# Improving Students Motivation and Engagement Through a Competitive Trivia Game

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## Abstract

*English becoming an international language has made it became a worldwide necessity to teach and learn English. One of the most important skill is speaking and in this study the author has discovered the problem that students do not participate in class enough in which they do not speak English much and resulted in a mediocre speaking skill. A solution was proposed which is game-based learning (GBL) and specifically a competitive style game-based learning. Multiple studies has suggested that GBL has a strong impact on students motivation and engagement in class and also suggested that having competition can also further motivate and increase their cognitive skills in a learning environment. Multiple GBL research has taken place but it is a rare occurrence for combining competition into the fray and observing the effects for this multiple treatment. The findings suggested that both GBL and competition does indeed have a positive impact towards the participant's motivation and engagement. A Classroom Action Research (CAR) research design was used in this study following up with a mixed method design afterwards. The results of the pre-test and post-test confirms to have an improvement on their scores and the results of the questionnaire and interview has also confirmed that the participants does feels more motivated and engaged than usual.*

## Keywords:

Game-Based Learning, Competition, Motivation, Engagement

## Introduction

The English language becoming an international language has begun a worldwide necessity to teach and learn the language from all around the world (Sadullayeva, 2021). English plays a major role in many sectors in life such as engineering, medicine, education, business and so on. As a result, it has been quite important for English to be taught around the world as mostly a second language.

One of which is the important skills to be taught is speaking skills. In the present global world, communication plays a vital role in getting success in all fields (Parupalli, 2019). And in such, speaking is deemed to be the most vital part of learning a second language. Among the other skills to be learned in language acquisition, speaking skill is also one of the hardest skills to acquire because to formulate a sentence in a spur of the moment is a difficult task for many people, and this is where most learners have a hard time.

The author has found a problem regarding the students speaking skill. While most students has great competence in English theory, they are yet still struggle with English fluency speaking skill or even barely are able to speak English at all. From a basic observation in the class, it has shown that the students rarely participate in the lesson session. The students with the higher theory marks are able to speak English at a basic level but aren't able to hold a conversation as they said that it is too fast for them and they need time to think about the vocabulary and grammar. Speaking problems are the most common problems for a student to have. Studies conducted by (Samira, 2014) and (Sayuri, 2016) has shown that students has problems with fluency, pronunciation, and inhibition. Another

problem found by a previous study (Lai-Mei Leong & Seyedeh Masoumeh Ahmadi, 2017) has also found factors to the problem such as the students low-esteem and higher anxiety.

To solve this issue, the author had proposed a solution, which is GBL (Game-based learning). The strategy used in this research to counter the problem would be a Gamification and game-based learning (GBL) to promote the fun in learning while improving the student's motivation and engagement in an English study environment (Zaki, L. B. 2022). The main purpose of this strategy is to improve the students English speaking skills in terms of pronunciation, fluency and vocabulary. GBL is considered effective because of its affordance on digital social interaction (Zhao et. al., 2022), an improvement in students' efficacy (Lacka et. al., 2021), and acceleration of various English skills (Amorim et al., 2022; Zhonggen, 2018). GBL refers to games for learning whose aim is to create a fun and supportive atmosphere that can enhance student learning (Klimova, 2015). GBL is needed to reduce boredom (Hamid et al., 2020) and besides, GBL increases meaningful interaction between teachers and students or among students (Madland & Richards, 2016). Previous studies of GBL applications has already been conducted such as (Asih, R. A., & Halisiana, H. T., 2022) used a trivia game show from a TV series and it has proven to enhance students understandings and motivation.

## Literature Review
### The Correlation Between Behavioral Engagement and Speaking Skill

A study conducted by (Delis Meta, Retno, 2022) has an objective of finding whether there are any correlation between students behavioral engagement and speaking skill. The students behavioral engagement refers to the students participation in academic activities and efforts to perform academic classes. The result of the study was that there are indeed positive and significant correlation between behavioral engagement and speaking skill. Based on theories, students who are behaviorally engaged would typically follow the usual rules of classrooms and presents an absence of any negative actions such as disruptive or negative behavior. They would respond positively to classrooms activities such as solving task related problems and actively participating in relevant discussion.

