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Application of Gamification Model in the Internship Orientation Program: A Proposed Conceptual Model from the Private University Context of Bangladesh

Mohammad Atiqul Basher[1] Zaheed Husein Mohammad Al-Din[2]

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Abstract

Despite being the 8th most densely populated country in the world, Bangladesh is one of the countries with the most underdeveloped manpower resources in the world. In order to stimulate learning within the masses, the demand for flipped classroom settings and innovative phenomena like gamification can appear as a solution. The aim of this conceptual paper was to explore gamification as a teaching mechanism for the pre-internship training for the graduate school students. Based on literature analysis and from our observation of the internship program, we have proposed two process flow diagrams that attempt to integrate the mechanisms of gamification within the internship program. The proposed models integrate the ideas from goal-setting theory, behavioral reinforcement theory, self-determination theory and social-comparison theory.

Keywords: human resources management, gamification, internship, training and development

[1] Lecturer, BRAC Business School, BRAC University, Bangladesh, atiqul.basher@bracu.ac.bd, Orcid: 0009-0000-7944-5632
[2] Senior Lecturer, BRAC Business School, BRAC University, Bangladesh, zaheed.husein@bracu.ac.bd, Orcid: 0009-0006-6077-9441

Staj Oryantasyon Programında Oyunlaştırma Modelinin Uygulanması: Bangladeş'teki Özel Üniversite Bağlamından Önerilen Bir Kavramsal Model

Özet

Bangladeş, nüfus yoğunluğu bakımından dünyada 8. sırada yer almasına rağmen, dünyadaki insan gücü kaynakları en az gelişmiş ülkelerden biridir. Kitleler arasında öğrenmeyi teşvik etmek için, tersine çevrilmiş sınıf ortamlarına ve oyunlaştırma gibi yenilikçi fenomenlere olan talep bir çözüm olarak görünebilir. Bu kavramsal makalenin amacı, yüksek lisans öğrencileri için staj öncesi eğitim için bir öğretim mekanizması olarak oyunlaştırmayı keşfetmekti. Literatür analizine ve staj programına ilişkin gözlemlerimize dayanarak, oyunlaştırma mekanizmalarını staj programına entegre etmeye çalışan iki süreç akış şeması önerdik. Önerilen modeller, hedef belirleme teorisi, davranışsal pekiştirme teorisi, kendi kaderini tayin teorisi ve sosyal karşılaştırma teorisinden gelen fikirleri bütünleştirir.

Anahtar Kelimeler: insan kaynakları yönetimi, oyunlaştırma, staj, eğitim ve gelişim

1. INTRODUCTION

In the present context, graduate employability and placement has become a critical issue around the world, especially in an overpopulated country like Bangladesh. According to a survey conducted by world population review (2019) Bangladesh has an estimated total population of 168.07 million. Of this entire population, 19.36% of the citizens fall under the age group of 15-24 years and 39.73% of the residents fall under the age segment of 25-54 years. (Indexmundi, 2019a). Even though Bangladesh has a huge population that falls under the active age group, the unemployment rate of Bangladesh has not been favorable as reported by CEIC (2021) Bangladesh's unemployment rate rose from the previously reported figure of 4.35% in December 2016 to 4.37% in December 2017. The phenomenon of unemployment rate has been observed throughout the world as well. According to (Indexmundi, 2019b) Global unemployment rate has increased from a rate of 7.5% in 2016 to a rate of 7.9% in 2017.

The growing unemployment rate throughout the world has raised some concerns regarding the role of education institutions towards developing employable graduates (Lyons and Hill, 2015). Universities are under growing pressure to generate marketable graduates as a result of recent changes in education and labor market policies (Bridgstock, 2009). Academic institutions should continue to face pressure to empower their students with relevant credentials that contain marketable skills in order to address the unemployment problem. As the primary objective of education is to teach knowledge, this opens up opportunities for work in the students' preferred industry (Durazzi, 2021). Thus, it has become crucial for Bangladeshi universities to get in touch with the country's largest companies and learn about the perceived discrepancy between their requirements and graduation qualifications. The internship program, in which interns are assigned to the institutions so they may gain first-hand knowledge of the information throughout their academic career, is one significant platform that can enable the universities to close the knowledge gap. Throughout the process, the universities and their graduates may have the chance to hear from companies on the abilities of the students relative to their requirements.

