

Playing an Interactive Preposition Game to Improve the Usage of Preposition of Place Among Grade 4 Students

Sultan^{1*}, Ray Suryadi²

¹ Universitas Sembilanbelas November Kolaka, Indonesia

Universitas Sembilanbelas November Kolaka, Indonesia

Corresponding Author: Ray Suryadi, E-mail: ray_suryadi@yahoo.com

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ABSTRACT

The purpose of this research was to enhance students' grasp of grammar, focusing particularly on prepositions of place, by utilizing the Interactive Preposition Game (IPG) as a method for teaching and learning. The study involved fourth-grade students from an elementary school as participants, with the researcher who carried out the action research in the classroom also serving as the teacher. The intervention cycle was executed a single time. The gathered information consisted of test, along with interviews and the teacher's reflective journal. The data revealed progress, as evidenced by a rise in average scores from the second test (25%) to the first test (82%). Furthermore, it was discovered that the Interactive Preposition Game (IPG) was able to improve students' comprehension, motivation, and foster an enjoyable learning atmosphere within the classroom. The study's outcomes revealed that the students exhibited favorable behaviors and reactions when the Interactive Preposition Game (IPG) was employed as a tool for learning grammar.

1. INTRODUCTION

Grammar has always been considered as an essential substance in teaching English especially in English as a second language (ESL) environment such as in Malaysia (Mukundan & Norwati, 2009). Prepositions can be perceived as one of the difficult topics to be mastered by the second language learners. According to Morenberg (2007), prepositions are always considered as the most crucial elements in teaching English particularly in the teaching of speaking and writing skills.

Prepositions are very confusing and sometimes hardly understandable even for native speakers, and when it comes to learners of English as a Second Language (ESL), the problem is bigger, because they have to understand all the nuances of the English prepositions, to memorize them and to properly use them. Despite these challenges, prepositions are hardly addressed in the current teaching methods. Teachers often find prepositions hard to teach. Sometimes when they want to explain a preposition they use one or two other prepositions to give the definition. Many English course books have just a general overview of prepositions and do not provide specific rules on their usage. So most of the time important aspects of the acquisition of prepositions are not mentioned at all, such as when a certain preposition has more than one meaning depending on the context it is used in.

Based on researcher teaching experience, he had taught English language for Year 4 students at a primary school in a rural area and most of them had low proficiency in the subject. During the teaching and learning process, he discovered that most students were unable to grasp the concept of preposition of place correctly and this lowered their interest in learning grammar. The problem with preposition is normal among non-native speakers

as it portrays so many meanings and different contexts are dependent on the situation of the sentence or speaker (Lindstromberg, 2011). For an instance, when the students were taught about preposition of place, almost the whole class could not describe and understand some prepositions such as 'below', 'above', and 'between' they still forgot about the meaning of the words, even after several explanations. Most of the exercises they did contained numerous errors and some did the exercise only for the sake of completing their work on time.

This made it hard for the students to really understand the basic meaning of the preposition words as it may confuse them during their process of learning the grammar concept. Moreover, students were tend to misuse the prepositions because the structure of sentences in their native language are different from English.

Tetreault and Chodorow (2008) also supported that the errors which deal with prepositions are the most common among English as a Second Language (ESL) learners. They explained that the non-native speakers will have difficult time to master the in-depth meaning of preposition. Based on my practicum, the researcher definitely agree with the statement as it happened in my own classroom when students could not use preposition the way it is supposed to be used, not just during grammar lesson, they also could not do well in writing lessons. For an example, during writing lessons such as guided writing, most students in the classroom could not connect some words provided using the accurate preposition, making their sentence meaningless or totally out of context. Thus, teacher should emphasise more on teaching preposition so that students can improve their grammar as well as their writing

The researcher decided to use Interactive Preposition Game (IPG) as a strategy for intervention aimed at improving students' understanding of prepositions of place. These students required assistance not only to enhance their grammar skills but also to elevate their enthusiasm for learning grammar in an enjoyable manner. Therefore, the following research questions were formulated in order to meet the research objectives.

1. How does the Interactive Preposition Game help Year 4 students to improve their learning of preposition of place?
2. How does the Interactive Preposition Game help me to improve my teaching practices in grammar teaching?

