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Gamified Pedagogy in a Classroom Environment: A Strategy for Child- Centric Learning

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Abstract

The study investigates the benefits and challenges of flexible game-based classrooms which is an effective tool to enhance skills and child-centric learning according to NEP2020. A quantitative research was employed and the data from 25 teachers and 25 students were collected against a standardised questionnaire. The 25 students were subjected to a gamified learning approach before conducting the survey. The results show significant differences in integrating real life examples in GBL, improving knowledge and creativity, lesson planning, noisy and classroom arrangement among teachers and students, where teachers show greater significant influence of GBL on the above aspects. The maximum benefits of GBL by teachers and students are Engagement, Motivation and Happy Classroom. There is a significant difference in the benefits where students feel they get less rewards, replay time, skill development and responsibility. Planning and sharing resources is the most challenging for both teachers and students. The students show more challenging aspects such as classroom space, infrastructure, and class control as well as increased teaching time.

Keywords: gamified learning, NEP 2020, classroom environment, benefits, challenges

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Volume 13, Issue 1, December 2024
https://cjoe.naspublishers.com/

Introduction

A classroom is a space which must be a happy space for students and teachers. NEP2020 suggests ways in which educators and schools can formulate methods to make this space not only happy but also engaging, flexible and catering to student needs. NEP2020 is of the view that learning must be fun and also impart knowledge through real life examples. There should be 21st century skill development as well. The learning must be immersive and engage and motivate the learners to learn the concepts in depth. NEP2020 envisages a student-centric approach.

These skills and real life learning simulations with fun quotient can be obtained through gamified learning. Games can be used as an assessment tool and a learning tool. It can be used for skill development or conceptual understanding. It helps the player collaborate and become more curious about the concepts. The students look forward to the games with joy and curiosity thereby immersing them in the game.

Literature Review

Scott, C.L. (2015) examines the importance of child-centric learning and NEP2020 strongly advocates this factor. Education is not only lifelong but also inquiry-based and to make it efficient teachers have to be trained well with appropriate resources with a conducive learning space (Mishra, V, 2024). Rai, S (2023) opines that game-based pedagogy is important for critical thinking, fostering positive experiences in the classroom making them happy, rewarding and improving their skills through appropriate gamified methods as required by NEP2020. Maiti, A. et al (2024) examined the importance of experiential, interactive learning and critical thinking in NEP 2020 for which one approach is game-based hands-on activities where students

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Volume 13, Issue 1, December 2024
https:// cjoe.naspublishers.com/

can understand the principles of the study content through real-life simulations, they are flexible, can be personalised and caters to holistic development.

Gamified method also lends itself as an assessment tool evaluating different aspects such as cognition, skills etc over time. When analysing teacher perspectives on game based learning, Jaaska and Aaltonen (2022) examined how problem solving and critical thinking skills developed and the games motivated both learners and teachers alike. They found the challenges to be cognitive load, too much pressure to complete tasks in the given time and adaptability to different curriculum and learners. For this teacher training workshops in game-based instruction so that teacher competency is enhanced and curriculum must be modified to suit our learners. Boghian et al (2019) and (Molin,2017) examined various literature and found that the most challenging aspect is planning and time consumption so teachers are unable to complete their curriculum. Students feel that tasks are incomplete and they have not gained understanding of the content completely. Students also feel they take more time to complete game-based activities. Sousa, M.J, Rocha, A. (2019) examined skill development through game-based learning and found that the classroom gives a safe space and motivates the learners to develop leadership, and communication skills. Subhash, S and Cudney, E.A. (2018) examined many studies and found that game based learning improved student engagement and performance and better conceptual understanding as it is a student –centric approach which is the core of NEP2020.

Problem Statement

NEP2020 has brought in many changes in how teaching-learning ought to happen in the current day Indian Education System and Game-based learning suits the dogma behind play-way

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https://cjoe.naspublishers.com/

student centric real-life approach to learning but with it comes benefits and challenges which the teachers and students face.

The study aims to examine the benefits and challenges of gamified learning.