The idea of gamification as a tool for enhancing knowledge disbursement is a familiar concept in the world of academia. For instance, in a course on professional competences, Santos-Guevara and Rincon-Flores (2020) discovered that a gamified leaderboard system increased student engagement, assignment quality, and final grades. On the other hand, (Fitz-Walter et al., 2011) discovered that incoming university students' involvement with a gamified mobile application during orientation rose. Last but not least, O'Donovan, Gain and Marais (2013) discovered that gamification increased class participation, topic comprehension, problem-solving abilities, and general engagement in a college course.

While there is no shortage of literature that shows the connection between gamification and higher education, surprisingly, the authors of this research discovered a paucity of such research within the concept of internship education program and virtually non-existent within the context of developing country like Bangladesh. This is surprising because internship gives students the

chance to experience first-hand how a business organization runs on a daily basis, put the principles and ideas they study in class into practice, and learn new skills (Goia et al., 2017; Swift and Kent, 1999) and thus should be deemed as an important step by the universities.

Hence, the purpose of this study is to evaluate the possibilities of gamification as a means of changing this curriculum. With this thought in mind, we wrote this conceptual paper by asking the following question: "How can the gamification process be effectively integrated at the internship program of the universities?"

2. GAMIFICATION

According to (Deterding et al., 2011, pp.2425-2428), "Gamification" is a colloquial word that refers to the incorporation of video game components into non-gaming systems in order to enhance user engagement and user experience (UX). Huotari and Hamari, (2012), on the other hand, describes gamification as the use of games to enhance user and customer experiences. In this case, the game's components may contain motivating tools like badges, leaderboards, and levels. In contrast to conventional incentives, the reward frequently acts as a signal to the player and others that a certain level of skill has been reached rather than being directly tied to the goal that was attained. A series of intermediate objectives are used to map out progress towards an overarching aim, and reward systems are frequently used to facilitate and guide progress monitoring (Buckley and Doyle, 2016).

Although Deterding popularized the phrase in 2011, the earliest documented use of gamification took place in Lenin's Soviet Union, when employees were encouraged to boost production rates through contests (Nelson, 2012). Since the term's introduction, academics from all around the world have researched the implications of gamification and its efficacy. The "gamification" movement, according to Rughiniş (2013), grew primarily in the business, education, and healthcare sectors. It also spread into other social settings through the use of serious games, ubiquitous games, games with a purpose, and other gaming-related technologies.

Gamification is gaining users' acceptance little by little. According to Peterson (2012) By 2016, the gamification market is forecasted to be worth 2.8 billion dollars. Yet, according to certain projections, gamification will reach over US$ 11 billion by 2020. (Markets and Markets, 2016). Thom, Millen and DiMiccio (2012) took the initiative to investigate the effects of eliminating gamification from a business social networking system where gamification principles were included to maintain user engagement. The participants in this research saw a decline in user activity in the two most active regions, the United States and India, after assessing user reaction in the modified system.

3. FINDINGS

3.1. Application of Gamification in Education

Low student motivation is one of the growing concerns worldwide. According to Zichermann and Cunningham (2011), many pupils don't have the drive or curiosity to learn. Conventional assessments frequently serve to punish pupils with grades that cannot be modified, so diminishing confidence and desire in continuing the learning process, according to Pike (2015), who cited this as one of the potential causes. Yet by allowing students to practice content until they have a firm grasp of it without incurring any consequences, good games can open up classroom chances for going beyond the conventional externally-motivated grading system.

