

CHAPTER IV

FINDING AND DISCUSSION

This section presents the interpretation and discussion of the findings that the researcher obtained. In the discussion section, the researcher links the findings to theory, previous research, and other explanations.

A. Findings

This chapter will outline the findings and discussion of this research. Score data resulting from the use of the Quizizz assessment tool and the paper based test on the degree of comparison mastery test as well as the comparison of the scores of the two assessment tools in the X RPL class are presented in this chapter. Data is obtained from research instruments in the form of question items in the cognitive realm. In short, this test consists of 35 questions with 75 students being tested in class X RPL. This instrument was tested in X RPL 1 class on January 30, 2024 using paper based test, and X RPL 2 using Quizizz was tested on February 1, 2024. Class X RPL 1, which uses paper based test, consisted of 37 students consisting of 25 males and 12 females. Class X RPL 2 using the Quizizz assessment tool consisted of 38 people, 19 males and 19 females.

The researcher initially prepared 45 questions for validity testing, these questions were tested in a class that was comparable to class X RPL, namely class X *Kecantikan*. The researcher tested the questions on 30 students on January 23, 2024. After testing the 45 questions, only 40 questions were valid and 5 questions

were invalid. This is proven by SPSS calculations and analysis of invalid questions as follows in Table 4.1 below:

Table 4.1 Analysis of Invalid Question Items

Number of Questions	Question	Question Type	Analysis
27	Sarah runs fastest than any other girl in her class.	True-false	Invalid, because there is a double meaning which allows the statement to be considered correct by some students and students do not understand the reasons for the error in the sentence structure.
33	Senny's hair is curlier than Bianca's	True-false	Invalid, because this question is related to the question after it, namely they both use the same form of comparison.
34	The Building is higher than his company	True-false	Invalid, because this question is related to the previous question, namely both use the same form of comparison.

Number of Questions	Question	Question Type	Analysis
36	Risma and Riri join marathon competition. Risma can run for 5 KM. But Riri gives up earlier than Risma. Risma can run than Riri.	Fill in the blank	Invalid, because it is too difficult. The questions have alternative answers
44	My school is 3 KM from here, the market is 4 KM from here and the Town Square is 5 KM from here. So the school is than the market.	Fill in the blank	Invalid, because it is too difficult. The questions have alternative answers

Based on the table above, there are 5 invalid questions, so the total number of questions is 40 valid questions. These questions were simplified into 35 questions so that the scoring was 100. 25 multiple choice questions for each item with a score of 3, 5 true-false questions with each item having a score of 1, and 5 fill-in-the-blanks questions with a score for each item 4.

The 35 valid questions were then used by the researcher to measure student learning outcomes regarding the degree of comparison material by using two models of assessment tools and comparing them. Class X RPL 1 was first given these questions using a paper-based, and then class X RPL 2 was given these questions using the Quizizz assessment tool. Data on the English test result in the degree of comparison material from each class X RPL 1 and X RPL 2 can be seen in Table 4.2 below.

Table 4.2 Data on the English Test Result of Class X RPL Students

No.	Initials	Class X RPL 1	Initials	Class X RPL 2
1	AR	69	TAS	60
2	A	75	AP	85
3	ANA	100	AJH	63
4	ANM	74	A	100
5	ESAR	83	AZR	100
6	ERA	96	BL	98
7	FR	76	Y	63
8	FK	53	GCAR	70
9	HK	88	YA	97
10	HAI	36	MF	85
11	KAY	94	MFR	79
12	MAZ	96	MOP	80
13	MDR	49	SHK	69
14	MAP	43	MA	89
15	MAS	74	MD	59
16	MA	100	SM	59
17	MAN	70	MIF	74
18	MA	50	SHK	71
19	MR	78	MI	91
20	MRRR	86	MZA	100
21	MRA	89	RJR	75
22	MRA	90	MR	100
23	MRR	77	MRF	85
24	MSR	93	MRH	97
25	NE	90	NM	95
26	NAR	80	NAAK	58
27	NI	82	RAW	57
28	PZM	95	SA	100
29	SLA	99	S	88
30	RNF	95	DAH	55
31	RP	61	RA	45
32	Z	49	LA	51
33	BI	59	NP	97
34	DM	68	MFA	45
35	NP	68	MIA	88
36	RG	89	MOR	82
37	RF	53	AF	97
38			MA	69

The data on students' English test results from each class are in the table above and will then be described in detail along with a frequency distribution table to calculate the average, standard deviation, range, minimum value, and maximum value.

