

Gamer and Non-gamer Students in Listening Skills: A Comparative Study of Third Semester Students in Academic Year 2023/2024

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Abstract: This study aims to reveal if there are significant differences in extensive listening skills between gamer and non-gamer of 3rd-semester students at the University of Mataram. The subject of the study involves the 3rd-semester students in the English department of Mataram University which consists of 10 students in total, by using a questionnaire to divide between gamer and non-gamer students, the researcher found that 5 of them are gamers and 5 others are non-gamers. After dividing the students into two groups, they were given TOEIC listening tests to check their listening scores, and the data collected were checked using the independent sample t-test scaling method. From the result of the analysis, it was found that the critical t-value is 2.306 which is smaller than the t-value which is 3.952. Therefore, the null hypothesis is rejected which means there are significant differences between gamer and non-gamer of 3rd-semester students at the University of Mataram.

Keywords: gamers, non-gamers, TOEIC listening test

INTRODUCTION

It is not a big secret that games and anyone who claims themselves as gamers are looked down upon by society. This view had already been established in the late 20th century when almost every parent would yell at their child for wasting their time playing video games rather than doing other physical activities. The reasons why gamers were looked down upon at that time was because that was the time when video games were still relatively new, and some people viewed them as a waste of time or a distraction from more productive activities or even worse, some peoples even think video games are dangerous and this views created a huge fear in the 1980s (Anderson et al., 2010; Newman, 2017).

As people have known, it is long preserved that video games and those that are involved in gaming are a 'fringe minority'. Many people imagine gamers as an eccentric group of individuals who do not make up a noteworthy portion of the population, and video games are often treated as a childish recreational activity. Even a recent study (Amby et al., 2020, pp. 21–22) found that some individuals who are not gamers stereotype gamers as lazy, violent, introverts, and irresponsible, but smart.

Some researchers even found that video games could affect players' social skills, lower educational and career attainment, and create problems with peers (Mihara & Higuchi, 2017), some even intrigued by its potential dangers (Anderson et al., 2010; Müller & Wölfling, 2017). However, in recent years this claim slowly shifted and as further technology goes, the video games industry become one of the world's fastest economic successes, along with the growth of the gamer community in recent years.

However, as technological advancement became more advanced and better, video games also evolved and became mainstream and popular, this progress in gaming affected people's views, and video games started to be recognized as a legitimate form of entertainment. This change in view made gaming and video games started to attract a wider audience, including people who had previously dismissed them.

One positive effect of playing video games is that they seem to have a positive effect on the development of target language skills and a significant development of target language listening skills (Altinbas, 2018). The research conducted by Altinbas (2018) and Smits (2019) both showed gamers had better score than non-gamers in listening skills.

There is also other study by Ip et al. (2008) in their research "Gaming Frequency and academic performance". In this study, they tried to investigate whether playing video games could affect academic performance by analyzing the relationship between gaming frequency and students' academic performance as measured by their examination marks. By using 713 students as the sample, the results reveal that the students who frequently play video games generally achieve lower scores in examination marks than students who do not frequently play video games.

Another study was conducted by Smits (2019) with the title "Gaming for Grades: Gaming as a Pastime, School Performance and Self-efficacy". This study tried to examine a potential relationship between playing video games as a pastime with school performance, the correlation between the type of games they played with various language skills, and a potential mediating effect of self-efficacy on the relationship between gaming and school performance. The study analyzed the gaming habits of 154 secondary school students aged approximately 15. The results revealed that gamers outscored non-gamers in English grades, listening tests, and reading exams. Also, it was found that self-efficacy strongly moderated the link between gaming and academic success. Additionally, online conversation results both spoken and written showed a substantial positive link with English grades. And finally, the results showed that playing video games had a substantial correlation with listening test performance.

Both studies above tried to find how much of a difference between gamers and non-gamers students in academic study. The study conducted by Ip et al. (2008) showed that students who frequently play video games achieve lower scores than students who do not frequently play video games. However, a study from Smits (2019) showed

that students who played video games outscored students who didn't play video games in English grades, listening tests, and reading exams. There might be other factors that affect students' academic results, and it has not been fully explored yet.