Students who actively participates in classroom activities therefore have good language skills and especially speaking skills. On the other hand, the students who are more withdrawn, passive and lacking confidence usually are facing a lot more difficulties in speaking because they are not participating in classroom activities such as speaking with their own peers and teachers (Isgandi, Y., & Prasodjo, P. 2018)..

### The Effectiveness of Game-Based Learning on Motivation and Engagement

Multiple studies has confirmed that digital education games can be a very effective tool to teach and impart knowledge to students. Researchers have recommended to focus on motivation, gaming load and their interaction when investigating learning process and success. Gaming expertise and the English proficiency learners are also important aspects in learning success, especially non-native speakers who play English language games. However, knowledge about the cognitive impact of games and motivational aspect of learners needs to be clarified further and that is where the study conducted by (Klaus and Silke, 2019) comes in as their main objective of study is to investigate the effects of game play and expertise in gaming and English on motivation, cognitive load, and performance.

The result of the study about motivation was that educational games have a high potential to motivate. The present study showed differentiated knowledge about motivational conditions of learners even before starting to learn. Students were more interested, experienced a higher level of challenge, had more anxiety of failure, and a tendency to report a lower likelihood of succeeding than students in the hypertext condition (Pratiwi, T. L. 2020)..

### The Effects of Competition in A Learning Environment

Competition is a factor that is commonly known to boost the motivation of people. The most recent study conducted by (Le Bouc and Pessiglione, 2013) has proven that having a presence of a rival or competitor can increase the physical effort over both parties. A study by (DiMenichi Brynne C., Tricomi Elizabeth, 2015) has also Jackson, and Leil Badrah Zakti

experimented with the multiple effects of competition such as social motivation, attention, physical effort and learning. The study revealed that social motivation, specifically a competition can have a strong effect on attention and memory. The findings presents a strong implication for various situations such as a work place or in a learning environment.

## Research Methods

A mixed-method design will be used in this research, which means that it contains two distinct phases that is quantitative followed by qualitative (Creswell et al. 2003). The main problem to improve on is the student's motivation and engagement in class. By improving their engagement, it also means that the students are more willing to speak English (Delis Meta, Retno, 2022). The proposed solution to this problem would be a game-based learning or a more specific game to be used would be a competitive game because in a study conducted by (Nergiz, Erol, Nese, 2015) has proven that by creating a serious competition environment, the motivation and post-test scores of the students are increased significantly.

## Participants and Procedure

This implementation of GBL will be conducted in a Sekolah Harapan Utama class with a total participant of 77 students from grade 9. The students partake in a class that uses English as a medium instruction.

Firstly, the author requested the permission of conducting the action research from the head of expatriate office and also the coordinating teacher. Then the author explains the plan with the coordinating teacher to get any feedback for the plan. The schedule was also carefully planned with the coordinating teacher to avoid any complications since around the time of implementation, it is a common case for the students to be permissioned from class for a necessary event. With also preparing the necessary materials for the lesson, it was then ready for the implementation to be taken into action.

The implementation procedure is divided into 2 parts which is the first part being the traditional book teaching only and the second part being adding a sense of game and competitiveness in a learning environment. Both sessions will have a test at the end of each session in which the data will be collected and reviewed with a scoring rubric while also will be compared side to side by a graph.

## Instruments

After the implementation, it is also important to collect data about the students whether they actually feel more motivated from learning in a GBL based learning environment. A short survey distribution and interview will be conducted to find out whether the implementation does indeed have a positive impact.

The questionnaire is in English language with a design following a 5 point Likert scale items (1 - Strongly disagree, 2 - Disagree, 3 - Neutral, 4 - Agree, 5 - Strongly Agree). The participants were asked to respond to the individual items.

