

A Literature Review on Games in Libraries

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Abstract: This paper presents an analysis of games and gamification in libraries. My objective was to conduct a literature review of the scientific literature on games and gamification in libraries. A secondary objective was to identify domains and subdomains of games and gamification in the scientific literature, after conducting the literature review. This literature review was conducted using a thematic analysis of the selected scientific articles. I used 31 scientific articles on games and gamification in libraries to be analyzed through thematic coding, using the Atlas.ti software.

Keywords: games; gamification; libraries; literature review; promotion

1. Introduction

Gamification represents the action of using game elements and game design techniques in a non-game context (Werbach and Hunter, 2012, p. 25). Games and gamification in libraries represent a way of having fun in the library, of playing, but they can also be a fun way of instructing the patrons on how to use the library resources, for instance (Broussard, 2012, 2014).

A relevant text on this subject is „Game it up! Using Gamification to Incentivize Your Library” (Folmar, 2015), a text that presents a broad perspective on games and gamification in libraries. Specialists and researchers are analyzing these games, writing relevant texts on this subject (see Brown, 2014).

I conducted a review of the relevant scientific texts to see what thematic patterns I can identify in these texts, and what perspectives exist on gamification and games in libraries.

In my review, I was interested in identifying the ways the games and gamification are implemented in libraries and the ways these interactive actions and resources are analyzed and discussed in the relevant scientific literature.

For this paper and literature review, the objective was to review the relevant scientific literature on games and gamification in libraries. This objective comes as a response to the growing scientific literature on games and gamification in libraries (see Brown, 2014) and as a

need to have a broader perspective on games and gamification in libraries. Another aim connected to the main objective was to identify possible new subdomains for the research of games and gamification in libraries. As an example, Folmar's (2015) book on gamification in libraries is relevant for the librarians interested in gamifying services in the libraries, but using, in the book, examples identified until 2015.

I conducted this literature review, considering that there should be an updated literature review on games and gamification in libraries. Hassio and Madge (2020) had a similar approach, conducting a literature review; their method and review inspired the literature review presented in this paper.

2. Method

For this literature review, I searched multiple scientific databases as EBSCO, Emerald and ProQuest, using relevant keywords as Game, Gamification and Libraries as Creswell and Creswell (2020, p. 47) suggest. I selected only peer-reviewed scientific articles.¹ I first made an initial review, selecting 31 scientific articles that I considered relevant for my final literature review, using Creswell and Creswell's (2020, p. 47) advice in deciding if the article is valuable in the understanding of the games and gamification in libraries. Hassio and Madge (2020) also used scientific databases to search for relevant scientific documents.

For this final literature review, the Atlas.ti software was used. This review of the relevant scientific literature allowed me to see the results of other research on games and gamification in libraries and to share these results in this paper, as Creswell and Creswell (2020, p. 43) suggest. The main topics of these scientific articles were found, there were constructed relevant ways of relating these topics, of connecting them, as Creswell and Creswell (2020, p. 44) suggest. First, a text analysis was conducted, using the Atlas.ti software, to identify the most frequently used words and topics in the selected texts. A conceptual analysis of the selected texts was also performed, using the Atlas.ti software, to find the most frequently used concepts in the selected scientific articles.

After these processes, the selected scientific articles were once more analyzed, and the main topics discussed in these texts (related to games and gamification in libraries) were found. After coding the texts, and after analyzing the results, the most important topics, the main categories of research on games and gamification in libraries were decided. It was interesting to see how these categories and topics are connected or how they could be connected.

3. Results

After conducting the Text Analysis with the Atlas.ti software, I found that, in general, the analyzed texts discuss students, games and libraries, making the academic application of games and gamification in libraries one of the most important subjects in these scientific articles.

After coding the texts using Atlas.ti, there were interesting results, that should be discussed. After reading and analyzing all the imported documents in the Atlas.ti software (31 documents), codes were applied to the documents. In total, there were 12 codes: Collection, Database, Digital Application, Event, Game Club, Instruction, Journalism, Literature Review, Orientation, Program, Promotion, Social Game.

¹ Hassio and Madge's (2020) method of searching and selecting scientific texts inspired this literature review.

The Collection code refers, in general, to gaming materials integrated into the library collections (see Buchanan and Elzen, 2012; Ferguson, 2016; Kirriemuir, 2006). The Database code refers to gamified databases used by libraries or in libraries (see Adedokun, 2021).

CODES	MEANINGS
Collection	Gaming Materials in Libraries
Database	Gamified Databases in Libraries
Digital Application	Gamified Digital Application in Libraries
Event	Gaming Events in Libraries
Game Club	Gaming Clubs in Libraries
Instruction	Games for Instructing the Library Patrons
Journalism	Games treated as Journalistic Subjects by Libraries
Literature Review	Literature Review on Games and Gamification in Libraries
Orientation	Games for Orienting the Library Patrons
Program	Recurrent Gamified Actions in Libraries
Promotion	Promotion of Gamified Actions and Services in Libraries
Social Game	Gamified Social Services in Libraries

Figure 1. Codebook

The Digital Applications code refers to digital applications used by libraries to gamify services (see Kim, 2015). The Event code refers to gaming events organized by libraries (see Levine, 2006, 2009, p. 4). The Game Club code refers to gaming clubs organized by libraries (see Boyle, 2018; Brown and Kasper, 2013). The Instruction code refers to games created by libraries to instruct the library patrons, in terms of using the library resources and services (see Broussard, 2012, 2014; Urban, 2019). The Journalism code refers to cases in which libraries are treating games as a journalistic subject (see Buchanan and Elzen, 2012, p. 19). The Literature Review code refers to articles in which there are reviews of the literature based on the games and gamification in libraries subject (Brown, 2014). The Orientation code refers to games or gamification actions by which libraries help patrons orient themselves in the library (see Smith and Baker, 2011). The Program code refers to recurrent gamified actions organized under the name of programs, by libraries (see Felker, 2014; Kim, 2015). The Promotion code

refers to actions of promoting the gamified actions and services organized by libraries (see Bremer, 2017, p. 4; Levine, 2006; Smith and Baker, 2011). The Social Game code refers to gamified social services organized by libraries, as social networks (see Kim, 2015). I have illustrated a succinct Codebook in Figure 1.