But even so, society still views video games as just entertainment without any benefit besides satisfaction and stress release. Even recent studies (Amby et al., 2020, pp. 21–22) found that individuals who are not gamers stereotype gamers as lazy, violent, introverted, irresponsible, but smart. This view is intriguing and it pulls an idea to see if there is any benefit in playing video games besides satisfaction and stress release for gamers. For the definition of gamers, there is no universally agreed-upon it. However, some experts in the gaming industry have provided various perspectives on definition of the gamers. In some studies, the most important factor of a gamer definition is the average play time they spend playing video games (Hartmann & Klimmt, 2006; Paaßen et al., 2017; Poels et al., 2012; Terlecki et al., 2011; Vermeulen et al., 2011), and which core genres (for examples: action games, first-person shooter games, fighting games, role-playing games, etc.) they played for the past year (Vermeulen et al., 2011). As such, individuals who play first-person-shooters, massive-multiplayer online games (MMO), and strategy games are more often called gamers (Paaßen et al., 2017) than individuals who play social or casual games (Bossler & Nakatsu, 2006).

Another way to distinguish a gamer's identity while conducting research is by asking the participants to self-identify. According to some researchers, subjective identification can be a better predictor of a person's behavior and group attitudes than more objective measures like time spent playing video games (Hogg & Turner, 1985; Jetten et al., 2001). To find if playing video games has benefits for their players, the researcher will compare gamers and non-gamers (people who did not play games) in academics, and for the specific, the researcher will try to compare them based on their English listening skills. The reason why use listening skills instead of the other three basic skills is because listening is the most mandatory among the four basic skills of language learning.

According to various researchers, listening is the process of understanding the audio input to understand the meaning of the sounds (Ashari, 2014; HSB, 2021). That means listening is an active skill to understand the sound of what we hear. "Listening is an active process of receiving, processing, and interpreting aural stimuli" (Ashari, 2014, p. 9). According to (Hanafi et al., 2022, p. 96), "Listening is the first skill of language skills level, which is then followed by speaking, reading and writing. All of them are called integrated four skills." In addition, (Novika et al., 2020, p. 2) also stated that "without listening skills, no communication can be achieved. Thus, teaching listening is the starting point in teaching English as a foreign language." In conclusion, listening is the most important of the four basic skills and must be learned first before learning other skills.

Listening is a process of understanding a sound received by the ears and transmitted to the brain to comprehend the meaning of the sound. According to Ashari (2014: 9), "Listening involves taking in meaningful sounds and noises and in some way, retaining and using them. Just as we speak for different purposes, we also listen for different purposes. We listen for enjoyment, information, and

evaluation. Those definitions above can be concluded into one general meaning, listening is an active process of understanding the sound of what we hear and responding to it. To develop communicative proficiency in listening, we need to understand the intonations and the pronunciation of the words made by other speakers, using audio tapes could also be an effective way to improve the listening skill. With enough practice, it is to be expected to develop the skills in listening.

According to Yusda (2020, p. 10), "Motivation is a factor that will impact the learners' progress in learning English." This, in turn, showed different results in her research on students' motivation. The difference in motivations could affect how students could improve their skills. For example, students who like playing games might have different scores than students who rarely play games; this kind of difference might impact their performance listening skills. With this information, this research will compare how far are the differences between the students who love playing games (gamers) with the students who rarely play games (non-gamers) in a listening test.

RESEARCH METHOD

Before conducting the research, it is important to know what the purpose of the research design is. Research design are procedure of inquiry for data collecting, data analysis, and data interpretations to report in research studies (Creswell & Creswell, 2018, p. 50). For this research, the researcher decided to use the comparative study research method. Comparative research is a method of finding a contrast among different macro units such as regions, countries, social milieus, etc. (Esser & Vliegenthart, 2017). For example, when we compare two different countries, we should find and analyze the differences between the two countries to find the conclusion in the research.

The comparative study involves understanding, analyzing, and explaining every aspect or event. Its purpose is to give some conclusions about past events that may help to explain present or future events. The study method is comparative research in nature since this compare gamers and non-gamers students in listening skills. The sample of this study consisted of 10 students from the total population of approximately 200+ students at the University of Mataram by using first questionnaire to collect and divide students between gamers and non-gamers, in which it is found that 5 of them are gamers and 5 others are non-gamers. Additionally, TOEIC listening tests and second questionnaire are used for collecting students' score and other factors affecting their listening skills. Lastly, to analyze the data the independent sample t-test scaling method will be used to find if there is any difference in TOEIC listening test score between gamer and non-gamer students in each group.

