



# Mapping Mindset about Gamification: Teaching Learning Perspective in UAE Education System and Indian Education System

Madhulika Bhatia<sup>1\*</sup>, Preeti Manani<sup>2</sup>, Anchal Garg<sup>3</sup>, Shaveta Bhatia<sup>4</sup>, Richa Adlakha<sup>5</sup>

<sup>1</sup> Amity School of Engineering and Technology, Amity University, Uttar Pradesh 201301, India

<sup>2</sup> Faculty of Education, Dayalbagh Educational Institute, Agra 282005, Uttar Pradesh, India

<sup>3</sup> University of Bolton, Bolton BL3 5AB, UK

<sup>4</sup> Faculty of Computer Applications, MRIIRS, Faridabad 121003, India

<sup>5</sup> Faculty of Engineering and Technology, MRIIRS, Faridabad 121003, India

Corresponding Author Email: [mbhadauria@amity.edu](mailto:mbhadauria@amity.edu)

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## ABSTRACT

One can observe the dramatic change in the ongoing global pandemic impacts, and the speed of advancement in the educational learning system, particularly in virtual teaching learning process, has been extremely quick. Teachers' use of technology to deliver instruction to students via a variety of platforms has a significant impact on how well those students learn. A variety of factors influence how well students learn and how well teachers teach, including how well they use the most effective teaching technique. Teachers' and students' perspectives on instructional strategies should take precedence. Empirical study will be undertaken to demonstrate that there are tactics and approaches, such as Gamification, that teachers may use to improve their teaching. The proposed study looked into teachers' reported usage and implementation of these instructional tactics in their classrooms in different schools in the United Arab Emirates (UAE) & India. The parents also adopted the strategies for digital transformation of their children. Participants in the research included teachers from schools in the United Arab Emirates and India. Motivation is to find and reveal that teachers are employing ICT approaches such as Gamification and are also extremely aware of and comfortable with new teaching methodologies. Other findings show that teachers in both countries agree on the necessity of using digital tools to improve the learning outcomes of their students.

## 1. INTRODUCTION

COVID-19 has been classified as a potentially lethal infectious pandemic and classified as a disease. This virus caused severe chronic respiratory disease as well as various forms of the common cold. Globally, there has been widespread mortality as a result of the virus's fast spread. The World Health Organization called it a global pandemic emergency. As a result of this pandemic, the whole world was put under lockdown.

This lockdown due to Pandemic has struck and impacted whole education sector. Due to the pandemic's crisis, schools have been temporarily closed throughout the world. Hence, the Education Council in the UAE have chosen virtual learning through different forms of digital technology or devices to ease teaching learning by substituting classroom supervised instructional learning with online learning.

For the purpose of protecting kids from the COVID-19 virus, the United Arab Emirates has instituted virtual learning in all UAE public and private schools, as well as higher education institutions, beginning in March 2020. As part of its technology training for school staff, it also aided private schools in developing their own distant learning systems, ensuring that the virtual learning process would be sustainable in the long run. Smart learning technologies, as well as a set of norms and standards for monitoring students' behaviour while

participating in distance learning, have been developed. The United Arab Emirates provides free satellite broadband services to students in underserved regions, as well as free home internet connections to families that did not have a home internet connection (UAE). A free eLearning portal called Madrasa was launched by the United Arab Emirates (UAE) in October 2018 that delivers 5,000 free Arabized videos on general science, arithmetic, biology and chemistry. A number of researchers have also looked at how 21st century technologies like virtual reality, gamification, and mobile-assisted language learning (MALL) might be used to improve students' learning experiences [1].

Students from kindergarten to 12th grade may access its educational material of 11 million words. Over 50 million Arab students worldwide have Internet access to the platform. Students may use the Madrasa app, which is available on iTunes on their personal PCs or mobile devices. The Digital School initiative also proved a significant contributor towards effective online learning experience [2].

According to many researches, the use of mobile apps in the acquisition of language may be classified as constructive learning when used in conjunction with other methods of learning. Researchers performed studies employing smart phones in English language lessons. Students' learning attitudes and experiences are improved as a result in the classroom, according to the researchers' results.