Variables

Gamified Classroom Environment, Teacher Perspective, Student Perspective

Significance of the Study

This study is significant as NEP2020 has tried to modify our method of teaching and learning in a classroom setting and as teachers and students face new methods, they also face the positive impact of these methods and difficulties which have to be examined and solutions found. This study was conducted to examine the benefits and challenges of gamified learning in a classroom environment.

Objectives of the Study

1. To evaluate the benefits of gamified learning in a classroom environment from teacher's and student's perspective.
2. To assess the challenges posed by gamified learning for teachers and students in a classroom environment.

Methodology

The study was a survey conducted among 25 teachers and also data was collected from 25 students from std 7 who were taught a concept through game-based learning. The

ISSN 2320-9305 (Print)
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Volume 13, Issue 1, December 2024
https:// cjoe.naspublishers.com/

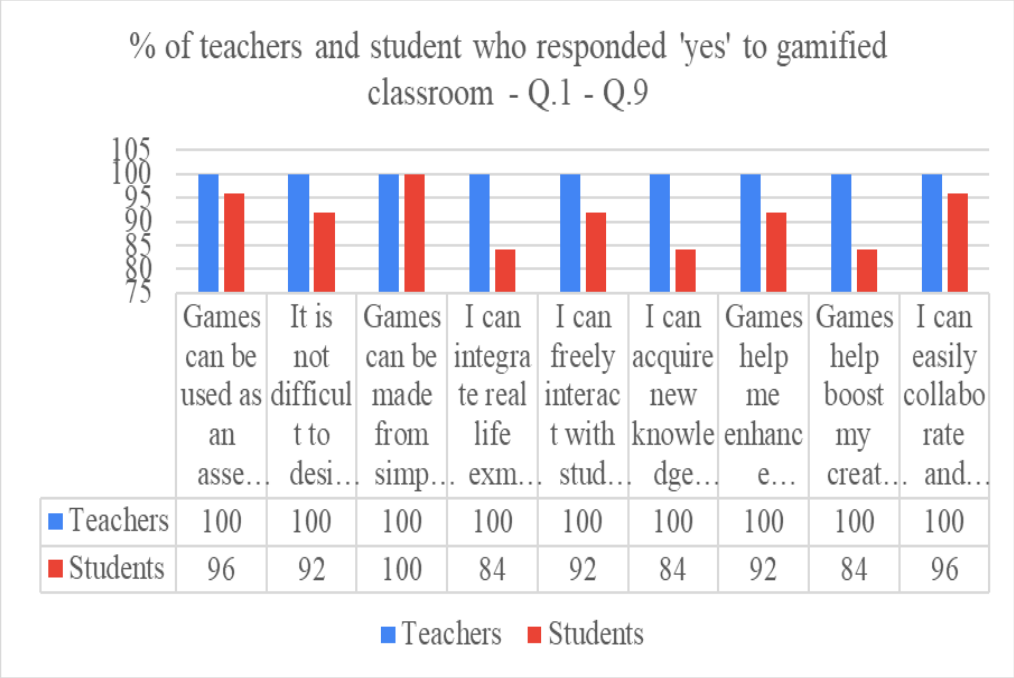
questionnaire had 17 questions based on the general principles of gamified learning which adhered to NEP2020. Then two sets of questions based on the questionnaire, for the benefits and challenges were given to both teachers and students and their responses collected and analysed.

Analysis

The top-rated benefits and challenges as seen by the teachers and students were analysed. The responses are represented in the form of a comparative graph between teachers and students.

Figure 1

Comparison of Teachers' and Students' Responses to Gamified Learning Aspects (Q1 - Q 9)