Gamification has been investigated as a potential remedy for this issue. Fitz-Walter, Tjondronegoro and Wyeth (2011) conducted research on the shift in student behavior following the addition of an accomplishment system to a mobile event application designed to aid freshmen in adjusting to university life. All of the participants achieved at least four accomplishments, while the majority of participants (81.8%) completed 10 or more of the twenty achievements, according to data collected on user behavior utilizing multimodal inputs on a phone. 96.1 percent of participants, all but one, believed that the accomplishment system enhanced their orientation experience and was enjoyable to use.

Prensky (2003) had a similar opinion when he said that gaming characteristics can supply the entertainment component of the instructional design that is necessary to captivate students. Engaging students may be facilitated by stealing gaming aspects and using them in the classroom setting.

In order to include gamification into ordinary coursework, a number of efforts have been launched, according to Stott and Neustader (2013). Just press play (JPP), a real-world game created at Rochester Institute of Technology (RIT), was one of the initiatives. With the game's gameplay elements, students were urged to exhibit desirable social behaviors that aided in their academic performance. Such as speaking with the professors, going to workshops, etc. In exchange, instructors gave each student an RFID card so they could record and monitor their progress.

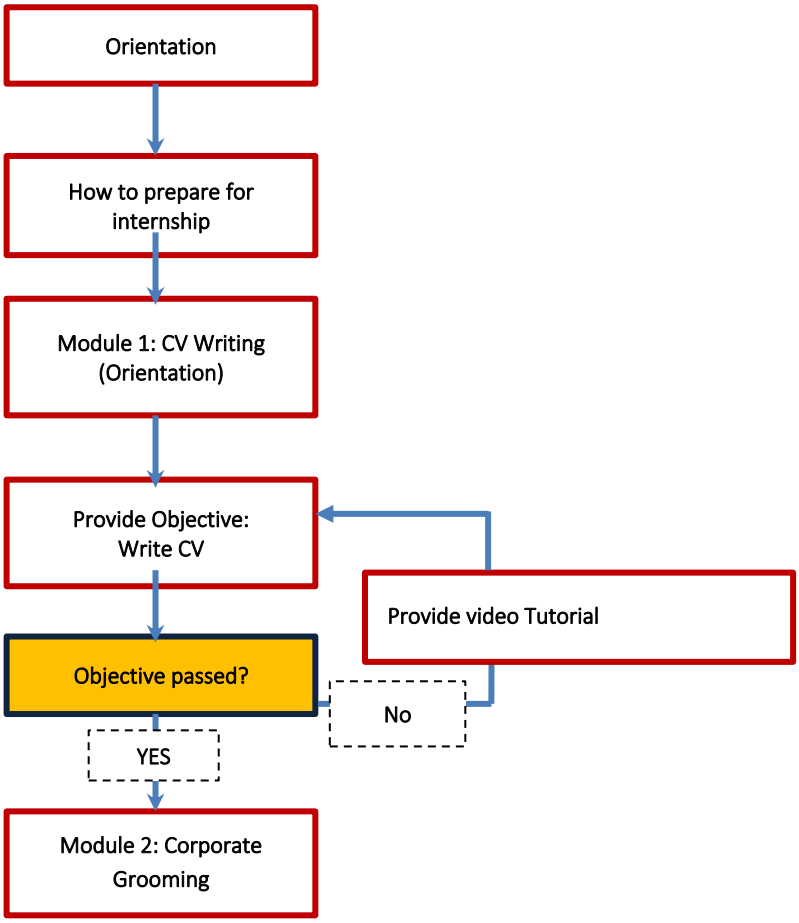
By looking at these studies, we could see that researchers have put a lot of work into improving students' classroom experiences. Yet, the bulk of research mainly addressed improving courses and learning environments. It was discovered after reviewing and evaluating the secondary sources that no studies had been conducted to employ gamification approaches to prepare undergraduate and postgraduate students for their internship programs, which serve as the majority of students' entry points into the corporate sector. This study aims to fill this gap by investigating the viability of using gamification approaches to prepare students for their internship placement in the business sector. The goal of this study is to offer these options in

the form of two models that are fully compliant with a number of theories tha' closely relate to gamification strategies.