It was, also, conducted a network analysis of the codes, in the Atlas.ti software, to visualize the modalities in which the codes could be connected. After this analysis, the results showed that the promotion code was the central code. This code could be important for any type of game or gamification in the library, so it could be called a central code, a central subject for this scientific domain (of games and gamification in libraries). In Figure 2, I illustrated that the Atlas.ti Network function revealed that the main themes identified in the selected 31 papers about games and gamification in libraries could all be considered a cause of the apparition of the Promotion code. For instance, the Instruction games in libraries determine the apparition of the Promotion actions, librarians are creating promoting actions to announce the availability of new services or resources in their library (see Buchanan and Elzen, 2012, p. 15; Levine, 2006, pp. 2 – 3; Smith and Baker, 2011).

Also, it is worth mentioning that the Orientation code could be considered part of the most frequent code, Instruction, because Orientation is a type of library instruction. But the Orientation code was used as a code, and not a subcode, because this is a very frequent used theme in the selected scientific papers. This theme was considered a new, important perspective on games and gamification in libraries. Therefore, having the fact that Orientation is a code that could be considered part of the most frequent used theme, the Instruction, shows that Instruction could be considered the most important and used type of gamification in libraries, of using games, in general, in libraries.

Other codes that could be considered a way of implementing games and gamification in libraries are Game Club and Program. These themes were not used very frequently in the analyzed scientific papers, but they had an important place in the coding, having a medium rank as frequency. These themes had a medium frequency of usage, while other themes had a low or very low frequency of apparition in the analyzed texts. Codes as Digital Application, Database or Social Game were not recurrent codes, they were not frequent codes, so the thematic group that could define the subject of games and gamification in libraries are Game Club, Collection, Event, Instruction (including Orientation) and Program, with Promotion as a central mission. Other codes (Literature Review and Journalism) were eliminated from this network because they weren't relevant for this network, they weren't having any relevant connections with the other codes, while their frequency of apparition in the reviewed texts was very low.

4. Analysis

These results could be important for any research in the games and gamification in libraries domain. My literature review shows the surprising importance of the promotion, in this domain. The Promotion code was found in 8 scientific papers (Buchanan and Elzen, 2012; Bremer, 2017; Broussard, 2013; Levine, 2006; Courtier and DeLooper, 2017; Maluck, 2013; Nicholson, 2013; Smith and Baker, 2011). The texts show that the promotion of games and gamification in libraries represents an important scientific subject for research.

The other important result was that there are 5 main categories of research in the analyzed scientific papers, on games and gamification in libraries: Instruction, Collection, Game Club, Program and Event. Every library could use this result, to organize more relevant actions for

gamers. Libraries could implement more games to instruct users on how to use the libraries, or on how to orient themselves within the library. Libraries could also increase the implementing of new gaming collections. Libraries could create more video game or gaming clubs and constant gaming programs for the library users, while gaming events could be another important point on the agenda of the libraries, there could be more assurances and more implications from the libraries in implementing gaming events.

This result could be important for any scholar or researcher analyzing games and gamification in libraries because it could bring to attention new perspectives or a broader perspective on gaming and gamification in libraries. This literature review brings attention to a new research category: the promotion of games and gamification in libraries. This may be important because it's not enough only to create gaming events or clubs, these types of services and resources need to be promoted, sometimes in real time because these events and actions are interactive, they depend on users to come and interact, while the users need to be convinced to come and play the games organized and proposed by libraries.

The objective was to review the relevant scientific literature on games and gamification in libraries. The purpose was accomplished, relevant patterns and new subdomains worth of research were identified.

An important scientific text that presents the results of a literature review on games and gamification in libraries is Brown's review (2014), with the mention that his review is on another perspective of the researched subject, on methods for evaluating the implementation of games and gamification in libraries. My literature review is a broader analysis, focusing on all research perspectives of the gaming and gamification in libraries domain.

After analyzing the results, I concluded that there should exist a more comprehensive literature on the promotion of games and gamification in libraries.

My literature review is relevant because it included also some of the latest scientific articles produced on the researched subject (Adedokun et al., 2021; Stark et al., 2021; Tang, 2021; Yap & Penaflo, 2020). There are no important limitations to my research.

5. Conclusions

This literature review helped create a new list of categories for research in the games and gamification in libraries domain. Also, it was found a new perspective that may play a central role in research, in this reviewed domain, the promotion of games and gamification in libraries. A first analysis showed also that games and gamification in libraries are a very relevant subject in the academic context.

This literature review is important because the subject analyzed in this review and paper is growing as a scientific domain, that needs to be revised and reviewed constantly to bring more insights on the relevant examples and innovations from the games and gamification in libraries domain.

This paper could represent an argument for beginning new research on promoting the games and gamification in libraries, for finding relevant categories of promoting these actions and resources, for finding the themes and perspectives that define the promotion of gaming and gamification in libraries.



Figure 2. Scheme based on the Network made in Atlas.ti

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