

<sup>1</sup> Dr. Logenthini  
Mariappan

## From Boredom to Excitement: Transforming Classroom Activities with Realia-Based Games



**Abstract:** - Lack of engagement can have serious consequences for student achievement and motivation. Students who are disengaged from the learning process may struggle to retain information and may be less likely to complete assignments or participate in class discussions. This can lead to poor grades, lower academic achievement, and reduced motivation to learn. In many cases, students feel like they are passive recipients of information, rather than active participants in the learning process. Lectures, note-taking, and reading assignments can feel like a chore, rather than an exciting opportunity to learn something new. To combat this issue, many educators are turning to more engaging and interactive teaching methods. By incorporating games and other interactive activities into the classroom, teachers can create a more dynamic and engaging learning environment that promotes active participation and student collaboration. Realia-based games, are one such approach. This study employed a quasi-experimental design, comparing the performance of students in a treatment group that receives realia-game based instruction with a control group that receives conventional instruction. The study included 100 undergraduate students (50 in the treatment group and 50 in the control group) from the same program. Participants were selected based on convenience sampling. Qualitative data was collected through student surveys, which assessed student engagement, motivation, and interest in the subject matter. The findings revealed that Realia-game based instruction led to higher levels of academic achievement compared to conventional instruction. The results of this study will aid instructors in implementing realia-based games in teaching and learning process.

**Keywords:** Engagement, Realia-based games, performance, teaching and learning.

### I. INTRODUCTION

Students are expected to love the subjects they are taught in university even though they don't truly enjoy doing so, as is common knowledge. The number of subjects a student registers for in a semester will determine how many assignments they will have to complete. On average, one student will take four or five subjects, which may discourage them from giving each subject their entire attention. This combined with poor teaching methods truly demotivates, disengages, and makes students feel lethargic as well as less focused in class.

When students lose concentration, it may result in a decrease in their degree of participation, particularly in the teaching and learning process. They will think that, in comparison to other students, they are participating less actively in class and are more passive. Here is where innovative and entertaining teaching techniques should be used to maintain the students' attention, raise their level of involvement, and inspire them to work hard and earn good grades.

More engaging and innovative teaching methods should be used to make the students appreciate the subject [1]. It might be argued that for students to embrace and modify the teaching and learning process, enjoyable conditions are required. If the process is interesting and enjoyable, students learn everything, especially language [2]. This has been shown to be important enough to warrant the adoption of precise and efficient teaching strategies to guarantee effective learning.

### II. REALIA BASED GAMES

Many people are opposed to the usage of games in the classroom. Games encourage competitiveness, which will have an impact on how well students learn. We should be aware, nevertheless, that wherever we go, we must compete. To gain a job, to attract customers, to be a competent marketer, and to win a sport, we must compete. We should recognize that competition alone can be a challenge for students, making them more focused and driven to achieve well. They will accomplish this by taking the initiative and working hard.

Games serve as effective educational tools because they create a simulated environment where students can freely explore various decisions without the fear of making mistakes. This amalgamation of thought and action within games cultivates purposeful behavior directed at achieving specific goals. The act of playing games imparts valuable skills such as strategic thinking, the consideration of alternatives, and adaptability [3]. Additionally, games foster a constructivist setting in classrooms, prioritizing both students and their learning experiences.

Learning through active engagement necessitates tasks like discovery, analysis, interpretation, problem-solving, memory utilization, physical involvement, and extensive cognitive processing. Games not only

<sup>1</sup> Education Department, Raffles University, Johor, Malaysia. logenthinimariappan@raffles-university.edu.my

permit creativity, autonomy, and advanced thinking but also encourage students to tackle classroom queries in unconventional ways, employing both creative and critical thought processes.

By incorporating games into the learning process, teachers can boost participation, enhance self-esteem, and enable learners to observe how their peers approach question-solving. The element of competition within games propels students to invest effort in tasks, fostering a desire to accomplish objectives while having fun in the classroom setting. The utilization of games in the classroom environment enhances interactivity and encourages active participation among students. When engaged in gameplay, students are naturally prompted to express their thoughts and ideas during discussions, fostering a more inclusive and dynamic learning atmosphere. This process plays a significant role in breaking down communication barriers and mitigating passivity within the student body [4]. As students immerse themselves in the game-related discussions, they become more comfortable sharing their perspectives, leading to increased engagement and overall involvement.