2. LITERATURE REVIEW

2.1 Technology in Teaching and Learning

The undeniable positive influence of Information and Communication Technology (ICT) in the process of teaching and learning is evident. Employing technology in the classroom has a beneficial impact on students' approach to learning and renders the learning experience enjoyable. Creating an enjoyable and stimulating learning environment holds significance, as noted by Krashen (1982), who pointed out that when a learning scenario maintains a low affective filter, it reduces learners' apprehension and enhances their sense of ease. According to Rabah (2015), ICT stands as a potent instrument for enriching the learning process, as research has demonstrated heightened student engagement and motivation when ICT is woven into the instructional process within the classroom. Integrating technology can also be included within English lessons to elevate students' learning. Bahous, Bacha & Nabhani (2011) highlighted that learners will undoubtedly find encouragement and motivation to

engage with the target language when innovative technological tools are integrated into the language classroom.

In this study, the researcher opted for the utilization of IPG as a technological instrument for the intervention due to its potential to captivate students and stimulate their interest in grammar through the incorporation of technology in language education within the classroom. Furthermore, employing IPG for grammar learning aligns with the demands of the swiftly globalizing 21st-century education, as it falls in line with the significance of ICT in this context.

2.2 Cognitive Theory of Multimedia Learning

This research also adopts Mayers' (2009) cognitive theory of multimedia learning. In line with this theory, learners engage in more profound learning and strive to establish significant associations between text and visuals compared to relying solely on text. This phenomenon is attributed to the fact that multimedia aligns with the natural learning processes of the human brain (Sorden, 2012). The acquisition of knowledge is enhanced when a blend of textual and visual elements is employed, rather than relying exclusively on text. It's important to note that the textual component can encompass both spoken and written language, while visuals can encompass a wide range of graphical representations, such as illustrations, photographs, animations, or videos.

Parveen & Rajesh (2011) conducted research aimed at assessing the impact of multimedia on English instruction. A pre-test and post-test was employed to assess the practical results derived from integrating multimedia tools into English teaching. The findings indicated a remarkable 32% enhancement in student scores subsequent to multimedia tool implementation. This substantial score increase substantiates the notion that interactive multimedia holds significant efficacy in English education. Another investigation conducted by Ranjit (2011) also disclosed the effectiveness of multimedia in teaching grammar, as evidenced by the higher mean scores of the experimental group (utilizing multimedia) compared to the control group (employing traditional instructional methods). Consequently, it can be inferred that utilizing interactive multimedia for teaching prepositions of place could potentially enhance students' ability to accurately differentiate between the various uses of such prepositions.

From all the explanations above, the researcher concludes that the integration of Information and Communication Technology (ICT) in teaching and learning processes, particularly in the context of language education, has been shown to have a positive impact. This is evidenced by increased student engagement, motivation, and overall attitude towards learning. By incorporating technology, such as the Interactive Preposition Game (IPG), educators aim to create a more enjoyable and less anxiety-inducing learning environment. This approach aligns with Krashen's theory that a low affective filter enhances learning outcomes.

Furthermore, the adoption of Mayer's cognitive theory of multimedia learning reinforces the effectiveness of combining words and graphics in the learning process. Studies indicate that learners are more likely to deeply understand and retain information when presented with a combination of visual and textual elements. For instance, research on multimedia tools in teaching English, like the IPG, has consistently shown significant improvement in

students' scores and comprehension levels. This approach is particularly beneficial for teaching complex concepts like grammar, as demonstrated by Ranjit's research on multimedia-assisted grammar learning.

In conclusion, the use of technology, such as the Interactive Preposition Game, in language education, aligns with established cognitive theories and research findings. It enhances student engagement, motivation, and understanding by combining multimedia elements to create a more conducive and effective learning environment. Thus, incorporating technology in teaching grammar, as demonstrated in this research, can lead to improved learning outcomes and a better grasp of language concepts.

3. METHODOLOGY

3.1 Research Design

In this research, the researcher opted for the action research model by Kemmis & McTaggart (1988). Within this model, a sequence of four fundamental stages constitutes an action research cycle: planning, implementing, observing, and reflecting.

3.2 Research Participants

Parveen & Rajesh (2011) conducted research aimed at assessing the impact of multimedia on English instruction. A pre-test and post-test framework was employed to assess the practical results derived from integrating multimedia tools into English teaching. The findings indicated a remarkable 32% enhancement in student scores subsequent to multimedia tool implementation. This substantial score increase substantiates the notion that interactive multimedia holds significant efficacy in English education. Another investigation conducted by Ranjit (2011) also disclosed the effectiveness of multimedia in teaching grammar, as evidenced by the higher mean scores of the experimental group (utilizing multimedia) compared to the control group (employing traditional instructional methods). Consequently, it can be inferred that utilizing interactive multimedia for teaching prepositions of place could potentially enhance students' ability to accurately differentiate between the various uses of such prepositions.

