

GAMIFICATION OF EDUCATION

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Abstract

With the gaming industry rapidly climbing to its epitome by rapidly integrating new and relevant technologies, the attention of most of the youths have been tapped into for the past half of a century. These programs have been able to do easily what the teachers struggle through during their class with the same set of student. Through gamification we intend to use the applications of game mechanics to bridge the attention gap between the students and to use the skillsets of teachers. Some benefits includes real-time score updates, leaderboards, etc. which keep up healthy competitions. Other major benefits include early detection of diseases which cause learning disability and adaptability to suit their learning needs.

Keywords: *gamification, education, gamification in education, integration of technology, learning*

Introduction

In today's fast paced world, the uses of books are growing obsolete due to the takeover of technology. This trend has rendered the conventional ways of learning ineffective to a large extent. The current systems of education that we follow across the world have not been able to keep up with the pace of our constantly evolving lifestyle which is heavily influenced by technology. In our present system of education everyone is taught in the same manner and assessed by the same standards. We often ignore the fact that each student is unique and learns differently. Through gamification we can analyze what form of teaching would be effective for each student and provide an interface between the teacher and the student that is convenient for both. Around 0.7% of the worlds population suffer from autism, 20% from some extent of dyslexia and 0.1% from downs syndrome. These are some of the most common learning disabilities that occur in children. Gamification of education can help to diagnose such diseases and adapt itself to suit the students learning need.

Literary Survey

[1] Gamification is applying game components outside gaming settings, Game playing is related with preliminary, mistake, disappointment and possible accomplishment through training, knowledge, reflection and learning. By applying gamification to the classroom, students could be propelled to learn in new ways or appreciate generally monotonous assignments. A definitive objective when gamifying is to increment characteristic inspiration. The three sorts of natural inspiration incorporate inherent inspiration to know, characteristic inspiration towards achievement, and inborn inspiration to encounter simulation. To make a gamification framework that builds understudy inspiration, it is important to center on central components that make videogames speaking to their players.[2]At the point when Students are required to think fundamentally to solve problems, game like simulations can be utilized in any train to fortify this present real world uses of

ideas. the utilization of gamification must be finished with a profound comprehension of gaming mechanics and an unmistakable handle of gamer inspiration. Four fundamental classes of gamers:

Socializers are regularly more intrigued by having relations with alternate players than playing the diversion itself. They are frequently associated with the network part of the amusement.

Achievers are focused and appreciate beating troublesome difficulties whether they are set by the diversion or without anyone else's input.

Executioners get a kick out of the chance to force them over different players in the degree given by the virtual world.

Pioneers get a kick out of the chance to investigate the world – its geology as well as the better subtle elements of the diversion mechanics. These players may wind up knowing how the gaming functions and carry on superior to the game developers themselves.

[3]The immediate nature of student/player input or feedback is a standout amongst the most convincing contentions for the gamification of education. In a game setting feedback is quite often quick, directed and intended to empower to player to adjust their approach for better, more alluring outcomes. Generally a videogame is full of feeling on the off chance that it can keep up an emotional criticism circle; if the player turns out to be deliberately mindful of how that input circle is controlled by their physiology thus ready to intentionally control their responses, the full of feeling nature of the criticism circle is lost and it turns into a type of biofeedback. As instructors keep on exploring better and more powerful approaches to connect with a more extensive gathering of people of students in a more extensive setting of situations, the appropriation of gamification techniques will keep on offering snappier and more compelling catalyzing apparatuses than conventional sage in front of an audience guideline.[4]The intensity of computer games lives not simply in their present instantiations, but rather in the guarantees the advances by which they are made to hold for the future.

Game makers can influence universes where individuals to can have important new encounters, encounters that their places in life could never enable them to have. These encounters can possibly make individuals more quick witted and more astute.

Different styles of learning work better for various individuals. Individuals can't be operators of their own learning in the event that they can't settle on choices about how their learning will function. In the meantime, they ought to have the capacity to attempt new styles. Good games accomplish this objective in one of two different ways. In a some games, players can redo the game play to accommodate their learning and playing styles. In others, the game is intended to permit distinctive styles of learning and playing to work. Intellectual research recommends that for people perception and action are profoundly interconnected. [5]Great amusements offer the player multifaceted, powerful, and simple control of the world's articles, objects which progress toward becoming apparatuses for completing the player's objectives. Good games alter difficulties and give feedback so that distinctive players feel the amusement is testing yet possible and that their exertion is satisfying. Good games make and bolster the cycle of aptitude, with cycles of broadened rehearse, trial of dominance of that training, at that point another test, and afterward new expanded practice. People don't care for honing abilities outside of any relevant connection to the issue at hand again and again, since they find such expertise hone futile in good games, players learn and hone ability bundles as an integral part of achieving things they need and need to accomplish. People learn aptitudes, methodologies, and thoughts best when they perceive how they fit into a general bigger framework to which they give meaning. Great recreations enable players to see and see how every one of the components in the game fit into the general arrangement of the game and its type.[6]Needed to gain ground in the field of geological information among people. Created an

