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A Comprehensive Literature Review on the Use of Video Games in Business Instruction

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ABSTRACT

The quality of instruction is becoming an ever more critical factor in determining the overall effectiveness of educational institutions. In this respect, gamification is a technique that is commonly used to enhance the teaching and learning process by assisting both instructors and students in achieving their objectives in the short term, the medium term, and the long run. This article includes a systematic evaluation of literature on the application of gamification as a technique to increase the quality of the education process in general, specifically, the education of management. Given the issue's relevance in academics and the community, this article presents the review. The study searches for the most available literature on the implementation of gamification in learning settings. It describes the most important themes and constructs of gamification based on a thorough literature review of academic papers available in the ISI and Scopus databases. One of the most important things this study has accomplished is the description of theoretical approaches to gamification. It has also produced a conceptual model that combines the findings of several studies and lays the way for further investigation.

1. Introduction

Educational institutions must guarantee that their students get an excellent education at all levels, just as it is the responsibility of any other company that strives to enhance the standard of its products and goods (Suriya & Arumugam, 2020). It is anticipated that educational institutions and teachers will perform their duties to the highest possible standard to ensure that future generations will be adequately equipped to enter the workforce. It is widely acknowledged that the level of instruction is essential to the success of an organisation and of the students enrolled there; as a result, it is vital to evaluate and keep track of the quality of the work that instructors are doing. Education experts and, more particularly, on the quality of education have been putting in a lot of hard effort to enhance the quality of the teaching-learning process across the board and in various facets of the curriculum.

Instructors need to encourage their pupils by bringing to their attention that challenges that first seem insurmountable may not always be so. In addition, teachers need to be aware that the tried-and-true practices that have been around for a long time may not necessarily be the ones that attract the most pupils. There is widespread and empirical research that verified general agreement that students' motivation and involvement in traditional education methods are relatively scarce as they are presumed ineffective, even though many lecturers favour using efficient practices. This is the case, although many teachers favour using efficient practices (Gilyazova, 2020).

Using educational apps as learning tools is an approach that can strengthen students' knowledge and capability to interact and cooperate with other students in school regarding the comprehension of learning content. Educational game developers developed this approach (Castronovo et al., 2019; Park et al., 2019). When students are exposed to more conventional forms of teaching and learning, they may feel less inspired to learn, but when games are used in the classroom, they may be able to discover new ways to study, which will make them feel better motivated (Yesilyurt, 2020). However, it has only been relatively lately that teachers have started to investigate the idea of transforming the classroom into an environment in which educational video games are not only viable but also practicable, successful, and academically appealing (Lämsä, Hämäläinen, Aro, Koskimaa, & Äyrämö, 2018; Vidakis et al., 2019; Yesilyurt, 2020).

Even though gamification in general and, more specifically, the use of educational games in the classroom has been the subject of several studies, ranging from principal to higher education, additional empirical studies are required to demonstrate such an approach's effectiveness. Methods that are well thought out, solid comparison groups, treatments that are carried out throughout time, and empirically sound evaluations should form the basis of any studies conducted (Mestre-Bach, Fernández-Aranda, & Jiménez-Murcia, 2022). Studies demonstrating how game-based learning may have a good impact on education are still uncommon in management, despite their potential benefits. In addition, despite its

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ability to inspire students to participate, gamification encounters significant challenges associated with creating educational games and their implementation in the classroom (Bartlett & Anderson, 2019; Benhadj, El Messaoudi, & Nfissi, 2019; Ignacio & Chen, 2020). Because it requires appropriate technological infrastructures and pedagogic integration, using games in the classroom is challenging and costly. This is because, to do so, one must first acquire the necessary resources.

The use of tournaments in teaching is a valuable technique that effectively motivates students and gets them involved. Thus the majority of the research that has been conducted up to this point has kept failing to provide a persuasive literature search mainly on a particular topic and a proposed research model. Therefore the current paper may assist researchers in gaining a better grasp of how functional classification in this field has been progressing. The analysis presented in this article made it easy to determine and demonstrate how games are utilised in an educational setting and what their participation is to motivate employees, circulation, and outlook, in addition to attempting to prove their value in terms of the education process. Identifying and demonstrating how games are utilised in an educational setting was made possible following the academic literature regarding the use of video games in teaching. The video game has been arranged, and the most pertinent constructs have been identified, along with how they connect to and communicate. This has made it possible for future research to utilise this study as a jumping-off point (Fu & Burns, 2018).

