



Gamification of Learning in Early Age Education

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Article Info

Article history:

Received 14 May 2021

Received in revised form 19

June 2021

Accepted 2 July 2021

Keywords:

Gamification

Education

Learning

Abstract

Gamification teaches children many new abilities at a young age. It also increases their emotional well-being and emotional intelligence. Gamification enables your kid to study in a distraction-free atmosphere in a familiar setting. Gamification helps foster a positive attitude toward learning by creating engaging, personalized, and amusing learning materials. The majority of educational learning applications include unique music that will aid language development. Gamification allows your kid to study and participate at their own speed, free of peer or teacher pressure.

Introduction

E-learning is reviving early education, a process that will intensify in 2020 as a result of the COVID-induced lockdown. The most important change is that the student is no longer required to be physically present at school. This has accelerated the use of supplementary learning aids based on new technology. According to a national study, parents and teachers value the advantages of internet applications and portals.

The method has advanced significantly in recent years, nurturing early learners and using their psychological well-being and emotional intelligence. With the introduction of gamification, organizations now have more opportunities to expand their potential and diverse intelligence. In the education industry, gamified learning technologies serve a greater function. Integrating classical ideas into video games is on the verge of revolutionizing the industry.

Literacy initiatives in India include both children and adults. Making learning enjoyable is the only method to encourage children to learn (Barab et al., 2005). Creating games is a significant endeavor if the goal is to enhance the effectiveness of teaching techniques (Ravyse et al., 2017). For instance, app-based games alter one's perspective of learning entirely. Indeed, even instructors are learning how to coach, since this is their first experience. Games may assist learners in recalling information more effectively. Through the use of technology and smart gadgets, young brains grow more rapidly.

Conversations improve as learning advances more quickly. Emotional involvement between parents and children, as well as between instructors and children, increases. The trust gap is narrowed as children develop a sense of responsibility while learning via games. Traditionally, games were 'stand-alone,' and youngsters often failed to overcome their first interest. As a result, boredom set very fast. The astounding mix of technology and visual media lengthens attention spans and leaves lasting imprints on impressionable brains. Gamification teaches children many new abilities at a young age. It provides them with a million little morsels of knowledge that they would not have access to otherwise.

While digital games may seem to be difficult at first, youngsters adapt more quickly. With the addition of new instruments, there are no losers. Some win more, while others win less, but they all triumph. Artificial Intelligence (AI), Augmented Reality (AR), Virtual Reality (VR),

and Machine Learning (ML) are revolutionizing communication, gaming, and education. Analytics-driven insights enable game creators to adapt more quickly and offer players with more customized experiences.

The growth of educational technology services for instructors and students

The next questions vary: Do supplementary learning tools fill the gaps? Can educational technology services close gaps and make the process easier for teachers and students?

It is now more critical for instructors to develop trusting connections with students prior to engaging in online interactions with them. Gaps are gradually closed to produce lasting impressions. Since 2020, new educational technologies for instructors and students have developed (Melnychuk et al., 2019). Teachers, for example, have access to tools that assist them in planning online classes. They may develop interactive games and activities that students can access through mobile or desktop devices.

For students, the extra tools enable them to respond to questions at their own speed. Completing homework or trying exam questions is made easier with the use of game and quiz formats. They get comments from instructors about their improvisational skills. Today's supplementary tools guarantee that the games and activities provided by instructors are engaging. There is enough opportunity for both pleasure and education. The use of web-based connections and cloud-based access to course materials simplifies and enhances the learning experience. The future now rests in developing virtual reality field excursions, which should not be too far away. For the youngsters, it would be a thrilling trip.

Is India's market equipped for educational technology services?

Indian education must be prepared for this upheaval. Throughout the subcontinent, there are many areas with significant educational centers. The learning process has been accelerated during the lockdown, as pupils continue to study online (Kapasia et al., 2020). Several institutions use learning aids to keep courses continuing, often for the benefit of both instructors and students. Although there has been less preparation, the fact that many companies and entrepreneurs have taken on the task of developing new tools significantly benefits edtech services.