RESULT AND DISCUSSION

Based on the data analysis of the students' listening scores conducted before, the result shows that the null hypothesis is rejected and the alternative hypothesis is accepted, which means there are significant differences between gamer and non-gamer students' listening skills. The gamer group had a larger total score which is 261 with two of their members having the highest score among others which is 64, while the non-gamer group had a smaller total score which is 242 with one of their members having the lowest score which is 30.

However, based on the questionnaires the results of this data could also be affected by other factors such as their hobby of listening to English music every day which may impact their listening skills, along with gaming thus it is advised to be researched in the future.

This research finding contradicts the previous study conducted by Ip et al. (2008) in their research "Gaming Frequency and academic performance". In this research, they found that the students who play video games more generally have lower scores than the students who did not play video games. Although there could be another factor that affects this result, such as some of the samples in the gamer and the non-gamer group had a hobby of listening to English music, it could also affect their listening skills, although it needs to be studied further in the future between the correlation if listening to music could affect their listening skills.

There is also another study conducted by Smits (2019) with the title "Gaming for Grades: Gaming as a Pastime, School Performance, and Self-efficacy". This study tried to examine a potential relationship between playing video games as a pastime with school performance, the correlation between the type of games they played with various language skills, and to examine a potential mediating effect of self-efficacy on the relationship between gaming and school performance. Their study and this study had the same results which prove that games could affect their learning score.

Below are complete explanations for the results:

Questionnaires Analysis

To assign each student to their respective groups, a questionnaire is needed to define the students if they belong to gamers or non-gamers groups. Below are the results of each student and which group they belong to:

Table 1. Gaming questionnaire

Students	Answers		Results
	Yes	No	
S1	7	2	Gamer
S2	5	4	Gamer
S3	8	1	Gamer
S4	1	8	Non-gamer
S5	2	7	Non-gamer
S6	9	0	Gamer
S7	0	9	Non-gamer
S8	3	6	Non-gamer
S9	2	7	Non-gamer
S10	8	1	Gamer

There are 9 questions in the questionnaire; if a student answered at least 5 questions with "Yes" then the student is considered a gamer. There is also another questionnaire included to find if there are any factors outside of gaming that could be taken into consideration and whether it could affect the listening skills of the samples.

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Table 2. Other factors questionnaire

No	Question	Yes	No
1	Are you taking any English lessons that involve listening outside your class in school and university?	0	10
2	Since when do you take English lessons outside your class? (if have any)	0	10
3	Are you still taking English lessons outside your class? (if have any)	0	10
4	Do you have any other activities that involve listening in English? If yes, then what is it?	6	4

From the data above, all of the students didn't participate in any English listening lessons outside of their classes while in school and university. However, 6 students have hobbies in listening to English music, which is 4 of them are gamers and the last 2 of them are non-gamers.

TOEIC Listening Test Scores

The writer makes the table of students' scores in the gamer group and non-gamer group below:

Table 3. TOEIC listening test scores

No	Students	(Gamer) X1	Z1	Students	(Non-gamer) X2	Z2
1	S10	54	1.8	S4	49	0.6
2	S1	64	11.8	S8	56	7.4
3	S2	44	8.2	S7	52	3.6
4	S3	64	11.8	S9	55	6.6
5	S6	35	17.2	S5	30	18.4
	total	261			242	
	\bar{x}	52.2			48.4	
	Z_i		10.16			7.32

As described by the tables above, it can be seen that both the total sum of each group had different values. The total in the gamer group is 261 while in the non-gamer group, the total sum is 242.

It can be seen from the table the differences between the two groups. The gamer group has a higher score with two of them having the highest score between the two groups, and the lowest score is from the non-gamer group.