Furthermore, realia-based games, which incorporate real-world elements into gameplay, promote collaborative learning experiences. Students work closely with their team members to decipher challenges and accomplish objectives, fostering a sense of camaraderie and shared achievement. This collaborative aspect of gameplay not only encourages teamwork but also actively promotes communication and critical thinking skills [5].

Studies have highlighted the positive impact of game-based learning on student engagement and performance. For instance, it is said that games create a context where learners become active problem-solvers, leading to heightened motivation and improved learning outcomes [6]. Additionally, researchers point out that game-based learning environments can facilitate deeper understanding and retention of complex subject matter, indicating that students are more likely to retain information learned through interactive and engaging activities [7]. The interactive nature of games in the classroom, combined with realia-based elements, not only encourages students to actively participate and collaborate but also enhances their overall engagement and performance. These findings underscore the importance of integrating game-based strategies into educational settings for more effective and impactful learning experiences. Those games are as follows:

#### A) Snake And Ladder

In this game, realia items like joined mahjong paper sheets will be used, forming a layout of 50 boxes resembling the classic Snake and Ladder game chart. The iconic Snakes and Ladders board elements will also be recreated. To ensure visibility, a large-sized dice will be provided, and upon rolling it, participants will step onto the interconnected mahjong paper and advance. Initially, students will be organized into groups, each tasked with selecting questions from a designated collection. Upon casting the dice, chosen members from the respective groups will position themselves on the mahjong paper, progressing in accordance with the dice's numeric outcome. The mechanics mirror those of the traditional game: players ascend ladders and descend through snake mouths. Concurrently, as group members roll the dice, they must answer the questions they have chosen. Ultimately, the victorious team will be recognized and rewarded for their accomplishments.

This game concept can be effectively aligned with the subject matter being taught. To illustrate, if students have been instructed on the topic of simple past tense, a selection of questions related to this grammatical concept can be crafted and placed within the designated box. Once the dice is rolled, students would retrieve questions from the box. Successfully answering a question would permit them to advance their position on the game board, while an incorrect response would necessitate staying in the same spot. This dynamic encourages students to exert effort and respond accurately to questions to progress in the game. The presence of competing teams moving ahead serves as a motivational factor, driving students to strive for better performance in subsequent rounds. Research has consistently shown that games are not only popular among young children but also resonate with older individuals. This principle applies to tertiary-level students as well; their enthusiasm for engaging in game-based activities is no exception.

#### B) Treasure Hunt

Proceeding to the treasure hunt game, the initial step involves the division of students into groups of no less than three members. Each group will be assigned a distinct color as their identifier. Following this allocation, the students within each group will collaboratively create a set of questions. This process takes place subsequent to an instructor-led lesson, where students are afforded time to revise and structure questions pertinent to the taught subject matter. Once the question development phase concludes, students will undertake the task of hiding the cue cards associated with the designated group color. To illustrate, if Group A is assigned blue and Group B is assigned green, Group A is responsible for formulating questions based on the topic and hiding these query cards for Group B's discovery. This reciprocal arrangement applies to Group B's preparation for Group A.

At this stage, each group is equipped with mahjong paper and adhesive to affix the recovered questions onto their respective sheets. The game's regulations dictate that the first group to successfully address the array of questions in a swift and comprehensive manner emerges as the victor. Their triumph hinges on efficiently tackling the questions and compiling their findings onto the provided mahjong paper. In this interactive game, students are tasked with formulating their own questions, a process that necessitates prior reading and understanding of the relevant topic. This exercise capitalizes on schema theory, wherein students employ their acquired knowledge to craft questions intended for their opposing team. This approach fosters a dual-sided learning experience: first,

students assimilate information as they devise questions for their peers, and second, they engage in active learning by addressing the questions they have formulated.

Consequently, this approach generates two way benefits. Firstly, students' cognitive abilities are amplified as they navigate both the creation and solution aspects of the questions. Constructing queries that necessitate thoughtful responses demands a heightened level of critical thinking. This immersive approach encourages students to delve into their subject matter on a deeper level [8]. Ultimately, this approach kindles motivation among students, propelling them to strive for excellence. Comprehensive engagement with the subject matter—through question formulation, peer interaction, and question answering—fosters a solid understanding that surpasses traditional teaching methods.