## 1.1 Psychology of gamification

It's a process of using game-like elements into teaching learning. Gamification is getting a reward every time you achieve a level. These tricks tap into our natural instincts: competition, exploration, curiosity. Emotional Activities. The education ecosystem in online mode needs a academic infrastructure which should be robust enough. The online system of teaching highlights that there is no fun without a challenge accomplishments should be rewarded. "Bored kids and drained teachers" is how this emergency remote education is characterized. Due to the COVID-19 epidemic, educational institutions have been compelled to adopt an "emergency remote teaching" approach, in which educators are seeking to immediately digitise their lecture materials and post them online while still conducting lessons in a synchronous way to online students [3]. This learning should be easier for students to share their accomplishments. Students should be given opportunity to be Optimistic. There should be choice of collaborating instead of competition.

Back in the mid-sixties, a user can experience a virtual world that feels and acts like a real one, thanks to the development of virtual reality (VR) (Sutherland, 1965). Numerous studies have been conducted on the effects and applications of this technology, which has resulted in a wide range of publications.

Virtual reality applications have been shown to increase students' enthusiasm and positive attitudes toward learning English. Everyone's attitude was upbeat when the technology was easy to understand and use.

Gamification's application in education is rapidly growing, owing to its enormous potential for inspiring and engaging pupils. In order to find out what factors influence the adoption of educational gamification in this study, an opinion survey was conducted. Student adoption of education gamification is influenced by factors such as the need of replacing out-of-date teaching techniques; a lack of content knowledge; and gamification of education with faculty support. Gamification is the use of game design aspects to non-game situations. and analyzing the many methods of pedagogical structure of games can be applied in the design of educational activities while maintaining a sense of playfulness [4]. Playing can help strengthen memory and drive cerebral cortex growth, as well as give venues for students to engage in scholastic work, contribute to language development, and foster creative thinking and problem-solving ability, among other things.

## 2. LITERATURE SURVEY

Online Learning for School Students through Gamification in UAE and Indian schools. In 2020, researchers from Lincoln University in Malaysia, King Saud bin Abdul-Aziz University for Health Sciences in Saudi Arabia, and Prince Sultan University in Saudi Arabia did research on Saudi Arabia looked at the current and still going Coronavirus pandemic, which has caused disasters around the world and affected the educational system. The objective of this research was to highlight the benefits of virtual learning courses for Saudi Arabian students during the Coronavirus epidemic. This research included 500 students willingly. 345 of these students came from Saudi Arabia. The rest came from China, Pakistan, and India and went to Saudi universities. The researchers analysed the study's findings quantitatively and qualitatively

[5]. The results of this research indicated that teachers found it very hard to teach and learn through Virtual Classes. To begin, they lacked fundamental understanding on how to set up a virtual classroom for communication with students, and they had difficulties preparing for classes as well. Additionally, students struggled to comprehend the information provided without coaching and had issues completing assignments when they were unable to complete the requirements due to a lack of knowledge of the aim. According to the authors, Virtual classrooms may be very difficult for students since they increase their workload. Thus, it was advised that instructors and parents communicate directly with their pupils and children through social media platforms. As a result of the current Coronavirus outbreak, both schools and students should consider learning as a shared commitment to utilise and explore different types of technology in order to solve educational and career path issues [6].

According to Sailer and Homner [7], Incorporating game design aspects into a target system while maintaining focus on the target program's functional aims is what gamification is all about. The premise that gamification is a game overlay in a nongame system is the beginning point for this definition. The definition of gamification as a means of limiting the area of analysis is used to guide researchers in this research [8], As gamification design incorporates features from video games, it may elicit comparable pleasure experiences, inspiring game-like player behavior. Simultaneously, in order to be efficient, gamification systems must exploit this experience to influence a person's behaviour toward a desired purpose. Despite the fact that different concepts are applied, the study contends that gamification's dual effect is critical for success [9].

To provide a taxonomy for gamification terminology in information systems, we will categorise the effects of gamification components as experiential or instrumental. The experiential consequence is often connected with user perceptions such as a feeling, thinking, or emotion, while the instrumental outcome is associated with the gamification's utilitarian goal [10]. Additionally, it will provide a set of principles outlining how gamification might result in meaningful involvement. Experiential results should be tailored to the task environment via the use of gamification and the achievement of desired instrumental objectives. In light of the larger definition of gamification results, the authors classified the major types of gamification outcomes using the dual outcome framework, presented in Figure 1.