1. Descriptive Data of Class X RPL 1 Learning Outcomes

Data on the learning outcomes of X RPL 1 class students who used the paper based test obtained the highest score of 100 and the lowest score of 36. With subsequent calculations, the researcher took the existing scores and then calculated them using IBM SPSS 26 and obtained data as in Table 4.3 below:

Table 4.3 Paper Based Test Output

Paper Based Test		
N	Valid	37
	Missing	0
Mean		76,41
Std. Deviation		17,878
Range		64
Minimum		36
Maximum		100

Based on descriptive analysis of data processing according to Table 4.3, the value N = number of valid students is 37, and 0 is missing, meaning that all students in class X RPL 1 are working on these questions. Then, it is known that the range

(range of values between the minimum score and the maximum score) is 64, the mean (average) is 76,41 and the standard deviation (data variation) is 18.

Table 4.4 Categories of Cognitive Learning Outcomes for Class X RPL 1 Students

To make it easier to determine the level of students' cognitive learning outcomes, they are categorized based on Table 4.4 below:

No.	Value Category	Frequency	Category	Percentage
1	< 70	12	Low	32,4
2	>70 – 90	16	Sufficient	43,2
3	> 90 - 100	9	High	24,3
Total		37		100

Source: Processed data, 2024

Based on the table above, it can be concluded that the average score category for the cognitive learning outcomes of class X RPL 1 students who used the paper based test was 12 students out of 32,4% in the low category, 16 students out of 43,2% are in the sufficient category, and 9 students out of 24,3% are in the high category. The average score of students who used the paper based test assessment tool was 76,41 which was included in the sufficient category.

2. Descriptive Data of Class X RPL 2 Learning Outcomes

Data on the cognitive learning outcomes of X RPL 2 class, students who used the Quizizz assessment tool produced scores as in table 4.2. Class X RPL 2 which used the Quizizz assessment tool received the highest score of 100 and the

lowest score of 45. With subsequent calculations, researchers took existing values and obtained data as in Table 4.5 below:

Table 4.5 Quizizz Assessment Tool Output

Quizizz		
N	Valid	38
	Missing	0
Mean		78,32
Std. Deviation		17,461
Range		55
Minimum		45
Maximum		100

Based on descriptive analysis of data processing according to table 4.5, the value N = number of valid students is 38, and 0 is missing, meaning that all students in class X RPL 2 are working on these questions. Then, it is known that the range (range of values between the minimum score and the maximum score) is 55, the mean (average) is 78,32 and the standard deviation (data variation) is 17.

Table 4.6 Categories of Cognitive Learning Outcomes for Class X RPL 2 Students

To make it easier to determine the level of students' cognitive learning outcomes, they are categorized based on Table 4.6 below:

No.	Value Category	Frequency	Category	Percentage
1	< 70	15	Low	39,5
2	>70 – 90	13	Sufficient	34,2
3	> 90 - 100	10	High	26,3
Total		38		100

Source: Processed data, 2024

Based on the table above, it can be concluded that the average score category for the cognitive learning outcomes of class X RPL 2 students who used the Quizizz assessment tool was 15 students out of 39,5% in the low category, 13 students out of 34,2% are in the sufficient category, and 10 students out of 26,3% are in the high category. The average score of students who used the Quizizz assessment tool was 78,32 which was included in the sufficient category.