Gamification integration

To keep the interest alive, new gaming techniques and different mechanics should be included into research. It is essential that they be introduced to young learners. It contributes to the feeling of camaraderie and competitiveness that exists during an online group session. It is capable of grading the pupil, and a system of this kind will be acceptable to parents. The integration must be rewarding for each session, since students will be able to earn points and learn new abilities. Children may earn badges of honor and points by watching instructional films. This will encourage them to continue studying.

Entrepreneurs enable disruptions in the education system.

Entrepreneurs that understand the gaps and can create solutions to keep stakeholders interested, motivated, and secure in the virtual environment are most suited to develop innovative supplementary learning tools. They use remote and hybrid approaches to assist educational institutions in transitioning to distance teaching.

As the new academic year starts, online courses are more reliant on technology. Entrepreneurs have two significant challenges: maintaining student engagement and encouraging active involvement via the use of innovative games and applications that enable remote learning.

Consider how awesome it would be to study arithmetic through computers and movies. It will expedite the grade level rather than relying on exams or a rote style of assessment. Gamification of assignments helps learners stay engaged to online courses.

Benefits of Gamification in Children's Education

A superior educational experience and atmosphere

Gamification enhances the learning experience for your kid by eliciting pleasant emotions and increasing their level of involvement (Eppmann et al., 2018). Gamification helps foster a positive attitude toward learning by creating engaging, personalized, and amusing learning materials (Klock et al., 2015). Gamification enables your kid to study in a distraction-free atmosphere in a familiar setting. Your kid may study whenever and wherever they choose using education learning applications.

Immediate feedback

Through gamification, children may get quick satisfaction while learning and will instantly know if they got an answer correct or not. Your kid will immediately see their strengths and shortcomings as a result of the quick feedback. Receiving instant praise for correctly answering a question makes your kid feel pleased and successful, which encourages them to continue learning.

Enhances learning via healthy competition

Gamification makes studying enjoyable while also providing additional incentive for your kid via the addition of a competitive element (Al-Azawi et al., 2016). Beating their previous best score in an English learning game or clearing a level in a memory game they've been stuck on not only offers them a sense of achievement, but also encourages them to keep improving.

Can be utilized in settings other than the classroom

While educational learning applications should not be used in lieu of the classroom, they have evolved into the ideal tool for further learning outside of the classroom. Almost anyplace a tablet or smartphone can be utilized. Your kid can receive some additional learning time while driving in the vehicle, or while you prepare dinner, or you and your child may both play their favorite learning app for some great bonding time.

Music and movement enhance the possibilities of languages.

Children who sing and listen to music from an early age develop their capacity to speak and express themselves more rapidly (Amalia & Hasana, 2019). The majority of educational learning applications include unique music that will aid in your child's language development (Sadiq et al., 2021). Eduka's World, for example, has an entirely unique music that your kid may sing and dance to.

Individualization according to the child's needs

Not every kid acquires knowledge at the same rate. Gamification allows your kid to study and participate at their own speed, free of peer or teacher pressure (Li & Chu, 2021). If they want to retake a level? They are capable. If they are not going as quickly as a classmate, they are not being rushed. Children may study the subject at their own pace in a stress-free atmosphere.

At the end of the day, we all want the best for our children, particularly in terms of education. Eduka's World is an educational learning software that offers your kid with a secure and enjoyable learning environment (Waszczuk et al., 2020). Eduka's World is a great method for children aged 3-10 to learn English while having fun.

Gamification's Importance in Early Childhood Education

Cognitive

Video games require a high level of sophisticated problem-solving ability. Even simple arcade games available on smartphones need the player to strategize in order to progress to the next round. By doing so, consumers test a range of concepts, ultimately determining which ones succeed. This kind of experimenting is precisely what a teacher wishes for pupils to engage in during classes while problem-solving.

Additionally, gamification methods reward players for their efforts by increasing their level or awarding them with badges, points, or sometimes extra in-app goods that may be utilized in subsequent levels. This boosts motivation and maintains the user's interest. When this is applied to the classroom, any educator can see how gamifying their lesson plans may result in a significant increase in cognitive abilities!

Social

As many instructors are aware, children come in a variety of shapes and sizes, including some who are very timid or introverted. Certain kids have difficulty participating in class discussions or activities, but gaming may help these youngsters break out of their shells!