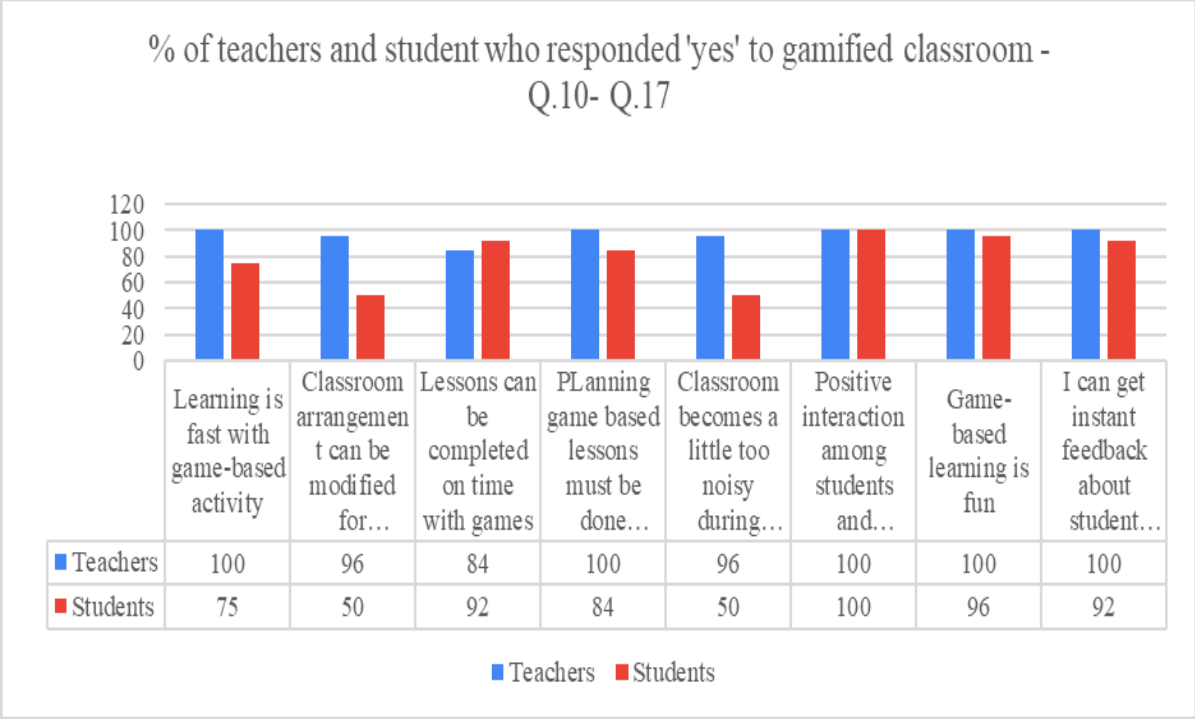


In figure 1, While all the teachers feel questions 1 to 9 can be fully incorporated, there's a significant difference in students thinking that they may not be able to acquire new knowledge with real life examples and may not increase their creativity.

ISSN 2320-9305 (Print)
ISSN 2347-5706 (Online)
Volume 13, Issue 1, December 2024
https://cjoe.naspublishers.com/

Figure 2

Comparison of Teachers' and Students' Responses to Gamified Learning Aspects (Q 10 - 17)



In figure 2, there's a significant difference in the mean values of students for faster learning through games and a noisy class environment which needs to be modified during games.

In figure 3, students' mean scores for skill development, responsibility, rewards, replay, fear of failure, feedback, and teacher competence is lower than teachers' scores.

ISSN 2320-9305 (Print)
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Volume 13, Issue 1, December 2024
https:// cjoe.naspublishers.com/

Figure 3

Comparison of Benefits of Gamified Learning among Teachers and Students in a Classroom Environment