amusement called “MAPFIT”. Believes recreations will have no place in instruction foundations if the learning had been more fruitful. In this advanced period of innovation youngsters grows up by utilizing web and computers. All the things that they require are at their fingertip. One of the fundamental targets is to make the kids to have a decent association with others and additionally to give them the knowledge in an entertaining way. The amusement incorporates games, movies, music and so forth. Utilizing them in learning will assist the youngsters with learning everything so effectively and these ought to likewise incorporate the essential factors that fabricate the base. Current amusements are utilizing man-made brainpower frameworks which help the person who is utilizing it to settle on choices and to confront the results. Used three diversions alongside education to figure out the impact of recreations in education. Discovered that the youngsters were energetic and didn't discover any exercise as a dreadful one.[7]Gamification is based on the principle that people respond to computer as they were persons. Gamification, at its core, means to apply game mechanics to mundane activities to increase engagement and knowledge retentivity. Gaification, being a proven technology, is already in use by any websites to increase loyalty and effective market engagement. The strategy of gamification is to combine both intrinsic and extrinsic motivators to help engage the student for longer periods of time and to make mundane topics more interesting.[8]Case study conducted on the basis of gamification. Study was conducted regarding a game called SuLi (Sustainable Living). The main aim of this study was to create awareness about sustainable living and to try and integrate the concept of gamification into secondary education. The students received it well and were very well responsive to the concepts which the developers were trying to get through to them. This case study proved the effectiveness of gamification though with a few disadvantages which can be ironed out in the following years to come. This proves the effectiveness of gamification and the fact that it could be a integral part of the learning process in the years to come. The growing interest in gamification due to its application in other fields has led to an increased in the field of education to engage students in the learning process and to increases knowledge retention. This paper consists of mapping many papers to form a literary survey on the topic of gamification on education. Going through them we get an idea on how effective gamification can be as it is supported with statistical data as well.[9]Video games are just programmes which engage users to problem solve under already determined set of rules. This loop of continuous feedback and interaction has a great potential to be used in education. Such a system can be designed keeping the needs of the students in mind thus helping the student to complete activities which might be considered repetitive or mundane. Gamified systems can keep the student engaged for longer periods of time compared to book which interests only a select few of the student population. Due to the feedback loop, gamified systems can detect behavioural changes which can help in many ways. One of them being alerting the teachers if the student is depressed. Another use being able to detect the early symptoms of learning impairing disease.[10]Despite the popular belief that video games can be mind numbing and a habit of the lazy it is found out that video games increases various cognitive abilities or skills. Game developers have become proficient in engaging people of all ages successfully into the world of virtual world of video games. Gaming surroundings actually inculcate regular expressions of optimism and inspiration. This helps in the sphere of education where all these values are essential.

Findings

Gamification, being a very practical and proven method is slowly taking effect. Our findings through this study are that gamification is the best available option for the rampant problem of attention deficiency which is rampant in our generation. We have come to know that gamification stimulates multiple regions of the brain helping to increase focus and engagement in the subject. It can be easily integrated to education without making heavy changes in the infrastructure. As most

educational institutes are already equipped with the hardware all that is required is to create the softwares for the implementation of gamification. Moreover the expertise of the teachers can also be utilised for the development and management of a gamified system of education. The greatest advantage being that gamification of education grants people with learning disabilities access to education in an easy manner which was not so upto these years. It an also help diagnose such diseases in an early stage.

Conclusion

Education is the most basic right and requirement. It lays the foundation for our future and hence it is important to better our system of education and make it apt for the fast paced and tech savvy lifestyle. Gamification of education is not only the need for the present but also helps to increase student participation, interaction and motivation thereby making tedious tasks more enjoyable and involving. After thorough examination of research papers on our topic, we have concluded that gamification is a very novel and unique approach to the most rampant problems faced by the student of our generation. We hope that through this paper the doubts on the minds of sceptics will be erased on this topic so that this form of technology can be implemented as soon as possible so that it can impact a lot of students and improve the overall quality of education which in turn improves the quality of humanity.

References

- Arnold B. J. (2014). Gamification in education. *Proceedings of the American Society of Business and Behavioral Sciences*, 21(1), 32-39.
- de Sousa Borges, S., Durelli, V. H., Reis, H. M., & Isotani, S. (2014, March). A systematic mapping on gamification applied to education. In *Proceedings of the 29th Annual ACM Symposium on Applied Computing* (pp. 216-222). ACM.
- Gee, J. P. (2005). Learning by Design: Good video games as learning machines. *E-Learning and Digital Media*, 2(1), 5-16.
- Granic, Isabela, Adam Lobel, and Rutger CME Engels. "The benefits of playing video games." *American psychologist* 69.1 (2014): 66.
- Muntean, C. I. (2011, October). Raising engagement in e-learning through gamification. In *Proc. 6th International Conference on Virtual Learning ICVL* (Vol. 1). sn.
- Obrazovanju, I. U. O. I. Gamification In Education.
- Pohl, M., Rester, M., & Judmaier, P. (2009, July). Interactive game based learning: advantages and disadvantages. In *International Conference on Universal Access in Human-Computer Interaction* (pp. 92-101). Springer, Berlin, Heidelberg.
- Sandusky, S. (2015). Gamification in education.
- Tavakkoli, A., Loffredo, D., & Ward Sr, M. (2014). Lessons from Game Studies to Enhance Gamification in Education. In *proceedings of the 18th World Multi-conference on Systemics, Cybernetics, and Informatics*, Orlando, FL.
- Van de Pavoordt, Pim. "Gamification of education".