. Retrieved from https://scottnicholson.com/pubs/meaningfulframework.pdf.

Nicholson, S. (2015). A RECIPE for Meaningful Gamification. In Wood, L. & Reiners, T. (eds.), Gamification in Education and Business (pp.1-20), New York: Springer. Retrieved from https://link.springer.com/chapter/10.1007/978-3-319-10208-5_1.

Robertson, M. (2010). Can't play won't play. Retrieved from http://hideandseek.net/2010/10/06/cant-play-wont-play/.