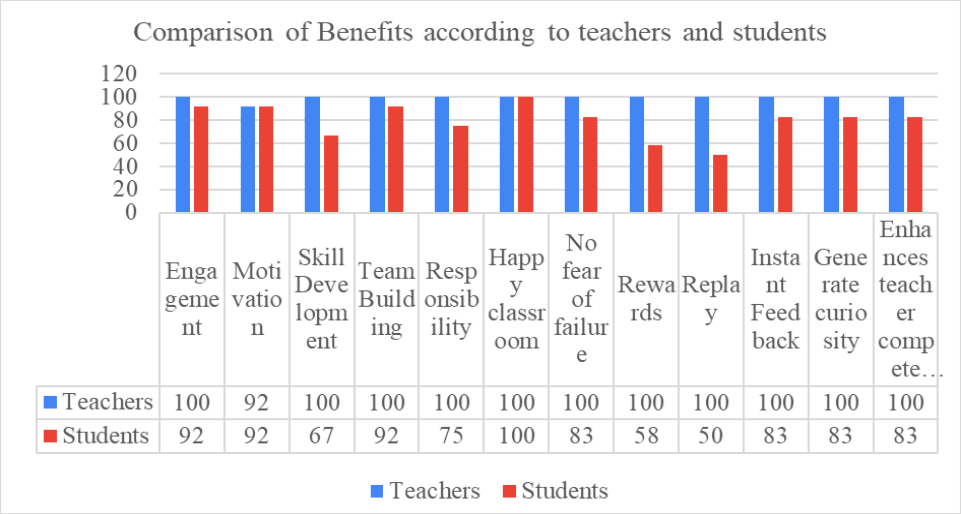
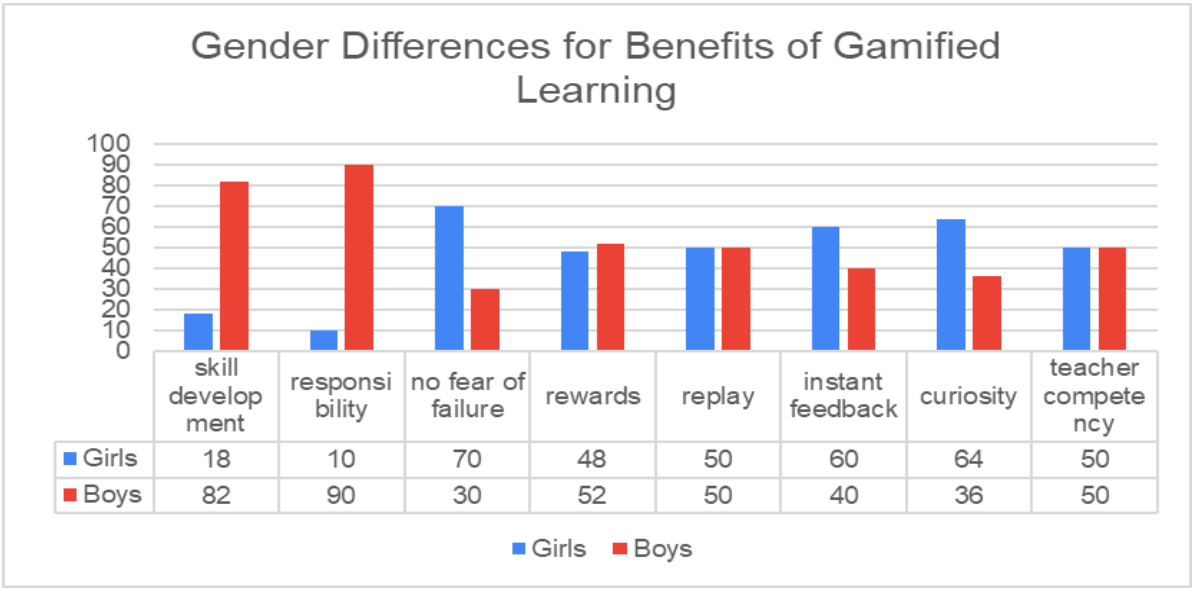


Figure 4

Gender Differences for Benefits of Gamified Learning



ISSN 2320-9305 (Print)
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Volume 13, Issue 1, December 2024
https://cjoe.naspublishers.com/

Figure 4 shows that the mean scores of boys is significantly higher than girls in skill development, responsibility and less significant difference in instant feedback. Whereas, the mean scores of girls is significantly higher than boys in the aspects of no fear of failure and curiosity.There is no significant difference in the mean scores of rewards, replay, and teacher competence

Figure 5

Challenges of Gamified Learning for Teachers and Students in a Classroom Environment