T-Test Analysis

After gaining the data from the tables above, the next step would be to find if there is variance equality in the data to decide which formula to use to calculate the t-value. By using the Lavene test to see the variance equality, below are the steps in using the t-test to calculate the t-value of the data provided above:

By using the Lavene test to see the valiance equality and comparing it with the F-table, which is:

$$w = \frac{(n - k) \sum n (Z_i - Z)^2}{(k - 1) \sum (Z - Z_i)^2}$$

$$w = \frac{(10 - 2)20,164}{(2 - 1)18372,64}$$

$$w = 0,0087$$

With:

- n : amount of samples
- k : amount of groups
- Z : the amount of Z in each data
- Z_i : mean of Z in each group
- \bar{Z} : mean of Z total

After the variance of equality is found, it is time to compare the result with the F-table in which by using $\alpha=0,05$. We can use the formula:

$$F - \text{table} = (\alpha; k - 1; N - k)$$

$$F - \text{table} = (0,05; 2 - 1; 10 - 2)$$

$$F - \text{table} = (0,05; 1; 8)$$

Table 4. F-table

V1	1	2	3	4	5
V2					
1	161	200	216	225	230
2	18.5	19.0	19.2	19.2	19.3
3	10.1	9.55	9.28	9.12	9.01
4	7.71	6.94	6.59	6.39	6.26
5	6.61	5.79	5.41	5.19	5.05
6	5.99	5.14	4.76	4.53	4.39
7	5.59	4.74	4.35	4.12	3.97
8	5.32	4.46	4.07	3.84	3.69

After looking at the F-table, it is found that F-table = 5.32, in which:

$$w < F_{\text{table}} = \text{Equal}$$

This means variance equality can be assumed and it is possible to continue using the t-test formula of equal variance.

The next step is to find the t-value, however it needs to find the standard deviation of the two groups, which can be found using formula:

$$S = \sqrt{\frac{\sum(x_i - \bar{x})^2}{n - 1}}$$

After calculating the data with the formula above, it is revealed that the standard deviation of the gamer group is $S=12,69$, and the standard deviation for the non-gamer group is $S=10,64$.

To find the t-value, the formula can be calculated using:

$$t = \frac{z_1 - z_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

With:

- z_1 : mean value of the first group
- z_2 : mean value of the second group
- n_1 : the size of the first group
- n_2 : the size of the second group
- S_1 : standard deviation of the 1st group
- S_2 : standard deviation of the 2nd group

With the results:

$$t = \frac{52,2 - 48,4}{\sqrt{\frac{(5 - 1)12,69^2 + (5 - 1)10,64^2}{5 + 5 - 2} \left(\frac{1}{5} + \frac{1}{5} \right)}}$$

$$t = \frac{3,8}{0,9613} = 3,952$$

After calculating the t-value, by using the significance level of 0.05. the degree of freedom is also needed to find the end result. The degree of freedom could be found using formula:

$$df = n_1 + n_2 - 2$$

$$df = 5 + 5 - 2 = 8$$

After that, we can find the critical t-value in the table below:

Table 5. T-test table

Degrees of freedom (df)	.05
1	12.706
2	4.303
3	3.182
4	2.776
5	2.571
6	2.447
7	2.365
8	2.306

It is found that from the t-table, the critical t-value is 2.306 which is smaller than the t-value which is 3.952. Therefore:

Table 6. Research hypothesis

No	Testing	Null hypothesis	Alternative hypothesis
1	t-value > t-crit	Rejected	Accepted
2	t-value < t-crit	Accepted	Rejected

- 1) Null hypothesis (H0) = rejected
- 2) Alternative hypothesis (Ha) = accepted

CONCLUSION

The data shows that the students' listening skills between gamers and non-gamers students are significantly different. It was shown in the table and the chart that the gamer groups' scores are higher than the non-gamer groups' scores. This means games could have a positive impact on their listening skills. Additionally, based on the second questionnaire about another factor that may affect their listening skills, it is found that they didn't participate in other activities outside formal classes in school and university. However, 6 students have listening to English music as their hobbies of which 4 of them are gamers and 2 of them are non-gamers. To find if listening to English music correlated with listening skills, further study is required.

From conclusion above, the researcher would like to offer some suggestions:

- 1) Based on this finding, the next researchers should find another approach to find more accurate comparison of gamers and non-gamers in listening skills.
- 2) The researcher also suggests that the future research need to include more samples to find better accuracy in comparing the two groups.

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