The current paper contributes to the progress of the literature on the application of gaming to teaching the many facets of management by providing an example of such an application. After conducting a systematic review of the literature according to the stringent criteria introduced in the methodology part, we reviewed the literature regarding the most important topics in this field. Such as gamification overall, gaming applied to general education, and gamification applied in management teaching. In addition, there is a part that discusses the fundamental aspects of gamification. We conclude that the most important constructs are motivation, flow, attitudes, and perceived learning, and we validate the sort of causal linkages between these four. At last, we talk about the proposed research model that emerged from the previous section's reading of the literature.

This paper is organised in the following format: Section 2 is the method applied for the literature review. Section 3 focuses on a systematic Literature Review - Gamification. Section 4 is dedicated to giving the use of gaming mechanics in classrooms. Section 5 is dedicated to the conclusion and limitations.

2. Systematic Literature Review – Gamification

Since 2010, gaming has boosted an individual's participation, motivation, and attitude in non-game situations (Fu & Burns, 2018). This is accomplished via the use of video games. First applied in the field of marketing, gamification has since found applications in various other domains, including medicine (Benhadj et al., 2019; Kinross, 2018), the surroundings, sports, technology, algebra, and computer science. Applying game design principles to settings that do not include playing a game is one definition of gamification (Humphreys, 2019). However, the study has to be continued on the subject's theoretical basis, larger aims, and more consistent empirical procedures, in addition to research on the influence of application on other fields (Vajawat, Varshney, & Banerjee, 2021).

The purpose of gamification is to assist and motivate users to complete a predetermined task (Awan et al., 2019), to engage them in the operations. Since gamification is a process aimed at improving educational activities, it has a great potential to motivate students, making the school environment more appealing. This potential exists within an educational setting where gamification has been implemented. The assumption that game-based learning entails playing makes it a restricted one. As a result, education ought not to be a tedious experience but rather an inspiring and delightful one. Several authors agree that gamification can be beneficial to a target audience. This is because users can make mistakes and then try again, which enables them to approach learning without anxiety. As a result, they become more engaged in the lesson.

The feedback that learners receive from their instructors is highly significant for assisting them in progressing and moving on to the next degree, ultimately leading to their learning the necessary material. Gamification is an effective way to encourage student motivation, engagement, interest, and progress. It is feasible to claim that the number of individuals who use a particular game-based resource may have a good influence on the motivation of the users, who are more inclined to continue using it. This is because more people are using it. In general, the data on the influence of gamification may be interpreted in several different ways, such as good, negative, or maybe mixed. This is because gamification does not have the same effect on all participants.

3. The Use of Gaming Mechanics in Classrooms

Throughout the years, many efforts have been made to implement game-based learning into educational settings to encourage students to exhibit positive attitudes about their academic pursuits. The objective is to get students to take part

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in all of the activities associated with the different types of learning and to encourage them to make use of teaching aids that are engaging to them (Vajawat et al., 2021).

The game-based constructions that have been used to educate hotels to emblems and awards to acknowledge student growth are based on a classification scheme that examines players' abilities and levels of knowledge while playing the game. This approach is founded on the idea that students should be recognised for their ranking based on a rating system. The classification system leverages competition as the driving force behind the game's dynamics. It does this by rating pupils in ascending order according to charts and ranking lists. Students are more likely to be competitive, interested, and motivated when given prizes; nevertheless, the competition these awards are likely to generate may also bring bad outcomes. Because of this, education based on video games must first overcome several significant obstacles before it can be deemed effective. The most important of these obstacles is convincing students to participate in this sort of learning environment. Therefore, the objectives, the style of feedback, and the incentives need to be clearly specified to maintain an atmosphere in which the students are actively engaged in positive and individualised learning. It is essential that this be done to ensure that students are constantly kept involved and apprised of the advancement they have made, which has helped their overall happiness and academic success (Treiblmaier, Putz, & Lowry, 2018).