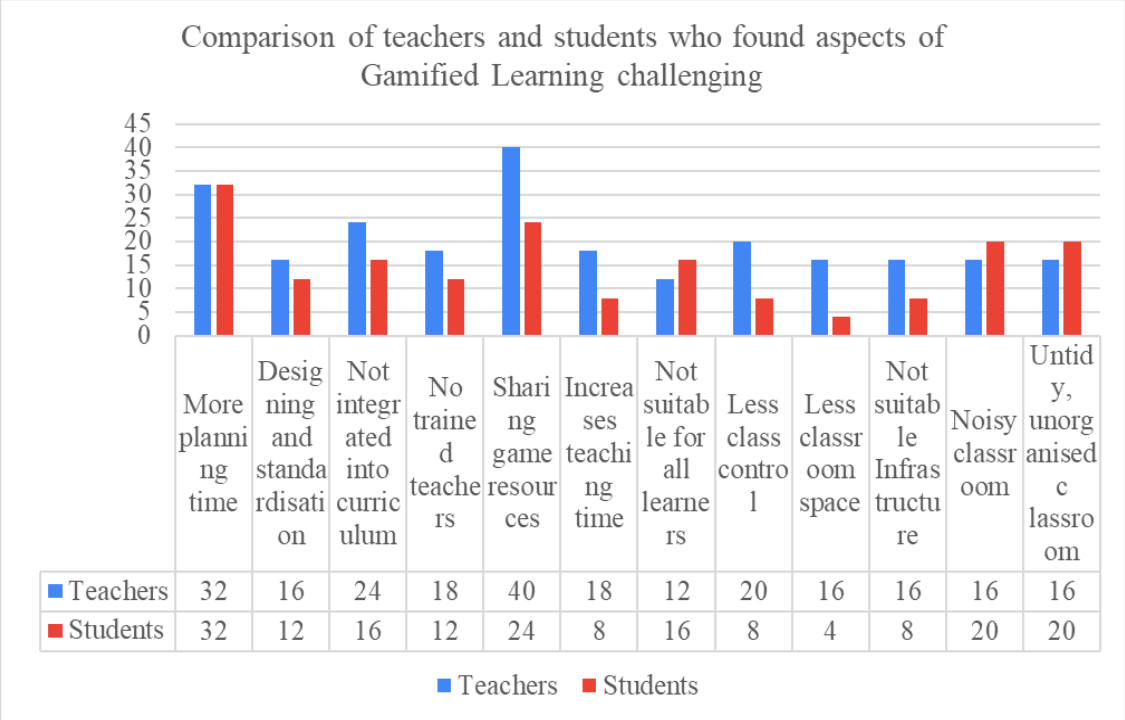

Figure 5 examines the challenges of gamified learning in a classroom environment where teachers found sharing resources to be most challenging followed by more planning time and curriculum integration and then extra teaching time and training requirements. Students found more planning time to be most challenging, followed by sharing resources and noisy

ISSN 2320-9305 (Print)
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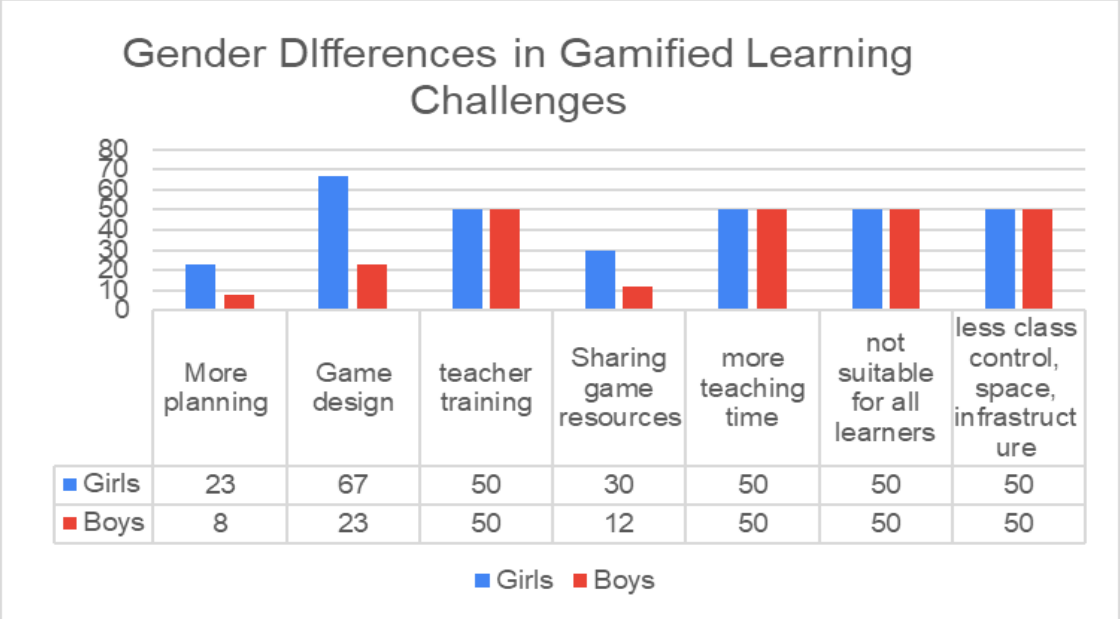
Volume 13, Issue 1, December 2024
https:// cjoe.naspublishers.com/

disorganised classrooms and then only curriculum integration and suitability to all learners.