3.3 Technique of Data Collection

Figure 1 shows the flow chart of the four stages of implementation process the researcher had carried out for this action research. During the planning stage, the researcher planned to help the students of grade 4 on the topic preposition of place after identifying their problem during his last teaching and learning process. Thus, to prove that the students were weak on the particular topic, the researcher carried out a diagnostic test focusing on preposition, mainly the preposition of time and preposition of place. Evidently, the students were very poor in the preposition of place. Based on the test result, it was clear that the students did not understand how to use the preposition even though they had learned them during Year 3. To further understand the situation of the students, the researcher interviewed their English teacher to identify their level of proficiency, behavior in classroom and learning styles. Following the interview, the researcher came up with a suitable

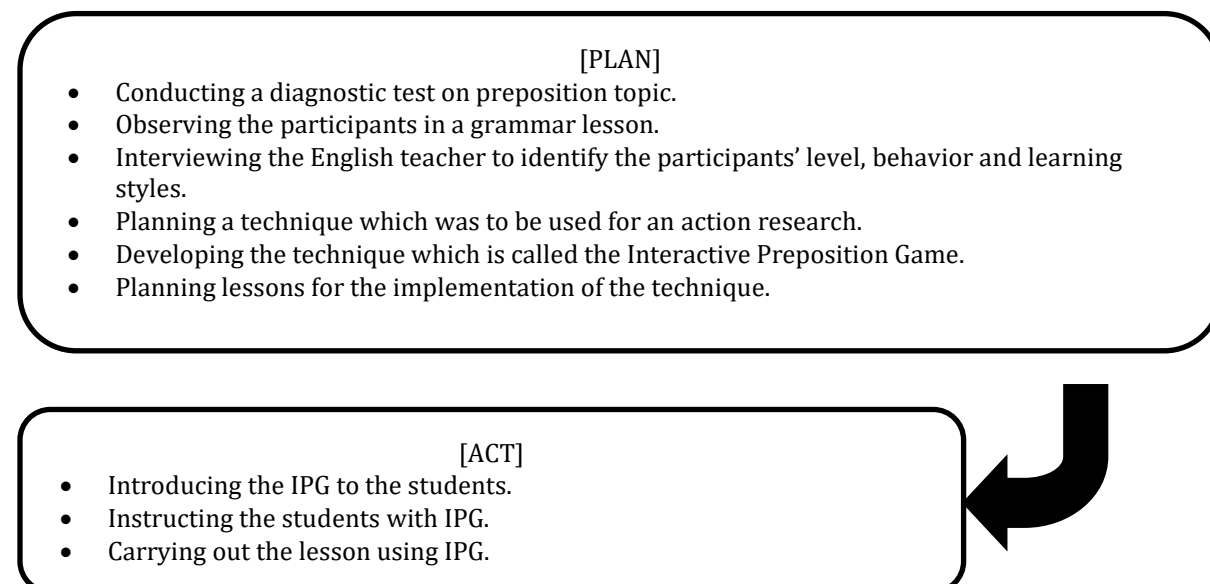
technique which was IPG to suit their learning of grammar. Afterwards, the researcher planned several lesson plans according to implement the technique in the classroom.

During the action stage, the researcher introduced IPG to the students. This strategy was used to explain the meaning for preposition of place with pictures followed by sentences to make the students more understand on its usage. Then, the researcher showed them that there were several activities that could be done. The questions provided in IPG were guided by pictures so that they could easily remember the meaning for every preposition mentioned. After they understood the usage of the preposition, the students were given the chance to practice their skills with IPG. They also had the chance to collaborate with their peers through group and pair work activities during the lesson.

The action stage took place for about three weeks where the introductions was done for a week while two weeks for the implementation of action. the researcher included different prepositions of place for each lesson. The activities also changed from group work to pair work to individual work in order to make sure all of them were responsible towards the knowledge that they had gained. On the final week, the researcher conducted another test, which was the post-test. It was to check on the improvement of students' understanding on the topic preposition of place after the implementation of IPG.

For the observation stage, the researcher wrote his reflective journal to keep track on the students' progress after each session. Recorded the effectiveness of the instructional strategies, students' behaviour towards the lesson and their progress in understanding the topic. As mentioned by Cimer, Cimer & Vekli (2013), reflection is vital for teachers and it leads to the professional development and growth of teachers.