The extent to which students participate in various activities may be broken down into three primary categories: behavioural, cognitive, and emotional. Students who participate in instructional activities and demonstrate effort, tenacity, and attention without displaying signs of immoral or deviant conduct are said to be involved behaviourally. This good behaviour is known as behavioural participation. The term "cognitive engagement" refers to students' effort to become knowledgeable in a specific topic.

Concerning the students' desire to complete the assignments given to them and demonstrate their interest via positive attitudes, this is what is meant by an effective participation in the classroom. It is feasible to employ game-based resources in a traditional or informal school setting; however, there must be some degree of interaction for this sort of resource to boost involvement in educational processes. Game-based resources may be used in schools.

The model design of the literature research is shown in Figure 1, which illustrates the many facets of educationally applicable gaming.

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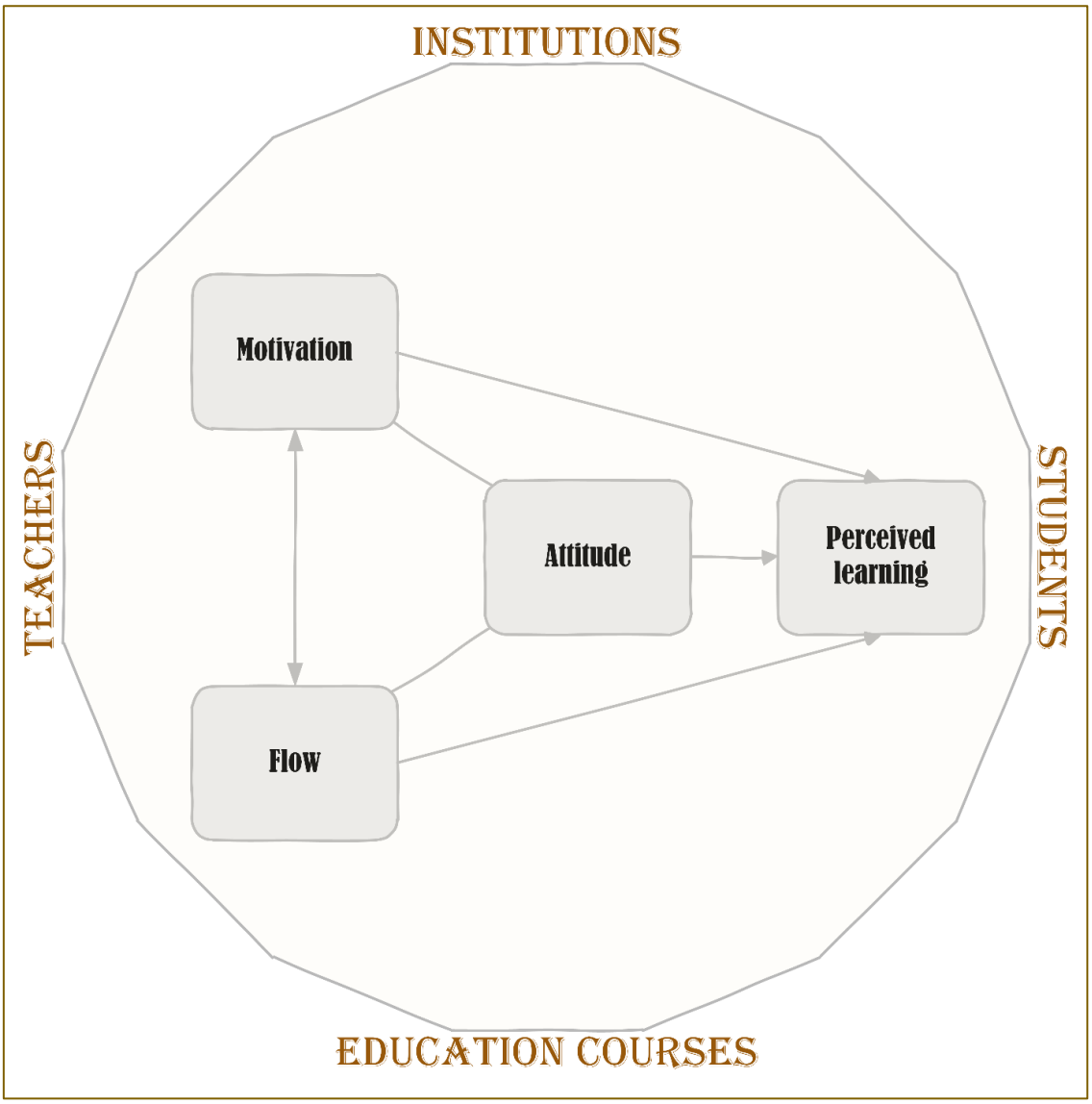