## Data Analysis Procedures

A holistic scoring rubric is used to analyse the data because it can be used to get a quick snapshot of the students overall scores and as (Arter & McTighe, 2001, p 21) states that a holistic scoring rubric can be used to judge the impact of a product or performance which in this case is GBL. The results of the questionnaire and interview will also further refine and finalize the final answer on whether the students feel more engaged and motivated while also having a significant impact on their post-test scores.

| Scoring Rubric | |
|---|---|
| Excellent 90-100 | Subjects are fully understood and are able to express complex ideas clearly which most listeners would understand |
| Good 80-89 | Subjects are understood and are able to express a few complex ideas clearly which most listeners would understand |

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| Satisfactory 70-79 | Subjects are partially understood and are able to express simple ideas clearly which listeners would mostly understand |
|---|---|
| Needs work 0-69 | Subjects understanding are lacking and are able to express simple ideas |

## Results and Discussion

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## Result of Implementation

Below are the results of the implementation test sessions that is the traditional learning and GBL.

**Table 1. Test Scores of Each Class**

| Class 1 | | | Class 2 | | | Class 3 | |
|---|---|---|---|---|---|---|---|
| A | B | | A | B | | A | B |
| 62 | 78 | | 70 | 84 | | 80 | 94 |
| 74 | 76 | | 70 | 76 | | 64 | 76 |
| 50 | 66 | | 84 | 90 | | 86 | 90 |
| 82 | 90 | | 70 | 74 | | 70 | 62 |
| 66 | 46 | | 74 | 78 | | 66 | 74 |
| 90 | 92 | | 62 | 78 | | 88 | 90 |
| 34 | 56 | | 70 | 80 | | 70 | 44 |
| 64 | 78 | | 86 | 82 | | 84 | 90 |
| 66 | 82 | | 84 | 88 | | 52 | 64 |
| 70 | 84 | | 80 | 76 | | 72 | 86 |
| 70 | 86 | | 72 | 84 | | 86 | 92 |
| 76 | 72 | | 62 | 48 | | 60 | 64 |
| 66 | 74 | | 48 | 66 | | 88 | 96 |
| 94 | 92 | | 66 | 68 | | 78 | 86 |
| 76 | 82 | | 62 | 70 | | 74 | 88 |
| 60 | 62 | | 76 | 84 | | 82 | 88 |
| 74 | 88 | | 82 | 88 | | 48 | 58 |
| 84 | 88 | | 68 | 80 | | 78 | 82 |
| 70 | 66 | | 86 | 88 | | 86 | 90 |
| 50 | 72 | | 62 | 78 | | 90 | 92 |
| 64 | 70 | | 54 | 66 | | 86 | 92 |

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| 60 | 74 | | 90 | 94 | | 72 | 84 |
|---|---|---|---|---|---|---|---|
| 54 | 50 | | 56 | 64 | | 78 | 80 |
| 68 | 78 | | 74 | 72 | | 66 | 82 |
| 74 | 80 | | 94 | 98 | | 70 | 78 |
| 68 | 80 | | 44 | 56 | | | |

The (A) column is the scores the students had scored while the traditional learning implementation was held and the (B) column is the scores the students had scored while the competitive GBL implementation was held.

Below are the side-by-side result of the pre-test and post-test in a graph:





Class 1 is the rowdiest class of the entire 3 class and are usually a bit difficult to get their attention so it's pretty normal for them to score quite low on quizzes and tests. The data showed that most of the students did very bad on the pre-test and did average on the post-test which indicated an improvement but a lot still failed.

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## Before Implementation (Class 2)



## After Implementation (Class 2)



Class 2 is the most quiet and active class where most of the students would interact in class but that does not mean that the students are doing well on tests. The class 2 students did better on the pre-test than the class 1 students but most of them still did quite badly. Another sign of improvement is also indicated on the post-test with similar result with class 1 where quite a lot of the students still failed.