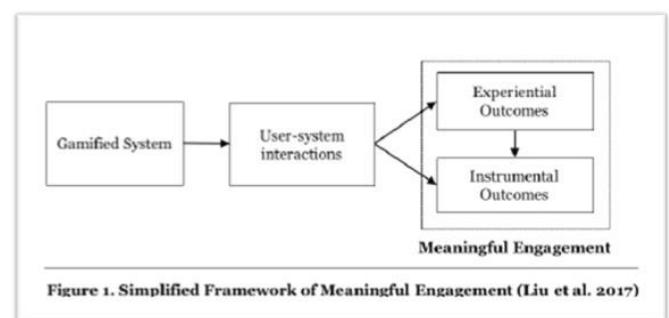


Figure 1. Simplified Framework of Meaningful Engagement (Liu et al. 2017)

Figure 1. Gamification outcome framework

In context of teaching-learning components around various design elements for education in gamification is mentioned in terms what impact it has on students learning components, Teaching components of faculty as well as satisfactory components of parent [11]. A course in Information Systems

and Computer Engineering was established by combining numerous gamification components into the course design, including multiple points of experience and challenges. Research stated that courses converted into gamified course led to more engagement in students and motivated pupils to take active participation in subject online. The participation was assessed on the number of downloads on e-content. The attendees in course were also increased. Author concluded that research not shown any improvement in student marks. Engineering courses also been modified to implement gamification like software engineering course. A learning platform was developed on web having various interactive components [12]. This study also concluded with survey reluctance of gaming platform by students that it was not helpful at all in few of the academic and practical based subjects. In some of the researchers, component of game design are added like points of experience, various levels, and choice of difficulty level to attempt the assignments. Result demonstrated that various experience points were correlated with scores earned in assignment. The relation between two were also related between level of participation and scores retrieved Xu et al. [13].

Literature has evidence that educator performed an experiment to check that gamification has positive effect on students as well as on teachers. The main problem addressed is absence of motivation among students. The researcher advocated introducing a grading system for each individual activity in order to solve the issue of low motivation. The gamified systems increased participation enthusiasm to 97 percent. Thus, gamification aided in increasing children's desire to complete tasks. Hsu [14] suggested creating a book on gamified augmented reality for scientific learning by combining augmented reality and gamification approaches. It is possible to put 3D simulations of scientific experiments in a book to assist students in understanding them via the use of augmented reality. To increase students' motivation and engagement, game design features such as onboarding, badges, challenges, replay or redo, unlocking material, and customisation were used. The goal of gamification was to come up with a new way to teach that was more interesting, fun, and productive than the old way of teaching [15]. When combined with points and leaderboards, badges may be a valuable tool for organizing contests and signaling objective completion, status, and accomplishment. It can also make people want to improve their current performance by making them more excited about learning, learning more skills, and spending more time on it.

### **3. METHODS AND EXPERIMENTS**

#### **3.1 Research category and data collection**

The researchers used a quantitative research technique to collect primary data for this study. A questionnaire has been prepared.

#### **3.2 Design and survey distribution**

The data collecting technique for the survey was a questionnaire. An online Using a Google form, schoolteachers and students in Dubai and India were asked to provide input on the use of gamification in their classrooms. A short explanation of the survey's aim was given in the survey, as

well as a promise of participants' anonymity, to encourage them to complete it.

To gather demographic and conceptual data, categorical questions were adopted, whereas 5-point scale was developed. The scale, in its entirety, was split into two sections: 1) demographic questions; 2) participant preference for technology use, where the researchers sought to ascertain participants' knowledge of gamification and also their degree of acceptability of gamification in education. Finally, teachers, parents and students were asked to complete a questionnaire.

#### **3.3 Timeline, factors and participants**

The scale was mostly sent through email, with some physical copies produced as needed. This research enrolled school children, parents, and educators in India and Dubai. According to the Ministry of Education, United Arab Emirates, there are presently 281,432 kids registered in private schools in Dubai whereas 12 crore pupils are registered in private schools in India. The study's participants were chosen using a convenience sample method. A sample size of 220 students was taken into consideration.

## **4. RESULTS AND DISCUSSION**

#### **4.1 Demographic information**

Participants' age and nationalities: After email distribution, 220 respondents returned their completed surveys. 124 (56.4%) were Indian citizens, while 96 (43.6%) were UAE nationals. It's worth noting that 106 (48.2 percent) participants were below 30 years, 76 (34.3 percent) were below 40, and 38 (17.3 percent) were beyond the age of 40. Additionally, 82.5 percent of the selected individuals may be classified as 'digital era members,' due to the fact that they were born after 1983 and have not yet reached the age of thirty-five.

#### **4.2 Employment status**

In terms of job status, 96 (43.6%) of participants were employed, while 124 (56.3%) were unemployed (home maker and students).

#### **4.3 Gamification and awareness**

Data was analyzed descriptively using frequency distributions revealed that 172 (79%) of participants know what education gamification and 48 (21%) did not know anything about it.