Video games demand players to take on new roles in response to a variety of various situations (Jørgensen, 2008). This requires people to see a dispute from the perspective of another and make fast choices. Because shy players often become leaders due to their ability to separate from themselves when immersed in the environment of a game. This aspect has the potential to significantly enhance performance when kids who lack confidence in school suddenly participate with enthusiasm!

Emotional

When someone plays video games, a wide range of emotions, from exhilaration to disappointment, are experienced. Most significantly, almost every player encounters dissatisfaction as a result of failure. If you play any game, you'll notice that your character may die many times! While these cases differ, the most give players a limited number of lives or attempts before the game is returned to a prior level. This may get irritating, but it keeps the stakes low, encouraging users to try again.

When used in the classroom, gamification has been shown to substantially increase motivation by lowering the stakes of failure. This encourages youngsters to persist by allowing them to take educational risks without jeopardizing their self-esteem or confidence.

How to Gamify Your Classroom in an Engaging Way

Co-Designers: Students

Gamification in the classroom may take the form of giving players a voice! Following the presentation of the syllabus or review of classroom procedures, collaborate with your class to develop an agreed-upon set of objectives, while enabling students to feel included in class design.

Allow for second opportunities

Players have an infinite number of tries in video games. Even if a character exhausts all of his or her health or lives, the game may reset and players may simply restart. Of course, this is not to imply that instructors must make innumerable tries, but providing enough chance for pupils to fail while knowing they may try again and achieve is a strong motivator.

Instant feedback is not only required, but also feasible

All instructors understand the value of timely feedback, and you may be asking how immediate feedback is possible! Video games, like a teacher, may provide instant effects! Students may get abundant and immediate feedback from classmates and instructors when they use blended learning methods such as online polls, quizzes, and debates.

Convert tasks into a quest or mission

Children need direction, and classwork should be relevant to them. Reintroduce a sense of purpose to their completion of particular duties by recasting your assignments as missions, similar to a game. To do this, abandon the practice of giving individual jobs and instead establish a progressive collection of assignments that progresses with each completed work. One method to integrate this concept is to utilize rotation stations, which involve children going from one center to the next in order to accomplish a learning objective or aim.

Visible progress is required

The majority of players are familiar with point bars, health gauges, and a reward system. Consider developing such a tool for your school; it may be as basic as a progress bar on the whiteboard! Whatever technique you choose to track students' progress toward their objectives, ensure that it is accessible to everyone. This is self-explanatory, but consider offering age-appropriate incentives such as stickers, badges, or a visit to the class treasure box.

Utilize a performance management system

Beyond just providing incentives, foster classroom camaraderie by rewarding the whole class when an individual or small group reaches a set point total. Other ideas include instituting "power ups" or other class-wide rewards.

Your school may have partnered with a learning management system (LMS) provider such as Blackboard, Schoology, or Google Classroom. Utilize those programs to their maximum potential, and even if your district or institution has not yet embraced blended learning, take advantage of freely available technologies such as Class Dojo, Flipgrid, Padlet, and NoRedInk!

Students should be able to speak for themselves.

Just as it is critical to provide timely feedback to students, provide a mechanism for your children to provide feedback to you! Gamification of learning requires that the game creator (i.e., the instructor) be able to fine-tune the software. Establish a structure that provides kids with a voice. As youngsters gain points, badges, and prizes, keep an eye on the progress with the assistance of your players.

Accept failure

As stated before, one significant benefit of gamification is its capacity to develop resilient learners via experimenting without the danger of high stakes failure.