Figure: 1 The literature review results regarding the aspects of gamification in the classroom.

It was deemed helpful and straightforward to use yet another instructional tool built on gamification ideas and aimed to assist students in preparing for their final exams. However, the game-based results obtained did not achieve the desired results due to the nature of the assignment, how the task was introduced to the classmates, and the goals of utilising such a tool were not adequately explained. A digital program was developed to assist home education. The application had various game-based components and was entirely electronic. Even though the students felt that the rules made them feel valued for their efforts, it could not verify how utilising the tool improved their performance. This was despite the students' belief that the system did just that. The system uses multiple strategies, such as assignments, scoring (both numerically and visually through stars), various game levels, time pressure for problem-solving, rewards or bonuses, and so on. The writers could determine that the technique has enhanced engagement, enjoyment, and performance from the scholars.

4. Methodology

Research that is decided to apply to tournament teaching in management education is an extremely interesting field that has motivated systematic literature reviews. As a result, the current research and the methods that underpin it are founded on previous investigations that guaranteed the literature was systematically organised. Only publications published in journals that WOS and SCOPUS index were considered for this study since these databases are the most reputable and widely utilised for research of this kind.

The collection of data relied on the Web of Science and Scopus databases. There was no attempt to apply a chronological filter to the data. The terms "Gamification," "Gamification and Education," and "Gamification and Management" were the search terms that were used for each of the three distinct searches. The rationale was to collect as many publications

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as necessary on the many fields and semi of management to ensure that the publications picked covered the subject matter as thoroughly as feasible. After many rounds of filtering, we were left with just the papers that experts in the field had evaluated. Books, proceedings, and papers that were not considered academic were not included.

These databases are arranged differently in terms of the subject matter they cover. WOS has management, economics, and business, while SCOPUS has two big groups: economics, econometrics, banking, and company, management and accounting. In the initial stage of the research's methodology, attention was placed on gamification in general (gamification), which was then cross-referenced with game-based education (game-based learning and schooling) and administration (gamification and management).

5. Conclusion

Developing a theoretical research design of Management-applied gamification was the primary objective of the current study, which was accomplished via a comprehensive literature survey. An overview of the most relevant literature led to recognising the topics that were approached more frequently by the authors. These topics included the following: supporting theories, game-based learning, game mechanics and game-based learning, gamification's primary structures, game-based applied to learning, and gamification applicable to management education.

In addition to being a field with immense potential that needs expansion, the thorough literature review indicates that gamification is increasingly becoming a topic of scientific research. This is even though the existing studies have limitations, many of which are not rigorous enough or cannot extend to the surrounding reality. The current study has contributed to the expansion of scientific understanding about the subject area, which may be useful for investigations to come in the future. In addition, it has resulted in a comprehensive systematising of studies that have previously been carried out, which has led to the identification of the writers who have treated the topic in the most relevant manner and who remain to be a standard in the field. Even though alternative ways of analysis might have been utilised, the use of a wide variety of analyses has shown to be quite helpful in characterising, systematising, and linking contents. This is because the subjects that are being investigated are rather varied.

The review in this research is restricted to the databases of WOS with Scopus, which presents a restriction despite the fact that they are the two databases with the most widespread recognition in academic disciplines. The confirmation of the results is further restricted since it is only based on the authors' studies. This is an additional constraint.