#### **4.4 Technology applications**

In the survey, the participants were questioned about their perceptions on the role of digital technologies such as video projectors, presentation slides, simulations, video conferencing, flip charts, whiteboards and smart boards in teaching online and its association in retaining student attention? 86 (39.1 percent) respondents strongly highlighted that use of digital media enhances the attention of students. On the other hand, 62 (28.2 percent) respondents says that they are unsure that use of digital means enhances attention of students and believe that there are other factors like teaching style, curriculum and basic traits of students are few of the factors

that enhances attention of students [16].

Respondents were asked to give their opinion and perspective regarding the happiness and contentment of children in learning through interactive media. 144 (65.5%) supported the notion of usage of interactive media as it led to happiness and contentment among students. 36 (16.4) opposed use of interactive media as a mean to increase happiness among students.

Respondents were asked that do they think that virtual rewards work as the motivating factors among students. 136 (61.8%) respondents appreciated use of virtual rewards for performance and recommended it as well whereas 66 (20.9%) of respondents believes that use of virtual reward are not only the motivating factors and there are other factors too that help to enhance motivation among students.

#### 4.5 Effects of education gamification

Using a 5 point scale, the research sampling unit were asked to react to various items designed to determine their beliefs and viewpoints about the effects of Education Gamification as shown in Figure 1 and Table 1.

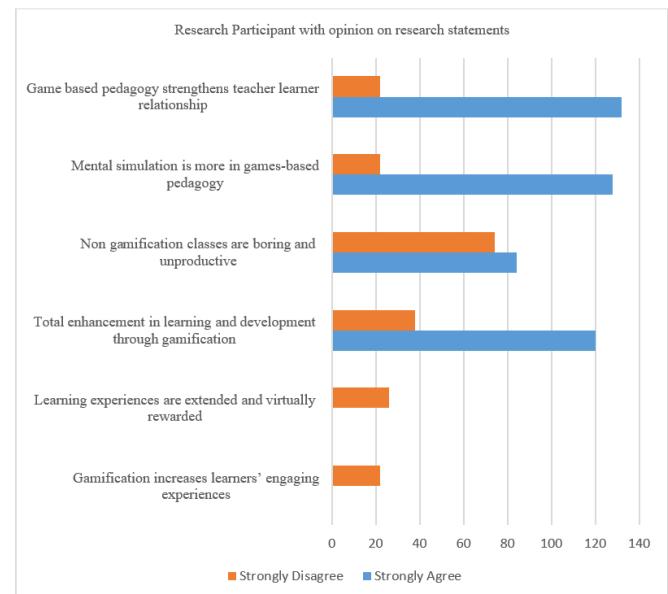
**Table 1.** Opinion about the effects of education gamification

S.No.	Factor	Strongly agree	Strongly disagree
1	Gamification increases learners' engaging experiences	134 (60.9%)	22 (10%)
2	Learning experiences are extended and virtually rewarded	136 (61.8%)	26 (11.8%)
3	Total enhancement in learning and development through gamification	120 (54.6 %)	38 (17.2%)
4	Non gamification classes are boring and unproductive	84 (38.2%)	74 (33.6%)
5	Mental simulation is more in games-based pedagogy	128 (58.1%)	22 (11%)
6	Game based pedagogy strengthens teacher learner relationship	132 (60%)	22 (10%)

Table 1 highlighted people belonging to different age groups and nations strongly believed that games-based pedagogy is productive, motivating factors, leads to mental simulation, strengthens teacher learner relationship, and enhances overall learning experiences [17].

Further, participants bifurcated into various groups were asked about their awareness, applicability, adaptability and availability of resources for gamification. Their responses are

presented in the following Table 2 with the fact that the use of games-based pedagogy is encouraged by teachers, students and their parents.



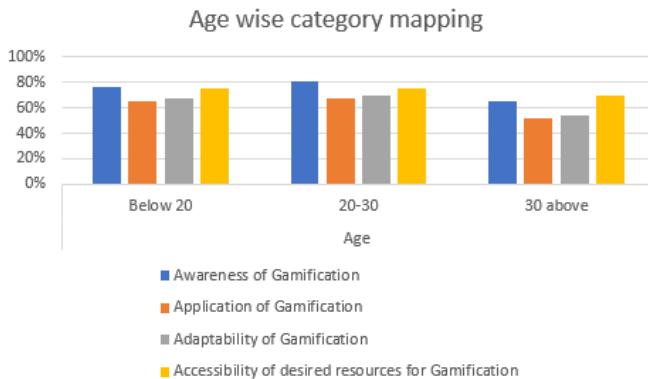
**Figure 2.** Opinions about the effects of education gamification