**C) Music Chair**

The teachers will create a collection of questions related to the game's topic. The number of chairs arranged in a circle will be determined by the number of students in the class. For instance, if there are 30 students, 29 chairs will be organized in a circular arrangement. Following each song played, the students are tasked with circling the chairs. When the music stops, the students must quickly find a chair and take a seat. They also need to select questions from the provided box and respond correctly if they can't find a seat. A successful response allows them to continue playing, while an incorrect response results in their elimination from the game, along with the removal of one chair.

**D) wheel of fortune**

In this game, participants will utilize polystyrene and colored papers to classify student marks, gifts, as well as positive or negative actions. Players will spin a wheel to determine their outcomes. The teacher will formulate questions based on the academic content. When a student spins the wheel, they must select questions from a designated container.

**E) poison box**

Regarding this game, the teacher will create a compact container specifically for the game's use. The students within the classroom will sit in a circular formation. The teacher will initiate the playing of an audio track, and the students will circulate the container around the circle. Upon the teacher halting the music, the individual holding the container at that instant will proceed to advance and respond to the inquiries presented by the teacher. If the students managed to answer the questions, he/she will continue the game or else will be eliminated.

There are numerous other games that fall under the category of "Realia-based games" and can be utilized for teaching and learning. These games could be utilized to raise student achievement levels and engage them more fully in the learning process. Even when they know the answer, some students are really hesitant and don't want to respond. However, through games, the kids will be able to react without delay and rapidly. Other students who fall into the same group may now have a space to study. They will similarly follow in their friends' footsteps and make progress themselves. Both the students and the teachers could benefit more if this were done. Or, to put it another way, there is mutual gain. both the students and the teachers. With the use of games in the teaching and learning process, both the teachers' teaching evaluation and the students' learning results will be improved.

Realia Based games possess the capacity to serve as highly valuable tools for teaching and learning, primarily due to their ability to enhance student participation and elevate engagement within the classroom setting. This research endeavors to explore the potential of Realia Based games as a teaching methodology by investigating the following research inquiries.

1. Are there any effects of using Realia based games in teaching and learning?
2. What are the students' attitude in using Realia based games in the teaching and learning process?

### III. RESEARCH METHOD

The study's design was chosen to be a quasi-experimental. Both a controlled group and an experimental group were included in the study's design. One hundred undergraduate students took part in the study. The participants were Raffles University students and they were conveniently sampled, with 50 students being placed in the experimental group and 50 being placed in the control group. According to their placement test, the participants are generally all at the same level.

There will be a total of 12 weeks of instruction, and throughout those 12 weeks, the students will have 12 sessions, with the instructor using a Realia-based game in each session to help the students understand the subject matter. Each topic will be addressed in a single session during the entire lesson. After the session is ended, the instructor will set aside 10 minutes for questions from the class to help everyone grasp and get a greater knowledge of the material.

The Realia-based games will be used by the instructor to prepare the game before the lesson begins and after the lesson, which is the teaching process, to make the lesson effective and allow the students to be more interested. The students will then receive a full explanation on how to play the game. Moreover, the students will be introduced to the day's game following the self-study and description period of 10 minutes. The Realia-based games will be used by the teacher to make the lesson more engaging for the students. The steps for playing the

games will then be thoroughly taught to the kids. After the games, applause will be given to each winner.

Both groups will undergo a pre-test assessment, with the control group participating in traditional non-game-based activities, while the experimental group engages in Realia-based game activities throughout the entire semester. At the conclusion of the semester, both groups will undertake an identical post-test assessment to gauge their respective levels of improvement.

The researcher also opted for a semi-structured interview approach in this study. While a set of questions was established beforehand, this method allowed interviewees the flexibility to influence the conversation's direction. These interviews involved direct, face-to-face interactions between a researcher and the participants. The researcher posed predetermined questions [9] to delve into the participants' experiences, internal perspectives, attitudes, level of engagement, motivation, interest, and emotions related to the subject under investigation.

The researchers intentionally chose knowledgeable individuals to gather in-depth insights. Thirty students were purposefully selected for semi-structured interviews at the conclusion of the course. These interviews were scheduled during free periods to ensure a comfortable environment for participants to respond honestly. With participants' consent, audio recordings were taken using smartphones to capture the discussions accurately.