## Before Implementation (Class 3)

Bar chart showing counts by category:
- Needs work: 6
- Satisfactory: 9
- Good: 9
- Excellent: 1

## After Implementation (Class 3)

Bar chart showing counts by category:
- Needs work: 5
- Satisfactory: 3
- Good: 8
- Excellent: 9

Class 3 is the most active class out of the other classes where a lot of the students usually actively interacts during lessons. Class 3 did the best on pre-test with average scores on most students. Class 3 also did the best on post-test with a surprising amount of students getting high scores.

**Result of Questionnaire**

The result of the questionnaire will find out about the students motivation regarding the implementation. There are a total of 9 questions referenced and modified from Risma, S. N. (2021) and these are the questions and result

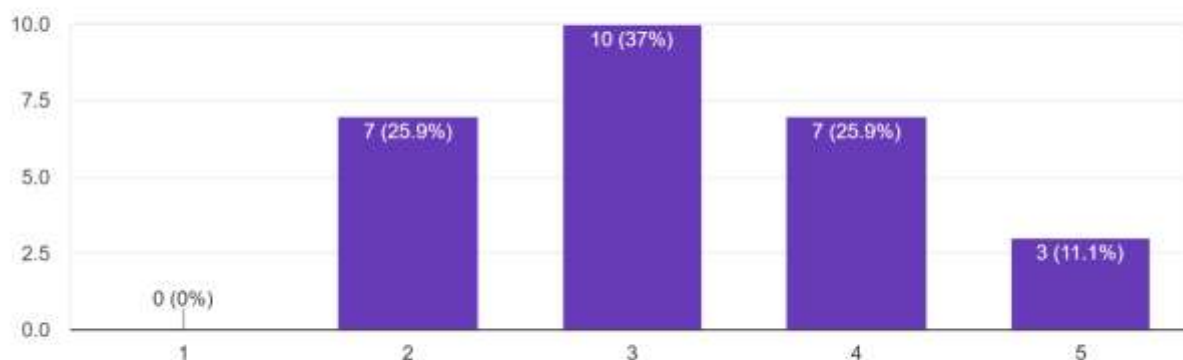How would you rate your motivation in learning

27 responses
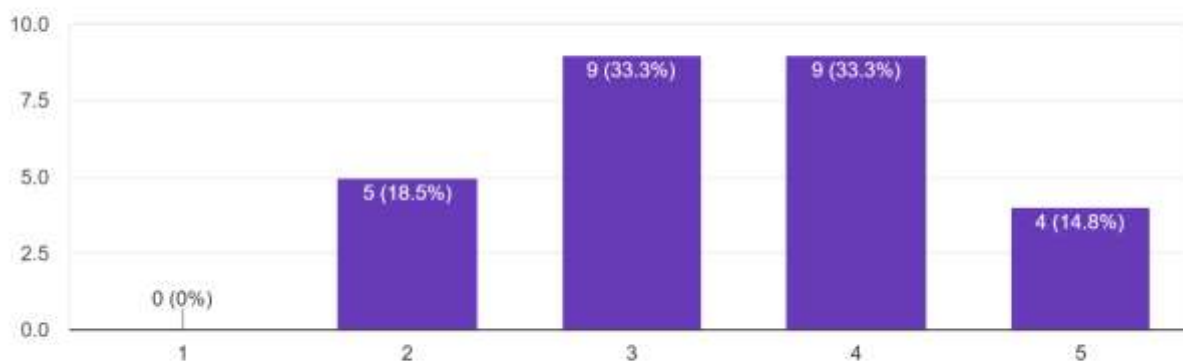


The graph shows that most of the student are still motivated in learning.