On the reflection stage, the researcher reflected based on the data that had been collected throughout the implementation during action and observation stages. Figure 1 below illustrates the steps of intervention the researcher had taken.



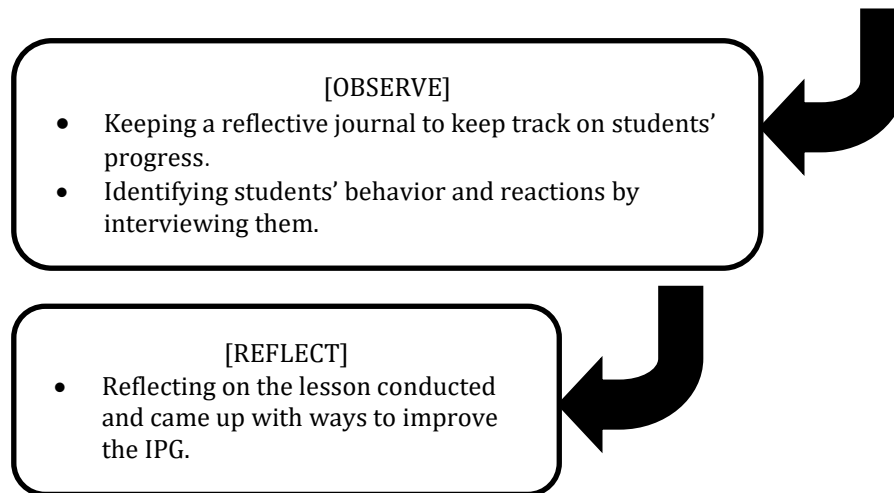


Figure 1. Stages of Action

3.4. Instruments

In this research, the researcher employed a combination of three data collection techniques to enhance the precision and reliability of the outcomes through the application of triangulation. Triangulation, as a method, involves cross-referencing evidence derived from diverse individuals, various data types, or distinct data collection approaches, ultimately enhancing the research's accuracy by drawing insights from multiple origins (Creswell, 2012). The three distinct approaches for collecting data employed by the researcher encompassed assessments, the reflective journal of the teacher, and interviews..

4. RESULTS AND DISCUSSION

A. RESULT

(a) Test

Table 1 and Figure 2 show the results for Test 1 and Test 2. According to Table 1, there were three participants that only scored 10% which was the lowest marks among other participants. Two participants (A5 and A7) had scored 20% for test 1 while participants A3, A4 and A6 had managed to score 30% in the test. Participant A1 were able to score 40% while participant A2 scored 50% which was the highest marks for Test 1. However, all of the participants managed to show improvement by the end of the implementation as their differences of marks between Test 1 and test 2 showed positive growth. Participant A7 has shown a huge improvement climbing from 20% for Test 1 to 90% for the Test 2. This shows that the participant had the highest difference made which was 70%. As for other participants, they managed to improve with an increase of 50% and 60% from Test 1 to Test 2.

Table 1. Comparisons of the Results of Test 1 and Test 2

Research Participants	Test 1 (%)	Test 2 (%)	Difference (%)
A1	40	100	60
A2	50	100	50
A3	30	80	50
A4	30	90	60
A5	20	80	60
A6	30	80	50
A7	20	90	70
A8	10	70	60
A9	10	70	60
A10	10	60	50