References

Awan, O., Dey, C., Salts, H., Brian, J., Fotos, J., Royston, E., . . . Chung, C. (2019). Making learning fun: gaming in radiology education. *Academic radiology, 26*(8), 1127-1136.

Bartlett, K. A., & Anderson, J. L. (2019). Gaming to learn: Bringing escape rooms to the classroom. In *Handbook of Research on Innovative Digital Practices to Engage Learners* (pp. 1-27): IGI Global.

Benhadj, Y., El Messaoudi, M., & Nfissi, A. (2019). Artificial intelligence in education: Integrating serious gaming into the language class classdojo technology for classroom behavioral management. *IAES International Journal of Artificial Intelligence, 8*(4), 382.

Castronovo, F., Nikolic, D., Ventura, S. M., Shroff, V., Nguyen, A., Dinh, N. H., . . . Gaedicke, C. (2019). *Design and development of a virtual reality educational game for architectural and construction reviews.* Paper presented at the 2019 ASEE Annual Conference & Exposition.

Fu, Y., & Burns, R. D. (2018). Effect of an active video gaming classroom curriculum on health-related fitness, school day step counts, and motivation in sixth graders. *Journal of Physical Activity and Health, 15*(9), 644-650.

Gilyazova, O. (2020). Gaming practices and technologies in education: Their educational potential, limitations and problems in the world-of-work and world-of-play context. *Revista Tempos E Espaços Em Educação, 13*(32), 1.

Humphreys, G. (2019). Sharpening the focus on gaming disorder. *World Health Organization. Bulletin of the World Health Organization, 97*(6), 382-383.

Ignacio, J., & Chen, H.-C. (2020). The use of web-based classroom gaming to facilitate cognitive integration in undergraduate nursing students: a mixed methods study. *Nurse Education in Practice, 46*, 102820.

Kinross, J. M. (2018). Precision gaming for health: Computer games as digital medicine. *Methods, 151*, 28-33.

Lämsä, J., Hämäläinen, R., Aro, M., Koskimaa, R., & Äyrämö, S. M. (2018). Games for enhancing basic reading and maths skills: A systematic review of educational game design in supporting learning by people with learning disabilities. *British Journal of Educational Technology, 49*(4), 596-607.

Mestre-Bach, G., Fernández-Aranda, F., & Jiménez-Murcia, S. (2022). Exploring Internet gaming disorder: an updated perspective of empirical evidence (from 2016 to 2021). *Comprehensive Psychiatry*, 152319.

https://dx.doi.org/10.30566/ijo-bs/2022.Special.10.3

Park, K., Mott, B. W., Min, W., Boyer, K. E., Wiebe, E. N., & Lester, J. C. (2019). *Generating educational game levels with multistep deep convolutional generative adversarial networks.* Paper presented at the 2019 IEEE Conference on Games (CoG).

Suriya, P., & Arumugam, S. (2020). Technology in physical education. *TECHNOLOGY, 9*(4).

Treiblmaier, H., Putz, L.-M., & Lowry, P. B. (2018). Setting a definition, context, and theory-based research agenda for the gamification of non-gaming applications. *Association for Information Systems Transactions on Human-Computer Interaction (THCI), 10*(3), 129-163.

Vajawat, B., Varshney, P., & Banerjee, D. (2021). Digital gaming interventions in psychiatry: evidence, applications and challenges. *Psychiatry Research, 295*, 113585.

Vidakis, N., Barianos, A. K., Trampas, A. M., Papadakis, S., Kalogiannakis, M., & Vassilakis, K. (2019). *In-Game raw data collection and visualisation in the context of the "ThimelEdu" educational game.* Paper presented at the International Conference on Computer Supported Education.

Yesilyurt, F. (2020). Gaming Duration and Preferences: Relationships with Psychiatric Health, Gaming Addiction Scores and Academic Success in High School Students. *International Education Studies, 13*(12), 111-119.

https://dx.doi.org/10.30566/ijo-bs/2022.Special.10.3