How would you rate your ability in constructing a sentence when speaking?
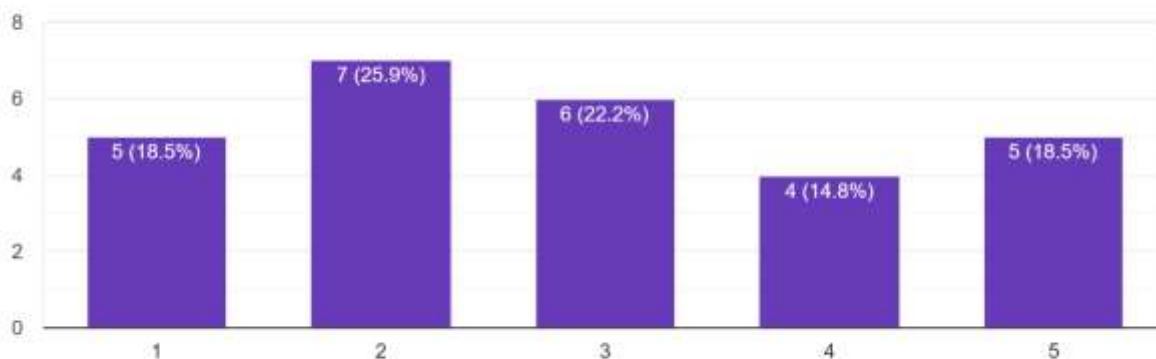
27 responses



The graph shows that most of the students ability in constructing a sentence when speaking is mostly average with very few of them being proficient in it and quite a bit not too much.

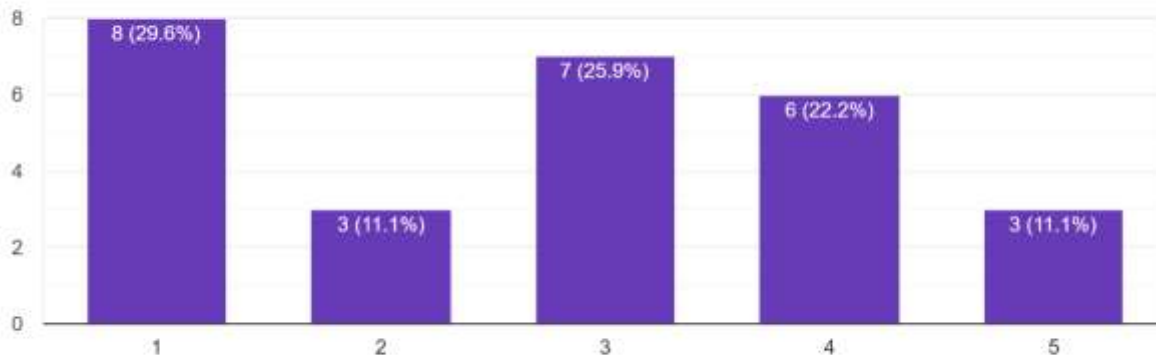You often have fear in speaking English incorrectly and embarrassing yourself
27 responses



The graph shows a very widespread data regarding their fear in speaking English incorrectly, which can be concluded that it is mostly a personal quirk.

Making mistakes in the previous question makes you feel demotivated to learn
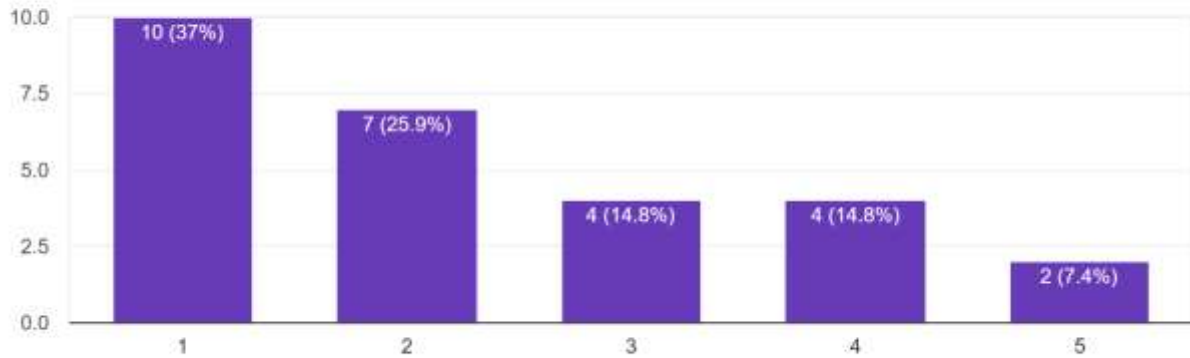27 responses