The below table suggests people belonging to the age group 20-30 are more aware of gamification and its techniques, can apply gamification, are adaptable in using and attending gamification and have access to resources of gamification than the participants of other two age groups category. The participants' responses were also studied by categorizing them into various categories like teachers, students, and parents. It was found that 84% of teachers are aware of gamification whereas only 63% of parents are aware of gamification. Around 70% people of all three categories said that they have all the accessibility of desired resources for gamification. 61% of Citizens of India and 79% citizens of UAE are aware of gamification. It was found that 60% of people from Indian sample believes that they have accessibility of desired resources for gamification and 98 % of UAE citizen have such availability as shown in Figure 2 and Figure 3a, 3b, 3c.

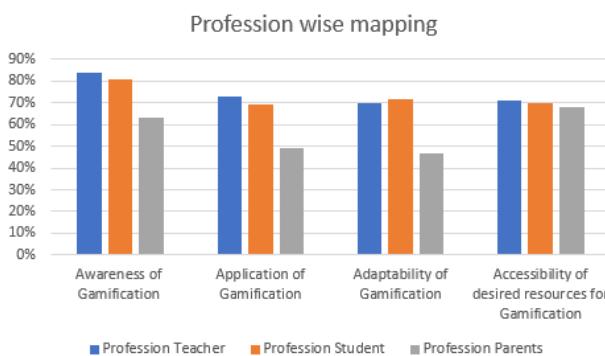
It is also clear incomplete know how gamification is impeding smoothness of execution requires assistance from educational authorities, administrations, and faculty to be adopted and implemented. It is highly noticeable that note that the vast majority of responses are with a strong agreement claim that the gamification concept is clear and straightforward [18].

**Table 2.** Responses of participant of different category

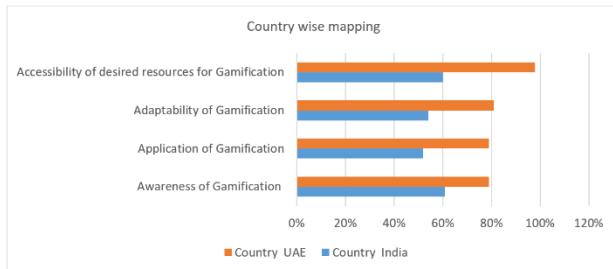
	Category	Awareness of gamification	Application of gamification	Adaptability of gamification	Accessibility of desired resources for gamification
Age	Below 20	76%	65%	67%	75%
	20-30	81%	68%	70%	75%
Profession	30 above	65%	52%	54%	70 %
	Teacher	84%	73%	70%	71%
Country	Student	81%	69%	72%	70%
	Parents	63%	49%	47%	68%
	India	61%	52%	54%	60%
	UAE	79%	79%	81%	98%



**Figure 3. (a)** Age wise category mapping



**Figure 3. (b)** Profession wise mapping



**Figure 3. (c)** Country wise mapping

## 5. DISCUSSION

This study looks at the elements that impact school gamification uptake in India and Dubai. The outcomes of the present research show that conventional teaching practices that seem outdated to today's youth is influencing on the educational side of gamification in coming years [19]. A lack of awareness and expertise in the area of gamification will, it is certain, continue to obstruct its broad adoption. It was discovered by researchers that most students believe incorporating education gaming into learning environments will make learning more enjoyable, increase in motivating students, increasing their interest in learning and class engagement, and facilitating complete teaching learning process [20].

## 6. RECOMMENDATIONS

### 6.1 Academics perspective future possibilities

The launch of effective platforms for gamification on this

research for education institutions is still a challenge for them. There is a need of providing training and workshops to all educators. They are not yet ready to launch an effective gamification process [21].

The training will provide them very usable learning gamification applications and training to educator for equipping them with practical training over actual implementation of gamification process [22].

## 6.2 Future work

The present study's conclusions cannot be generalized since it solely solicited student, teacher, and parent perspectives. To generalize the results, future study should include education professionals, policymakers, instructors, parents, and students from different countries [23].

## 7. CONCLUSION

This study found that most teachers and students in Dubai understood gamification and its role in education. Data show that most students find gamification ideas easy to comprehend, but teachers assist them to be appropriately applied. As a result, most teachers and students think that conventional educational methods are outdated and must be replaced. In general, implementing education gamification will assist to increase student involvement, push them to improve their grades, and keep them from considering school as a chore.

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