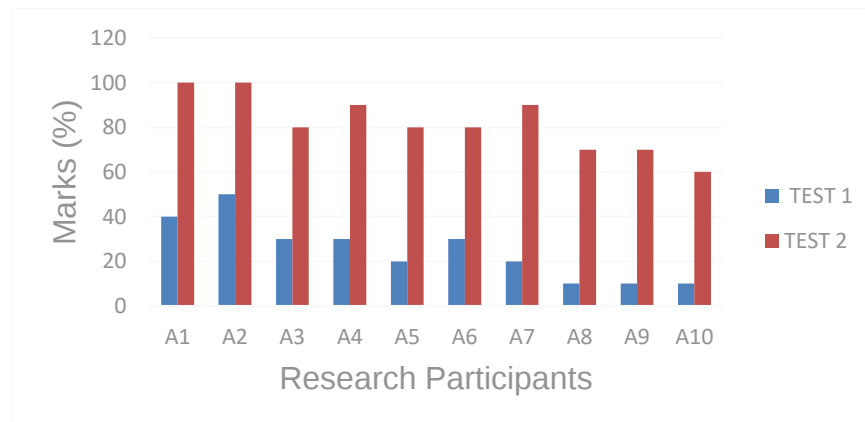


Figure 2. Results of Test 1 and Test 2

In Table 2 and Figure 3, it can be seen that the mean for Test 1 was 25% while the mean for Test 2 is 82%. This shows there were improvements of the marks gained by the research participants from both tests conducted. According to Creswell (2012), standard deviation is important as it functions as the indicator to show the dispersion of scores. Without standard deviation, it is hard to compare the data effectively (Rumsey, 2016). Table 4 shows the difference of the standard deviation was low, which was 13.5 for Test 1 and 13.2 for Test 2 indicating that the dispersion of marks were not too far away among the participants and also proved the validity of the tests conducted.

Table 2. Mean and Standard Deviation of Test 1 and Test 2

	Test 1	Test 2
Mean	25	82
Standard Deviation	13.5	13.2

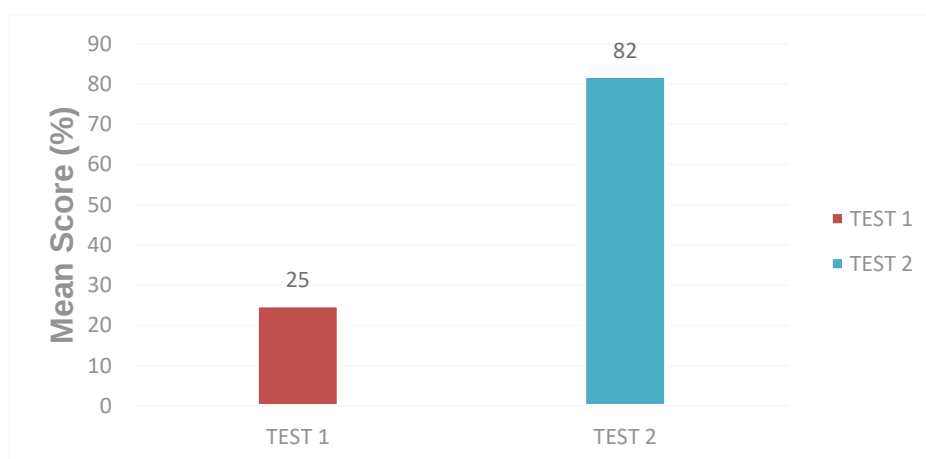


Figure 3. Mean Score of Test 1 and Test 2

(b) Interview

There were three themes that emerged from the interview. They were interest, understanding and participation. The first question of the interview was asking the participants about what they thought about the strategy of IPG. All of the participants gave positive response towards it. This shows that they were very interested about the strategy. Participants A3 and A4 stated that they loved IPG because of the interesting games which made them like to learn the preposition of place. Participant A5 said that the pictures provided made the lesson more fun and easy to understand without feeling threaten by the topic. Therefore, all participants were interested in using IPG.

Second question was about their understanding about preposition of place by learning using the IPG. Participant A1 noted that the IPG helped him to understand how to use the preposition of place when making sentences while participant A3 stated that the pictures provided in the game made him understand better about the preposition of place instead of by doing activities with worksheets. Participant A4 said that she had the problem with the words 'below' and 'above' and always swapped meaning between the two words. Also participant A5 said that explanation and animation shown in IPG made helped her remember easily. Thus, the participants had improved their understanding by using IPG.

The third question asked about participants' participation during lesson using IPG. From their answers, they clearly loved to participate in the lesson that included IPG. This was because they became very active in the lesson by asking questions, helping others and working cooperatively in groups when playing the game. They were motivated to learn when using IPG hence giving active participation during lesson.

(c) Teacher's Reflective Journal

From the reflective journals, the themes emerged were participation, motivation and co-operation. The researcher observed that the research participants were very active in participating during the lesson which included IPG. All of the participants were actively involved during the activities which helped them to understand the concept of preposition of place when compared to previous lesson that did not involve ICT in lessons especially grammar. The researcher could also see some improvements on the participants' behavior during the lesson where they became very attentive towards the instructions that the researcher gave during interventions.

Other than that, the participants were always very motivated when doing the activities. This could closely related to the ICT tools that was used for the intervention and the game which catered for their learning style. Their motivation was shown when they were determined to finish the tasks given on time and by asking more questions. Also, their motivation was shown when they had competition among them as they worked in groups and pairs in order to win the game.

The researcher could also see collaboration among the research participants during the activities. Their collaboration also showed they were able to work as a team and were organized to finish the work given. They assigned themselves different tasks so that they could finish all the tasks given on time.