The graph shows that most of the students answered that they do not feel demotivated to learn at all when they make mistakes but quite a few answered sometimes and few of them answered they do feel demotivated.

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You have difficulties in finding any friends or families to help you practice speaking English
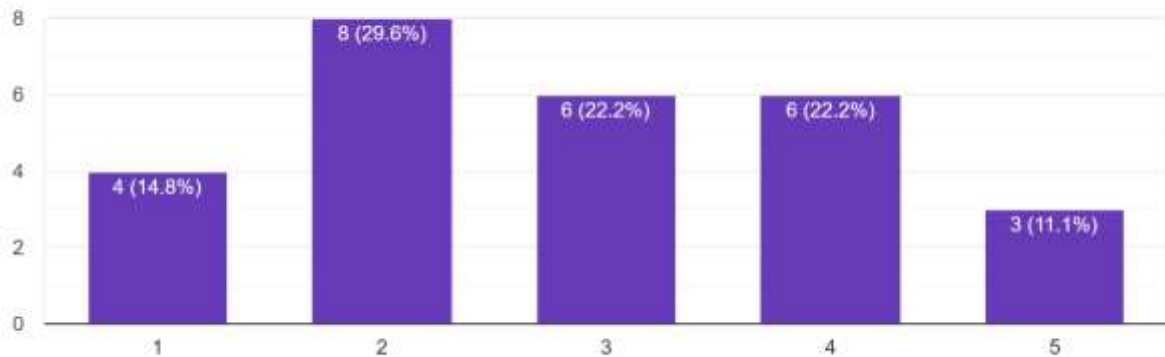27 responses



The graph shows that most of the students do not have any difficulties in finding partners to help them learn and practice speaking English.

You experience difficulties and nervousness when speaking English face to face with someone
27 responses



The graph shows that most of the students do not feel too nervous when speaking in English but a good amount of students answered they feel somewhat nervous and a bit nervous.