3.2. Proposed Model

Model 1: The internship orientation program was envisioned in the original suggested concept as a collection of several courses. The interns in this instance will be trained using a level-based game approach. In accordance with the suggested paradigm shown above, interns must receive some instruction on the module during a workshop. Interns must complete an objective or challenge in order to pass a level (or a module). The interns will advance to the following module or level if they succeed in the task.

Figure 1. Proposed 1st model for implementing gamification in internship

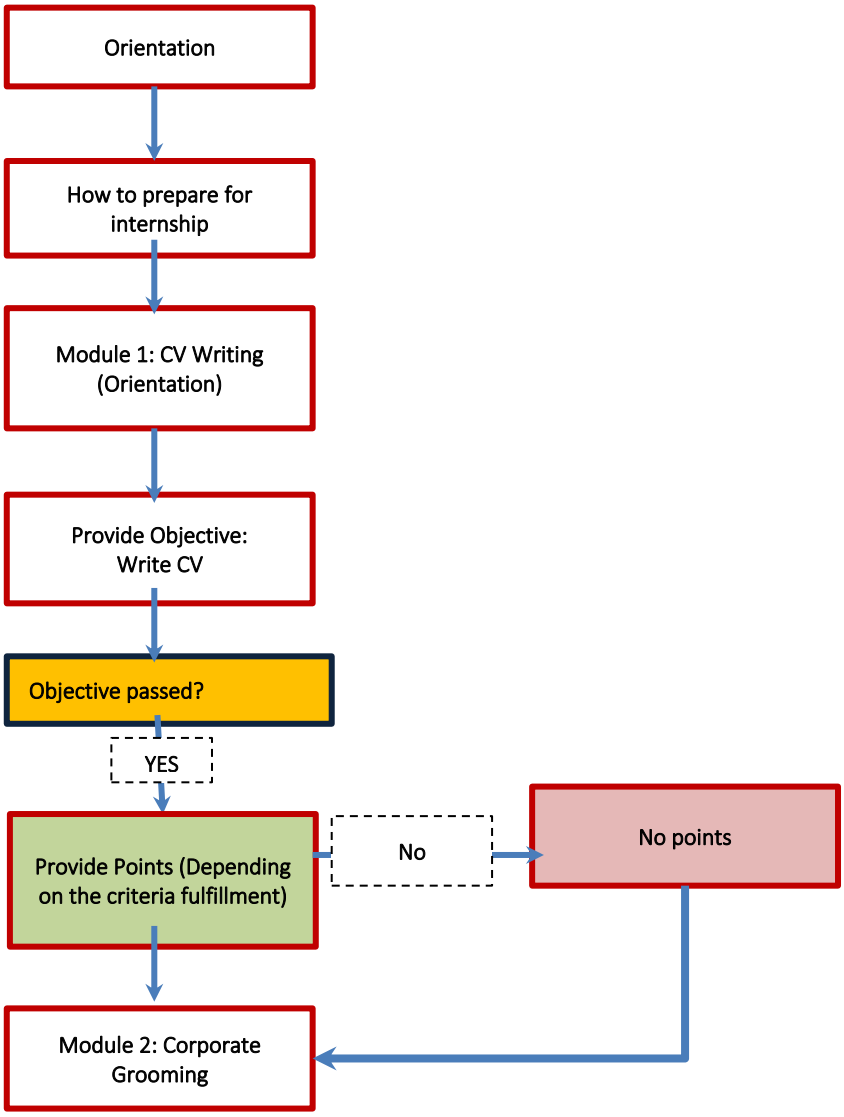


The interns will be given access to video tutorials to review the workshop lessons, but if they don't succeed, they will have to retake the goal. They will be able to advance to the next module if they successfully meet the requirements. There will be a deadline set for the interns to finish all of these modules in the case of these modules. Via a dashboard like the one shown below, they may monitor their progress. In this way, when all the courses have been finished, the

students will receive a message of congratulations, and then the certificate or any other kind of reward may be given.