#### IV. FINDINGS AND DISCUSSION

Prior to the instructional sessions for both the control and experimental groups, the researchers conducted pre-test assessments on both cohorts to determine whether the students' performance and outcomes exhibited any semblance. Should similarities exist, any subsequent variations following the interventions would be ascribed to the influences of the treatments. The pre-test comparison between the control and experimental groups is shown in Table 1.

Table 1. Summary of pre-test results of the experimental and the control group.

<i>Pre Test</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Control Group	50	6.83	0.67	0.05	98	0.96
Experimental group	50	6.87	0.65			

A descriptive statistical analysis was conducted to compare the average scores of two groups during the Pre-intervention phase. The objective of the oral proficiency tests was to evaluate students' speaking abilities before and after the intervention. As illustrated in Table 1, the mean score for the control group students was recorded at 6.83 (Standard Deviation = 0.67). Similarly, the mean score for the experimental group in the pre-test stood at 6.87 (Standard Deviation = 0.65). There appeared to be no notable difference between them. The outcome of the independent t-test ( $t = 0.05$ ;  $p = 0.96$ ,  $p > 0.05$ ) demonstrated that there was no statistically significant distinction between the control and experimental groups in the pre-tests. This indicates that the students' speaking proficiency prior to the treatment was equivalent.

*Research Question 1: Are there any effects of using Realia based games in teaching and learning?*

To address this research inquiry, a quantitative methodology was employed to compare the scores of both the control and experimental groups before and after the intervention. The aim was to gather empirical support for the effectiveness of the intervention. To achieve this, a paired sample t-test was conducted to analyze and contrast the average scores from the pre-test and post-test phases within both the control and experimental group.

Table 2: Summary of Pre and Post Test result of Control Group

<i>Control Group</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Pretest	50	6.83	0.67	-0.62	37	0.53
Posttest	50	6.92	0.64			

Table 2 displays a comparison between the pre-test and post-test scores of the control group. On average, each student in the control group exhibited a gain of 6.83 points ( $SD = 0.67$ ) from the pre-test to the post-test. In specific terms, their scores increased to 6.92 ( $SD = 0.64$ ) during the post-test phase. This suggests a marginal improvement in the post-test scores in comparison to the pre-test scores. However, the outcomes of the paired sample t-test (with a p-value greater than 0.05) indicate that there is no statistically significant distinction between the pre-test and post-test scores within the control group. This implies that the students' performance in the control group did not show a noteworthy enhancement after being instructed using the conventional teaching approach. Moving on, Table 3 illustrates the contrast between the pre-test and post-test scores within the experimental group.

Table 3: Summary of Pre and Post Test result of Experimental Group

<i>Experimental Group</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Pretest	50	6.87	0.65	-7.52	35	.00
Posttest	50	8.03	1.02			

It's evident from Table 3 that a comparison was made between the pre- and post-test results of the experimental group. In the pre-test, each student had an average score of 6.87 with a standard deviation of 0.65. However, after the treatment, in the post-test, each student's average score increased to 8.03 with a standard deviation of 1.02. This indicates that, on average, students' scores improved from the pre-test to the post-test.

The improvement in the students' mean scores between the pre-test and post-test suggests that the students performed better after the treatment, which involved using Realia-based games in the teaching and learning process. The results of the paired sample t-test, which showed a significance level of  $p < 0.05$ , indicated that there was a statistically significant difference between the pre- and post-test scores of the experimental group. Because the p-value is below the chosen significance level of 0.05, the null hypothesis (which typically assumes no difference) was rejected.

This rejection of the null hypothesis suggests that the treatment, in this case, the use of Realia-based games in teaching and learning, had a substantial and positive impact on the students' performance. In simpler terms, it implies that the students' performance significantly improved after the treatment was implemented. This finding provides evidence for the effectiveness of using Realia-based games in enhancing students' performance in the educational context.

Table 4: Comparison of the Post test between control group and Experimental Group

<i>Post Test</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Control Group	50	6.92	0.64	-5.81	72	.00
Experimental group	50	8.03	1.02			

Table 4 presents a comparison of post-test results between the control and experimental groups. On closer examination, it becomes clear that the average score for each student in the control group during the post-test was 6.92 (with a standard deviation of 0.64). On the other hand, in the experimental group, where teaching involved the use of games, the average post-test score for each student was 8.03 (with a standard deviation of 1.02).