As technology evolved, do you think using your phone to learn makes you more comfortable and motivated to learn?
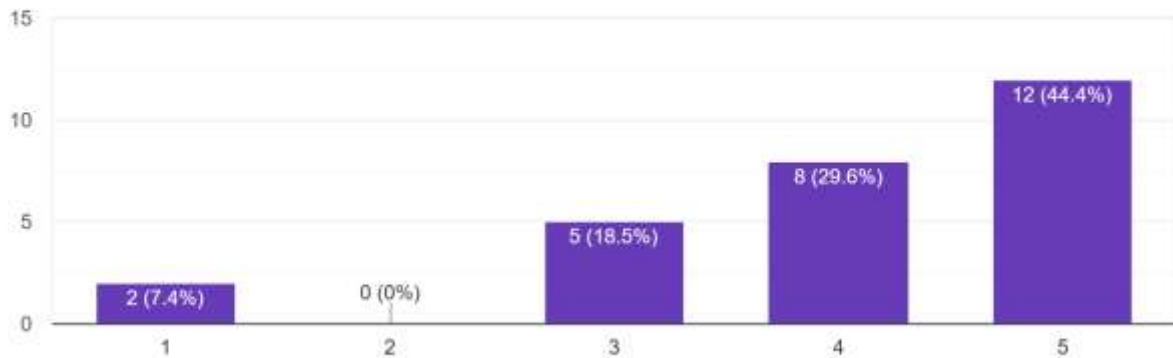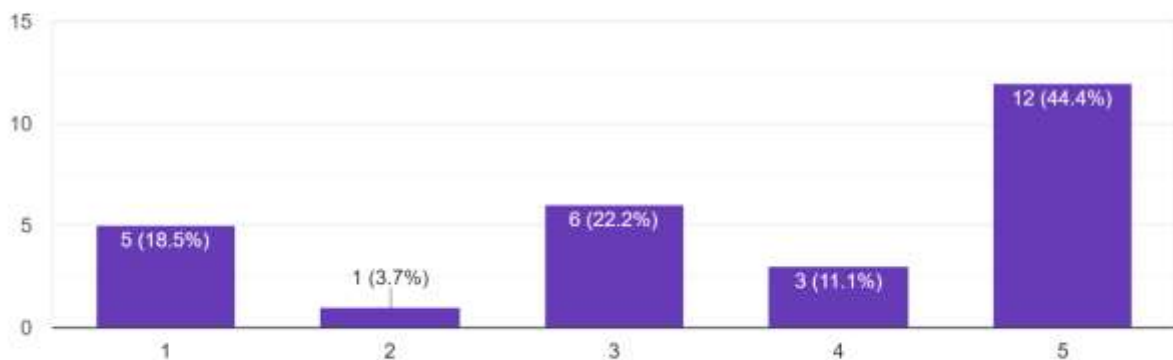
27 responses



The graph shows that most of the students feels more comfortable and motivated to learn using their phone.

Do you think that having competition in a class lesson such as playing games and keeping scores can motivate you to learn
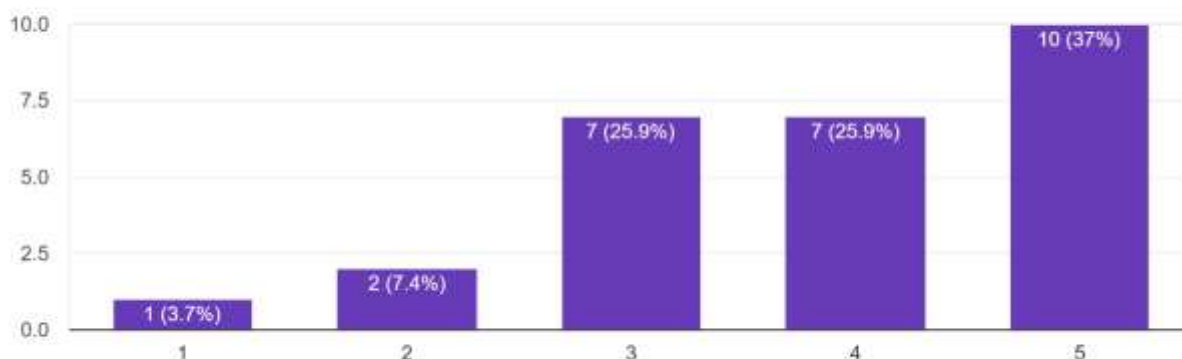
27 responses



The graph shows that most of the student likes the idea of having games and competition in a learning environment but few of them said probably and no.

According to the lessons that I have taught, do you think you feel more motivated than usual?

27 responses



The graph shows that the game-based learning lead by the writer did indeed makes them more motivated than usual but a few of the students said probably and just a bit.

**Result of Interview**

There are 3 different students interviewed and each are from the 3 classes. There are a total of 5 questions about their opinion of game-based learning, their motivation levels, the game complexity, the benefits, the disadvantage and if they would like to experience it again in the future.

**Student from class 1**

The result from the interview is that using technologies and competition in learning is very fun because it is something that they have never experienced before. It was also mentioned that they felt more motivated than usual and it is more exciting because they wanted to beat the other groups in getting more scores. The rules are also very simple to understand and it was not complicated at all. They also said that the benefit of learning this way is that they are a lot more motivated than usual plus it was quite easy to access it through their phones too since they don't need to sign up for an account. One disadvantage mentioned was that it was way too loud sometimes because everyone was screaming on some rounds. Overall, the student thinks that it is a very good idea and they would like to try it again next time.