Model 2: The second model, like the first, views the internship orientation program as a body of coursework. The internship orientation training program has been created using the point/leaderboard gamification, which is different from the earlier model where each module of the program was thought of as a level.

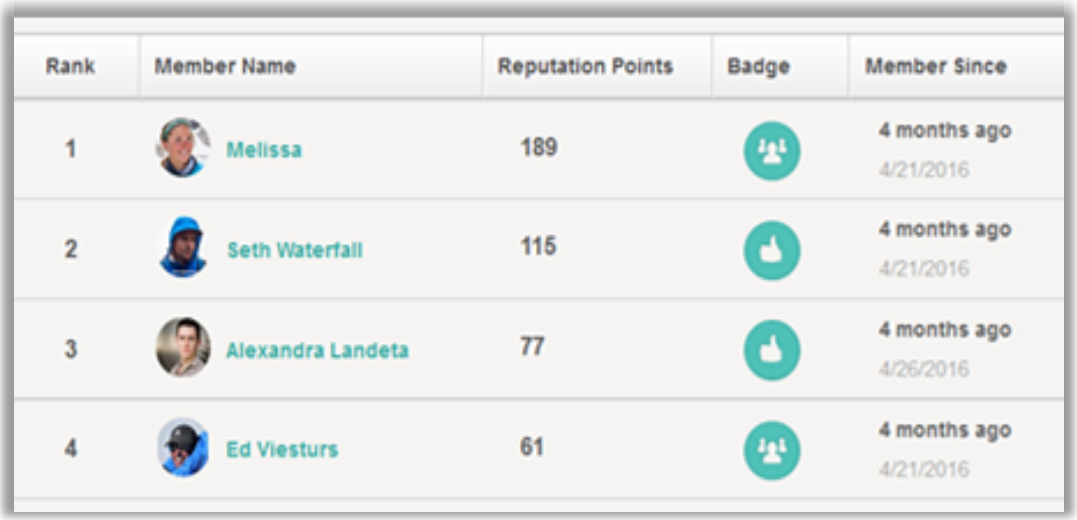
Figure 2. Proposed 2nd model for implementing gamification in internship



The aforementioned flowchart illustrates how potential interns will receive training initially through a corporate grooming session (or module), after which they will be given a task or assignment (CV writing, in this case). After the tasks are completed, the participant interns will be provided points, based on their performance. However, if the students cannot fulfill the criteria of these objectives, they will not be provided points. In either case, students will proceed

to the next module. In this case, a leaderboard should be maintained, that will keep track of the students/ intern's performance. This can look like the image provided below. Based on the intern's overall performance, the university can provide the top ranked interns with incentives or facilitate them towards getting a placement in an organization.

Figure 3. Proposed leaderboard for the 2nd model



Rank	Member Name	Reputation Points	Badge	Member Since
1	Melissa	189		4 months ago 4/21/2016
2	Seth Waterfall	115		4 months ago 4/21/2016
3	Alexandra Landeta	77		4 months ago 4/26/2016
4	Ed Viesturs	61		4 months ago 4/21/2016

4. THEORETICAL BACKGROUND

The suggested model was created in accordance with well-known ideas that have been used to explain why humans require motivation. After conducting an extensive study, we have found the following conceptual model that helped us establish these frameworks and explained how they relate to the suggested model:

Edwin Locke developed the goal-setting theory of motivation in the 1960s. According to this hypothesis, task performance and goal setting are fundamentally related (Juneja, 2011). It claims that clear, difficult objectives and useful feedback help people do tasks more effectively. Despite the fact that Locke originated this notion, Dale H. Schunk expanded upon it. According to Schunk (1991), a teacher should 1) establish realistic long- and short-term goals for students, 2) give feedback on their performance, and 3) support them in assessing their own growth in order to create a motivating atmosphere. This idea is echoed in the suggested framework, where the first and second frameworks build up attainable short-term goals in the form of module completion and inspire the students to achieve the long-term goals, which is to complete the program with a particular distinction. The suggested framework also gives the students' performance feedback because they can see how long it takes them to finish a module. Moreover, gamification elements like leaderboards and percentage completion might assist individuals gauge how they're doing in relation to other participants.

Behavioral reinforcement theory was first proposed in the 1950s by Skinner (1965). Skinner indicated the numerous outside elements in the proposed theory that might affect an employee's

conduct. Reinforcement with positive feedback is one such method. Positive reinforcement, according to (Catania, 2001), is a strategy that adds rewards and incentives rather than removing advantages in order to elicit and enhance new behaviors. It may be used at work through perks, compensation, and advancement opportunities (Wei and Yazdanifard, 2014). When a subject has learned a new behavior in the next stage, an intermittent reinforcement plan might be applied (Skinner, 1965, 1989; Woolfolk, 1998). On the other end of the spectrum, negative influences can also have an impact on behavior and performance. According to Hineline (2022), the removal, decrease, delay, or suppression of stimulation is frequently involved in the process of negative reinforcement; these actions improve the response on which they are dependent.

The suggested study upholds the idea of constructive reinforcement. The addition of a point system and leaderboard, particularly in the second model, encourages participants to exert more effort in the internship orientation program because their performance is ultimately reinforced by adding an immaterial reward (i.e., points), rather than removing benefits and features.

People engage in an activity because they find it intriguing and get spontaneous gratification from the activity itself, according to (Gagné and Deci, 2005). Although self-determination theory, proposed by Ryan and Deci (2000), serves as the foundation for the entire intrinsic motivation theory (1985), empirical evidence suggests that the two types of autonomous motivation predict different outcomes in distinct ways. Intrinsic motivation proves to be a stronger predictor of behaviors that are inherently interesting and enjoyable, while identified/integrated regulation emerges as a better predictor of performance on tasks that require self-control and concerted effort (Gagné and Deci, 2005). Gamification models were found by Kusuma, Wiggati, Utomo and Surypranata (2018) to encourage students' extrinsic motivation. In addition, they discovered that challenges offered in a variety of ways in any gamification model provide players motivation to continue learning by giving them reasons to strive and think in order to complete a task. The feeling that they will have when they succeed in overcoming the difficulties is one of satisfaction. There is no doubt that the gamification paradigm has been shown to be able to ignite both extrinsic and intrinsic motivation with equal vigor.

Leon Festinger (1954) coined the phrase "social comparison theory," which examines our innate propensity to evaluate and compare our circumstances with those around us in order to sate our urge for self-evaluation. Festinger (1954) contends that social influence and some forms of competitive conduct are conceptually equivalent aspects of the same socio-psychological process. Both are intimately related to the need for self-assessment and the requirement that such evaluation be grounded in comparison with other people. The paper's discussion of gamification methods might enhance participants' propensity for social comparison. Social barriers exist in physical settings that prevent people from spending an excessive amount of time studying charts that resemble leaderboards. Without anybody else noticing or understanding that they are engaging in such intense social comparison, students

can spend as much time as they want online researching each particular classmate or contrasting their accomplishments with those of others (Hanus and Fox, 2015).