In Figure 6, the research shows that the mean scores of girls are more than boys for planning, design and sharing resources. There is no difference in the scores for teacher training, more teaching time, not suitable for all learners and less class control, modification of classroom space and infrastructure.

Figure 6

Gender Differences in Gamified Learning Challenges



Findings

1. There is a significant difference in the mean scores of students for real life examples that cannot be taught through games, no new knowledge can be acquired, does not boost creativity, noisy classroom and classroom games must be more adaptable.

ISSN 2320-9305 (Print)
ISSN 2347-5706 (Online)
Volume 13, Issue 1, December 2024
https://cjoe.naspublishers.com/

2. The mean scores of students are lower than teachers for skill development, responsibility, rewards, replay, fear of failure, feedback, and teacher competence.
3. The mean scores of boys is significantly higher than girls in skill development, responsibility and instant feedback.
4. The mean scores of girls are significantly higher than boys in the aspects of no fear of failure and curiosity.
5. There is no significant difference in the mean scores among boys and girls with respect to rewards, replay and teacher competence.
6. Teachers showed significant higher scores for challenges related to sharing resources, more planning time, curriculum integration, extra teaching time and training requirements.
7. Students showed higher scores for planning time, sharing resources, noisy classroom environment and curriculum integration.
8. The mean scores of girls are more than boys for planning, design and sharing resources.
9. There is no difference in the scores for teacher training, more teaching time, not suitable for all learners and less class control, modification of classroom space and infrastructure.

Discussion

Benefits:

Teachers feel that they can teach real life examples through games and students can acquire new knowledge, can engage, motivate learners and ensure team building and 21st

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Volume 13, Issue 1, December 2024
https:// cjoe.naspublishers.com/

century skill development. Teachers also feel they can ensure children get rewards and can replay the games according to their convenience and the games can be modified for the learners.

Students feel they can engage in games and motivate themselves to learn better. They feel they are in a happy classroom environment which is so important for holistic learning and for a child to feel secure and happy is of great importance for their cognitive, emotional and social skill development.

Challenges

Teachers feel they need more preparation time and the curriculum must be modified to integrate games into it so as to reduce teaching time. They also feel they need to be trained in gamified classroom learning and sharing of resources among each other is a major challenge as well.

Apart from the above challenges, students consider noisy classrooms and disorganised environment as well as lack of space and proper infrastructure as important impediments to gamified learning.

Educational Implications

1. Teacher training to be carried out by the Government agencies in gamified learning.
2. Curriculum to be redesigned to incorporate games and activity based learning.
3. Schools must include separate preparation time along with teaching periods.
4. Resource repository to be made in hubs of learning for all schools in a particular area to share resources.
5. Spacious classrooms with infrastructure suitable for activities to be designed.

ISSN 2320-9305 (Print)
ISSN 2347-5706 (Online)
Volume 13, Issue 1, December 2024
https://cjoe.naspublishers.com/

6. Happy, engaging, motivating classrooms foster better understanding and faster learning with no fear of failure can lead to confident, competent and creative individuals with skill sets bridging job lacunas in India.

Conclusion

NEP 2020 encourages skill development, thinking and cognitive skills through a multidisciplinary, engaging and methodical approach. There is focus on games, and arts as assessment tools and not only as engaging activities. It is important to restructure gamified learning with appropriate teacher training, student rewards, infrastructure development in the classroom and above all teacher development and schools must give enough planning time for teachers. There is a lot to gain from such changes which includes better understanding of concepts to skills needed for the 21st century and ultimately job opportunities and improvement of the Indian economy.

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Volume 13, Issue 1, December 2024
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