**Student from class 2**

The result from the interview is that they are a bit confused at first but eventually they got used to it and it was actually pretty fun. They also said that they feel just a little bit more motivated but mostly competitive in wanting to beat the other groups. It was mentioned that the rules are not too confusing since they picked it up quite quickly. The advantage mentioned was that they think because it's a game that the students immediately likes to see what it is all about. One disadvantage was that there was too many people and too little groups which makes it too crowded. Overall, the student likes to try game-based learning again but with several things changed.

**Student from class 3**

The result from the interview is that they really like the idea of using games in class since they complained that they do not like to sit in one spot for a long period doing nothing. It was said that they mostly just like to play games in general and of course they feel more motivated in class than usual. They mentioned that the rules are not difficult to understand. The advantage mentioned is that they think using game-based learning is a really cool idea Jackson, and Leil Badrah Zakti

and it would definitely capture a lot of the students attention. The disadvantage mentioned is that variety might be needed since doing the same thing over and over again can be very boring. Overall, the student really likes the idea and would definitely like to learn using game-based learning again.

## Discussion

From the data gathered, it can be concluded that competitive game-based learning does indeed have a positive impact on their scores. Though there were still quite a lot of students who failed, from an observation point of view, the students are more actively participating in class and talks more English than usual which is also a positive sign in the increase of their motivation and engagement.

A day after finishing the GBL lesson, the participants were given the questionnaire and interview regarding the whole process of the implementation. The participants were more active in the class than usual for several reasons;

1. They are interested in the word "game"
2. They like to have a competition or a rival to beat
3. They prefer having practical sessions than listening sessions
4. They think it's very fun

The advantage that are mostly mentioned is that it is a very new and interesting concept for the students which result in them being more motivated than usual plus having a competition also creates a very tense environment where the students gets more competitive with each other and are more active and loud than usual for the better or worse.

The disadvantage that are mentioned varies quite a lot. One complains was that the class sometimes gets too loud that it gets too distracting and annoying for some student. Some also said that there was too many students in the class which makes it a bit crowded. And lastly, it was also mentioned that it could get boring real fast if it was the same game over and over again.

From an observation point of view, the students are also a lot more concentrated on the class rather than talking to each other or sleeping in class. The students were mostly participating in the lesson with minimal complications.

Although there were some complains and mishaps, it is without a doubt that most of the students enjoyed experiencing game-based learning and that they would like to try experiencing again for the second time.

## Conclusions

The phenomenon of games being implemented into several different aspects of life is nothing to be unheard of and especially in the education system where it can be very beneficial for English learners. The utilization of game-based learning (GBL) is quite a common strategy to be implemented and has been frequently implemented and studied but very rarely has a study combined both competition and GBL to observe its effect. The main goal of this study is to improve the student's motivation and engagement since it was concluded from the writer's observation that those are what the students in Sekolah Harapan Utama lacks. The findings suggested that both GBL and competition does indeed have a positive impact towards the participant's motivation and engagement. The results of the pre-test and post-test confirms to have an improvement on their scores and the results of the questionnaire and interview has also confirmed that the participants does feels more motivated and engaged than usual. From an observation result, it is also in line with a study by (Klaus, Silke, 2019) and (DiMenichi Brynne C., Tricomi Elizabeth, 2015) that the students looked more interested when presented with a challenge and had a significance increase in attention span.

Though the improvement of competitive game-based learning is a complete success, the effect of new things and human's curiosity should be considered since a study by Matthias J. G (2014) suggested that new things and human curiosity helps people learn better. It is suggested that more studies needs to be made regarding the effectiveness of GBL over time to see whether the effect diminishes or not.
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