5. CONCLUSION

Internship process is the first step for the students to attain the initial exposure towards the real-life business operations. Hence, how the students will be groomed towards this process is an important procedure for a university to consider. This conceptual paper was an initiative towards visualizing how this process can be made more effective using the concepts of gamification – a process that has been endorsed by Robinson (2006). Hence, based on the literature and our observations from our internship program, we proposed two conceptual process flows that integrated the ideas of goal-setting theory, behavioral reinforcement theory, self-determination theory and social-comparison theory. We believe, that the ideas shared on this paper can aid the universities towards an effective internship program as according to Lucardie (2014), enjoyment and fun helped adult learners focus and absorb information, which in turn motivated them to attend sessions and learn and gamification components like gamerscore, leaderboards, medals, and bonus products boost user satisfaction by inserting fun in the whole process (Hantke et al., 2018).

6. LIMITATIONS AND FUTURE RESEARCH AREAS

Although these process flows can assist the universities to visualize how gamification can be integrated with their internship program, however, these concepts require empirical verification. Hence, the future researchers can conduct empirical studies (both qualitative, quantitative or mixed) based on the theoretical frameworks mentioned above to detail the stakeholders (i.e., students and employers) perception about the entire process. Alongside this, we also recommend conducting a systematic literature review, especially to unearth the critical Antecedents, Decisions and Outcomes factor based on the ADO framework proposed by Paul and Benito (2018).

References

Bridgstock, R. (2009). The graduate attributes we've overlooked: Enhancing graduate employability through career management skills. *Higher Education Research & Development, 28*(1), 31-44.

Buckley, P., & Doyle, E. (2016). Gamification and student motivation. *Interactive Learning Environments, 24*(6), 1162-1175.

Catania, A. C. (2001). Positive psychology and positive reinforcement. *American Psychologist, 56*(1), 86-87.

CEIC (2021). *Bangladesh Unemployment Rate.* CEIC Data. www.ceicdata.com/en/indicator/bangladesh/unemployment-rate (Accessed: 20 June 2023).

Deterding, S., Sicart, M., Nacke, L., O'Hara, K., & Dixon, D. (2011, May). *Gamification. using game-design elements in non-gaming contexts.* In CHI'11 extended abstracts on human factors in computing systems (pp. 2425-2428). Vancouver, Canada: ACM.

Durazzi, N. (2021). Opening universities' doors for business? Marketization, the search for differentiation and employability in England. *Journal of Social Policy, 50*(2), 386-405.

Festinger, L. (1954). A theory of social comparison processes. *Human relations, 7*(2), 117-140.

Fitz-Walter, Z., Tjondronegoro, D., & Wyeth, P. (2011, November). *Orientation passport: using gamification to engage university students.* In Proceedings of the 23rd Australian computer-human interaction conference (pp. 122-125).

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior, 26*(4), 331-362.

Goia, S., Marinaș, C. V., & Igret, R. Ș. (2017). A plea for quality in internship programmes–evidence from the business and administration students' experience. *Management & Marketing. Challenges for the Knowledge Society, 12*(1), 49-60.

Hantke, S., Appel, T., & Schuller, B. (2018, May). *The inclusion of gamification solutions to enhance user enjoyment on crowdsourcing platforms.* In 2018 First Asian Conference on Affective Computing and Intelligent Interaction (ACII Asia) (pp. 1-6). IEEE.

Hanus, M. D., & Fox, J. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education, 80*, 152-161.

Hineline, P. N. (2022). *Negative reinforcement and avoidance.* In Handbook of operant behavior (pp. 364-414). Routledge.

Huotari, K., & Hamari, J. (2012, October). *Defining gamification: a service marketing perspective.* In Proceeding of the 16th international academic MindTrek conference (pp. 17-22).

Indexmundi. (2019a). *Bangladesh Demographics Profile 2019.* https://www.indexmundi.com/bangladesh/demographics_profile.html (Accessed: 14 June 2020).

Indexmundi. (2019b). *World Unemployment rate - Economy.* https://www.indexmundi.com/world/unemployment_rate.html (Accessed: 15 June 2020).

Juneja, P. (2011). *Goal setting theory of motivation.*

Kusuma, G. P., Wigati, E. K., Utomo, Y., & Suryapranata, L. K. P. (2018). Analysis of gamification models in education using MDA framework. *Procedia Computer Science, 135*, 385-392.