Gamification may not be entirely feasible on your school, depending on the resources available (Quintas-Hijós et al., 2020). However, it is always possible to integrate some of the above concepts into your lectures and routines to make them more similar to the activities your pupils are familiar with and like. As a result, you'll see a significant increase in effort and accomplishment as your children become more involved than before

Conclusion

E-learning is reviving early education and will intensify in 2020. Integrating classical ideas into video games is on the verge of revolutionizing the industry. Gamification teaches children

many new abilities at a young age. It also increases their emotional well-being and emotional intelligence. Since 2020, new educational technologies for instructors and students have developed. The use of web-based connections and cloud-based access to course materials simplifies and enhances the learning experience. Indian education must be prepared for this upheaval. Gamification enables your kid to study in a distraction-free atmosphere in a familiar setting. Gamification helps foster a positive attitude toward learning by creating engaging, personalized, and amusing learning materials. The majority of educational learning applications include unique music that will aid language development. Gamification allows your kid to study and participate at their own speed, free of peer or teacher pressure. Eduka's World is a great method for children aged 3-10 to learn English while having fun. Gamification methods reward players for their efforts by increasing their level or awarding them with badges. Gamification in the classroom has been shown to substantially increase motivation by lowering the stakes of failure. Students may get abundant and immediate feedback from classmates and instructors when they use online polls, quizzes, and debates. Gamification can be as simple as a progress bar on the whiteboard or a reward system. Gamification of learning requires that the game creator (i.e., the instructor) be able to fine-tune the software. As youngsters gain points, badges, and prizes, keep an eye on the progress with the assistance of your players. Gamification may not be feasible on your school, depending on the resources available.

References

- Al-Azawi, R., Al-Faliti, F., & Al-Blushi, M. (2016). Educational gamification vs. game based learning: Comparative study. *International Journal of Innovation, Management and Technology*, 7(4), 132-136.
- Amalia, E. R., & Hasana, H. (2019). Improving The Early Childhood Language Skills Through Singing Activity. *AULADA: JURNAL PENDIDIKAN DAN PERKEMBANGAN ANAK*, 1(2), 1-12.
- Barab, S., Thomas, M., Dodge, T., Carteaux, R., & Tuzun, H. (2005). Making learning fun: Quest Atlantis, a game without guns. *Educational technology research and development*, 53(1), 86-107.
- Eppmann, R., Bekk, M., & Klein, K. (2018). Gameful experience in gamification: Construction and validation of a gameful experience scale [GAMEX]. *Journal of Interactive Marketing*, 43, 98-115.
- Jørgensen, K. (2008). *Left in the dark: playing computer games with the sound turned off*. Ashgate.
- Kapasias, N., Paul, P., Roy, A., Saha, J., Zaveri, A., Mallick, R., ... & Chouhan, P. (2020). Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India. *Children and Youth Services Review*, 116, 105194.
- Klock, A. C. T., Da Cunha, L. F., de Carvalho, M. F., Rosa, B. E., Anton, A. J., & Gasparini, I. (2015, August). Gamification in e-learning systems: A conceptual model to engage students and its application in an adaptive e-learning system. In *International Conference on Learning and Collaboration Technologies* (pp. 595-607). Springer, Cham.
- Li, X., & Chu, S. K. W. (2021). Exploring the effects of gamification pedagogy on children's reading: A mixed-method study on academic performance, reading-related mentality

and behaviors, and sustainability. *British Journal of Educational Technology*, 52(1), 160-178.

- Melnychuk, I., Drozdova, I., Savchak, I., & Bloshchynskyi, I. (2019). Higher School Instructors' Pedagogical Skills Improvement as a Basis of Educational Strategy for Development of Students' Professional Training. *Romanian Journal for Multidimensional Education/Revista Romaneasca pentru Educatie Multidimensionala*, 11.
- Quintas-Hijós, A., Peñarrubia-Lozano, C., & Bustamante, J. C. (2020). Analysis of the applicability and utility of a gamified didactics with exergames at primary schools: Qualitative findings from a natural experiment. *PloS one*, 15(4), e0231269.
- Ravyse, W. S., Blignaut, A. S., Leendertz, V., & Woolner, A. (2017). Success factors for serious games to enhance learning: a systematic review. *Virtual Reality*, 21(1), 31-58.
- Sadiq, R. B., Cavus, N., & Ibrahim, D. (2021). Mobile application based on CCI standards to help children learn English as a foreign language. *Interactive Learning Environments*, 29(3), 442-457.
- Waszczuk, J., Konowaluk-Nikitin, H., & Pawłowicz-Sosnowska, E. (2020). University education of students with disabilities with the example of Pope John Paul II State School of Higher Education in Biała Podlaska. *Szkoła Specjalna*, 81, 108-119