B. DISCUSSION

This section would discuss how the Interactive Preposition Game answered the two following research questions.

Research Question 1

How does the Interactive Preposition Game help Year 4 students to improve their learning of preposition of place?

Based on the results of in the tests, the use of Interactive Preposition Game was able to help the students in improving their understanding of the preposition of place. From the results of the Test 1 and Test 2, there were improvements in the research participants' marks. All of them managed to show improvement as their Test 2 results increased from Test 1. A drastic improvement was shown by participant A7 as her result for Test 2 was 90% compared to Test 1 which was only 20%. There was 70% of difference between the two tests. The mean score also increased from 25% in Test 1 to 82% in Test 2. This indicates that the use of IPG did help the research participants to improve their usage of preposition of place. This is supported by Mayer (2009) who asserted that learners learn more effectively when multimedia-mediated content is incorporated into the learning environment compared to information which is presented only through a single medium.

Furthermore, the researcher also interviewed the students to know more about their opinions of using IPG. The research participants responded positively in the interview. A majority of them could not understand the preposition of place at first but after the implementation of IPG they showed understanding towards the lesson. They agreed the fun elements provided in the game had helped them so much in learning preposition of place and the pictures helped them understand the meanings of the prepositions easily. Other than

that, the participants responded that they were very interested in learning grammar because of IPG. This caused the participants to become more motivated to participate in the lessons using IPG which eventually helped them understand and remember about the preposition of place. As supported by Mayers' (2005) cognitive theory of multimedia learning, learners learn more deeply and attempt to build meaningful connections between words and graphics than from words alone. Rabah (2015) also supports the use of ICT is a powerful tool for enhancing the learning process as studies revealed that higher engagement levels and higher motivation levels in students were observed when ICT was integrated in the teaching and learning process in the classroom.

Research Question 2

How does the Interactive Preposition Game help me to improve my teaching practices in grammar teaching?

Appropriate and engaging strategies have played a big role to help students in improving their learning problems in the classroom. That is why teachers need to come up with a strategy that could help them to improve their teaching practice. According to Mills (2014), teacher's journals are an on-going attempt by teachers to systematically reflect on their practice by constructing a narrative that honor the unique and powerful voice of the teacher's language. So, to answer the second research question, The researcher had used teacher's reflective journal.

The themes emerged from the reflective journals were participation, motivation and co-operation. The researcher saw the increase of participation among students during activities. With the help of the Interactive Preposition Game, the researcher noticed the change of behaviors of the students. Some of the students were considered disruptive by the teacher but these students became very interested and gave good co-operation during the intervention.

Also, the researcher found that the research participants were motivated to learn and they were able to answer the questions on preposition of place with the help of the Interactive Preposition Game. Students became more curious in the topic and some of them were able to answer questions that led them to know beyond the topic that they had learned.

Furthermore, the researcher saw that the cooperation among the students was better than before as they were able to work as a team during activities. The game made them eager to win and they had to work together effectively in order to win the game. All these positive results clearly showed me that the Interactive Preposition Game could help the teachers to improve their teaching practice by using strategies that are engaging and appropriate for their students.

5. CONCLUSION

In conclusion, the use of IPG is very useful for students in learning preposition of place. Students are more active, eager to learn as it engages a fun learning in a classroom. This study is on the use of interactive multimedia in learning grammar focusing on preposition of place. In this 21st century learning, it is high time for teachers to realize the full potential of multimedia learning and incorporate them in their teaching and learning sessions. Therefore, based on the analysis and findings presented, there are two suggestions that the researcher would like to propose in order to enhance and sustain students' learning.

The suggestion is to modify the Interactive Preposition Game to be more sophisticated and include more functions by the teacher for the students to use. Instead of using simple software such as Microsoft Powerpoint, the tool can be designed by using other complex and detailed software such as Scratch, Unreal Engine, Unity 3D and much more that can easily be accessed from the internet. There are many features that can be made possible in the tool such as 'drag and drop' or the help Artificial Intelligence that can act as an assistant for the teachers who do not know how to use simple software.

Next, the researcher would like to propose for the next researchers to use the Interactive Preposition Game by including other grammar components such as adverbs, adjectives and nouns. An advantage of this interactive game is that it is versatile, in which it can be reused to teach and learn other grammar components. Thus, it saves the teachers from all the trouble as they can just reuse the available templates to teach other grammar items by simply changing the content.

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