Lucardie, D. (2014). The impact of fun and enjoyment on adult's learning. *Procedia-Social and behavioral sciences, 142*, 439-446.

Lyons, K., & Hill, R. (2015). A shift towards industry-relevant degrees isn't helping students get jobs. *Chain Reaction*, (125), 18-19.

Markets and markets. (2016). *Gamification Market Future Growth, Trends and Analysis – 2020.* Markets and Markets. https://www.marketsandmarkets.com/MarketReports/gamification-market-991.html (Accessed: 14 June 2020).

Nelson, M. J. (2012, October). *Soviet and American precursors to the gamification of work.* In Proceeding of the 16th international academic MindTrek conference (pp. 23-26).

O'Donovan, S., Gain, J., & Marais, P. (2013, October). *A case study in the gamification of a university-level games development course.* In Proceedings of the South African Institute for Computer Scientists and Information Technologists Conference (pp. 242-251).

Paul, J., & Benito, G. R. (2018). A review of research on outward foreign direct investment from emerging countries, including China: What do we know, how do we know and where should we be heading?. *Asia Pacific Business Review, 24*(1), 90-115.

Peterson, S. (2012, May 21). *Gamification market to reach $2.8 billion in 2016.* Gamesindustry.biz. https://www.gamesindustry.biz/gamification-market-to-reach-usd2-8-billion-in-2016 (Accessed: 15 June 2020).

Pike, M. (2015). Gamification in the Latin classroom. *Journal of Classics Teaching, 16*(31), 1-7.

Prensky, M. (2003). Digital game-based learning. *Computers in Entertainment (CIE), 1*(1), 21-21.

Robinson, S. (2006, December). *Conceptual modeling for simulation: issues and research requirements.* In Proceedings of the 2006 winter simulation conference (pp. 792-800). IEEE.

Rughiniș, R. (2013). *Work and Gameplay in the Transparent 'Magic Circle'of Gamification: Insights from a Gameful Collaborative Review Exercise.* In Design, User Experience, and Usability. Health, Learning, Playing, Cultural, and Cross-Cultural User Experience: Second International Conference, DUXU 2013, Held as Part of HCI International 2013, Las Vegas, NV, USA, July 21-26, 2013, Proceedings, Part II 2 (pp. 577-586). Springer Berlin Heidelberg.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.

Santos-Guevara, B. N., & Rincon-Flores, E. G. (2020, December). Gamification: when pedagogical innovations benefit internship seekers. In *Proceedings of the International Conference on Education, 6*(2), 17-25.

Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist, 26*(3-4), 207-231.

Skinner, B. F. (1965). *Science and human behavior* (No. 92904). Simon and Schuster.

Skinner, B. F. (1989). The origins of cognitive thought. *American Psychologist, 44*(1), 13-18.

Stott, A., & Neustaedter, C. (2013). Analysis of gamification in education. *Surrey, BC, Canada,* 8(1), 36.

Swift, C. O., & Kent, R. (1999). Business school internships: Legal concerns. *Journal of Education for Business, 75*(1), 23-26.

Thom, J., Millen, D., & DiMicco, J. (2012, February). *Removing gamification from an enterprise SNS.* In Proceedings of the acm 2012 conference on computer supported cooperative work (pp. 1067-1070).

Wei, L. T., & Yazdanifard, R. (2014). The impact of positive reinforcement on employees' performance in organizations. *American Journal of Industrial and Business Management, 4*, 9-12.

Woolfolk, A. E. (1998). *Readings in educational psychology.* Allyn & Bacon.

World Population Review. (2019). *Bangladesh Population 2019.* http://worldpopulationreview.com/countries/bangladesh-population (Accessed: 15 June 2020).

Zichermann, G., & Cunningham, C. (2011). *Gamification by design: Implementing game mechanics in web and mobile apps.* O'Reilly Media.

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