Upon conducting an independent sample t-test and observing a significance level of  $p < 0.05$ , it was evident that a statistically significant difference existed between the post-test performances of the experimental and control groups. This implies that the improvement in the students' performance in the experimental group was notably greater than that in the control group. As a result, the null hypothesis was rejected. This outcome reinforces the findings of the study, indicating that employing realia-based games in the classroom setting has a considerable impact. These games not only engage students in learning activities but also encourage them to actively participate, thus reducing any reluctance they might have towards classroom involvement. In essence, the study provides further validation for the positive effects of integrating realia-based games into the teaching process.

In summary, the initial research question aimed to investigate the impact of realia-based games on the academic performance of tertiary education students. The study's results revealed that prior to the implementation of the intervention, there were no notable distinctions in the academic performances between the control and experimental groups. However, following the integration of realia-based games into the classroom, which facilitated student engagement in learning activities and language practice, the experimental group experienced significant improvement. Conversely, the control group, which followed conventional language learning methods, did not exhibit statistically significant enhancement. As a result, the study concluded that the utilization of games had a positive influence on both students' academic achievements and their active involvement within the classroom.

Research Question 2: What is the students' attitude in using Realia based games in the teaching and learning process?

The qualitative analysis identified four primary themes concerning the integration of Realia-based games into the teaching and learning process: engagement, motivation, effectiveness, and interest in the subject matter. Respondents conveyed that the incorporation of Realia-based games within the classroom setting heightened their sense of involvement, fostering an active connection with the material and eliminating any feelings of passivity or exclusion during lessons. Additionally, participants expressed that the utilization of Realia-based games acted as a catalyst for increased motivation to learn and encouraged them to delve deeper into the subject matter to expand their understanding.

Furthermore, participants highlighted the efficacy of Realia-based games in enhancing the overall effectiveness of the learning experience. These games were perceived as impactful tools that added value to the educational process. Lastly, it was noted that these games generated a heightened interest in the subject matter itself. As a result, students found themselves more eager to engage with the content and were more inclined to actively participate, willingly offering responses to posed questions. In essence, the themes derived from the qualitative analysis underscore how the incorporation of Realia-based games positively influences various aspects of the learning environment, including engagement, motivation, effectiveness, and fostering an increased interest in the subject matter.

#### A. Engagement

The use of reality-based games in the classroom was assessed using the qualitative data gathered from the interview sessions with thirty students, and many students praised the way the games utilized and eliminated their passivity [10]. One participant claimed, "I would say Realia based games has totally changed my attitude where I'm no longer a passive person in the class" Another participant said, "I feel more engaged in the classroom when games are used because I can truly speak up and everyone will get the chance to share their opinions. Other students concurred, saying, "I can tell there is no gap between me and the other students as well as the teacher."

Based on the responses provided by the respondents, it can be stated that Realia-based games help students learn more effectively and can really increase their level of involvement, which may help them improve their confidence in the learning process too [11].

#### B. Motivation

Realia-based games could truly aid students in improving their performance and revealing their latent talents. This is due to the fact that when a game is being played, the students themselves will be more active and respond to the questions asked in order to conquer the hurdles. Actually, their level of motivation is largely tied to this. The kids who participate in these types of activities will feel driven because they have been declared the winner and they are challenging their classmates to provide better answers. One of the students remarked, "I feel more motivated to study more and want to win again and again when I see that I could overcome and beat my friends to answer the questions posed during the game period." "I appreciate when the teacher uses Realia-based activities because they make the class more enjoyable and inspire me to learn more" said another student. Another student added, "I feel more driven when Realia-based activities are used in the classroom because I can overcome my reluctance to speak up. I must comply in order to preserve my group's grade. It helps our team members collaborate more effectively in some ways." By examining the responses provided by the students, it is evident that Realia-based games have the potential to increase student motivation. This is due to the fact that Realia-based games make use of the enjoyable games we played as children and Realia games that are applicable to daily life. The students could actually perform better in the classroom and on their academics by using these games. [12]

#### C. Effectiveness

Overall, the qualitative results indicated that employing Realia-based games in the teaching and learning process was a successful teaching strategy for undergraduate students. Due to the fact that they no longer feel afraid and hesitate to speak when requested to engage in the classroom activities, participants reported improvements in both their academic achievement and their presentation skills. "I could see progress in me where I'm able to answer the questions posed compared to before," the participant stated. Another student added, "Realia-based games actually enable me to reinforce learning as well as I got the response of my answer right away. When I received the response in that manner, it helped me to remember it for a lot longer. Another student agreed, saying, "Playing games in class genuinely helps me use everything I learnt and use it without hesitation and remember it quickly"

#### D. Interest in the subject matter

Realia-based games actually instill a sense of competition among the players, which motivates them to strive for victory. [13] The students will attempt to win the game if they already have it fixed in their minds that they must win. Additionally, when students succeed in the games, they feel accomplished, which can spur them on to keep winning. One of the students said, "Winning makes me feel satisfied, which motivates me to study more." Another student adds, "I could claim that when the instructor started using games in the classroom, my character changed and I started studying more than before. This is yet another reason why I'm hoping for applause" This can be said when students begin to study and exhibit changes. This shift in behavior may be caused by the production of the hormone cortisol [14].

## V. CONCLUSION

In conclusion, the conclusions from the qualitative data are in favor of using Realia-based games in undergraduate students' teaching and learning processes. The evidence suggests that Realia-based games can be an effective and interesting teaching strategy, but educators must be aware of any potential obstacles and make sure that Realia-based games can be used with students of all academic levels and in a variety of game genres.

Due to their advantages and captivating nature, reality-based games can be used as a teaching and learning tool without any reluctance. The use of reality-based games by educators can actually raise the degree of engagement, motivate students more, boost student participation, and foster a sense of community among the students.

## REFERENCES

- [1] Wurdinger, S. D., & Bezon, J. L. (2009). Teaching practices that promote student learning: Five experiential approaches. *Journal of Teaching and Learning*, 6(1).
- [2] Perifanou, M. A. (2009). Language micro-gaming: Fun and informal microblogging activities for language learning. In *Best Practices for the Knowledge Society. Knowledge, Learning, Development and Technology for All: Second World Summit on the Knowledge Society, WSKS 2009, Chania, Crete, Greece, September 16-18, 2009. Proceedings 2* (pp. 1-14). Springer Berlin Heidelberg.
- [3] Martinson, B. E., & Chu, S. (2008). Impact of learning style on achievement when using course content delivered via a game-based learning object. In *Handbook of research on effective electronic gaming in education*. IGI Global.
- [4] Dickey, E. (2007). *Ancient Greek Scholarship: A Guide to Finding, Reading, and Understanding Scholia, Commentaries, Lexica, and Grammatical Treatises: From Their Beginnings to the Byzantine Period* (No. 7). Society for Classical Studies.
- [5] Blumberg, F. C., & Brooks, P. J. (Eds.). (2017). *Cognitive development in digital contexts*. Academic Press.
- [6] Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. New York: Palgrave/St. Martin's.
- [7] Squire, K. (2005). Changing the game: What happens when video games enter the classroom?. *Innovate: Journal of online education*, 1(6).
- [8] Luna Scott, C. (2015). The Futures of Learning 3: What kind of pedagogies for the 21st century?
- [9] Punch, K. F. (2013). *Introduction to social research: Quantitative and qualitative approaches*. sage.
- [10] Johnson, G. B. (2013). *Student perceptions of the flipped classroom* (Doctoral dissertation, University of British Columbia).
- [11] Nugroho, M. (2010). The use of realia in teaching speaking (an experiment study at the first year of senior high school PGRI 3 Jakarta).
- [12] Matas, C. P., & Natolo, M. (2011). Love Grammar: Student-driven Grammar Learning Games. *International Journal Of Learning*, 17(10).
- [13] Kapp, K. M. (2012). *The gamification of learning and instruction: game-based methods and strategies for training and education*. John Wiley & Sons.
- [14] Kamin, H. S., & Kertes, D. A. (2017). Cortisol and DHEA in development and psychopathology. *Hormones and behavior*, 89, 69-85.

## AUTHOR'S PROFILE



**Dr. Logenthini Mariappan** has more than ten years of academic experience in tertiary education institutions. Dr. Logen holds a Ph.D. in Education (TESL), a Master of Education (TESL), and a Bachelor of Education (TESL). Dr. Logen has produced journal articles and proceedings from her research on teaching and learning. She is currently working on a book to support students' learning processes as well as journal articles that fit the craze for knowledge accumulation. Dr. Logen is a certified trainer under Human Resources Development Fund Malaysia. She has led numerous management and teaching staff training. Her research interests include TESL, Teacher Professional Development, ESL Curriculum and Instruction, and Technology in Language Learning and Linguistics