3. Comparison of the Significance of the Learning Outcomes of Class X RPL 1 and X RPL 2 Students

This third part is the final part to answer the next research question, if seen from the results of the descriptive analysis above it can be seen that between students who used the paper based test assessment tool and the Quizizz assessment tool, there were differences in the averages of the two samples. Therefore, to further clarify the differences between the two samples, it is necessary to know whether the differences are both are significant or not, the second test is carried out, namely the statistical test where the inferential test in this research was carried out first test

normality and homogeneity test to fulfill the requirements of the independent sample t-test.

a. Normality Test

The data obtained from the class X RPL 1 and X RPL 2 test results then enter the processing stage to clarify the results. The data is tested for normality first to find out whether the data is normally distributed or not. At this stage, the data is prepared first in Microsoft Excel to facilitate calculations in IBM SPSS 26. If the data is neatly arranged, it is then processed in IBM SPSS 26 with the one sample Kolmogorov Smirnov test because the sample size is large or more than 30. Data that is successfully tested will produce results like Table 4.7 below:

Table 4.7 Test of Normality

Kolmogorov-Smirnov			
Class	Statistics	df	Sig.
Paper Based Test	.120	37	<u>.198</u>
Quizizz	.123	38	<u>.158</u>

Based on Table 4.7 above, it can be seen that the df value = the number of students in each class. To see whether the data is normally distributed or not, it can be seen from the significance value (Asymp. Sig. 2-tailed) for the learning outcome scores of students who use the Paper based test of 0,198, and for students who use the Quizizz assessment tool of 0,158 because the significance of both is > than 0,05 it can be said that both variables are normally distributed.

b. Homogeneity Test

Data that has a normal distribution will be tested to the homogeneity stage, to find out whether the data in the two groups has the same variance (homogeneous) or not. This test requires test result data for class X RPL 1 and X RPL 2. This homogeneity test uses IBM SPSS 26 as explained in Table 4.8 below:

Table 4.8 Test of Homogeneity

Levene Statistic	df1	df2	Sig.
.052	1	73	<u>.820</u>

Based on the table above, it can be seen that the Levene Statistics value is 0.052, indicating how far the average difference between groups is from the overall average. The higher the Levene Statistics value, the greater the difference in the average score between the data groups being compared. Then, there is $df1 = 1$, which is the default value, because Levene's Test only tests the difference in variance between 2 groups without needing to enter the df value for each group. So $df1$ always has a value of 1. Then there is a value of $df2 = 73$ which is the combined degrees of freedom of the two groups ($N-2$ where N is the total sample). Total number of students = $37 + 38 = 75$ So $df2 = 75 - 2 = 73$. To see whether data is homogeneously distributed or not can be seen from the significance value (Sig.) in the table above the significance value is 0.820, which means > 0.05 , so can be confirmed that the data is homogeneously distributed, the "t" test can be continued.

c. Hypothesis Test

Hypothesis testing aims to find out whether there is a significant difference in average values between two groups. Hypothesis testing in this research uses the Independent Sample t Test formula assisted by IBM SPSS 26. The data processed in this test is data from the results of the degree of comparison material test which uses the paper based test and the Quizizz assessment tool. Data that has been entered and undergone processing will produce results as in Table 4.9 below:

Table 4.9 Test of Hypothesis

Assumption	F	Sig.	t	df	Sig.(2-tailed)	Mean Difference	Std. Error Difference
Variances Assumed	.052	.820	-.468	73	<u>.641</u>	-1.910	4.081

In the table above can be seen the row has the assumed variance because previously the data was homogeneous. It can be seen that the calculated t value is -0,468 and then compared with the t table (the t table contains values for making hypothetical decisions based on a comparison of the calculated t values and the values in the table) as seen in the table above, the t table is 1,993. Because the calculated t value is smaller than the t table ($0,-468 < 1,993$), the decision taken is that H_0 is accepted. Then at the sig value. (2 tailed) shows a figure of 0,641. Following the basic concept of decision-making explained in the previous chapter, if sig. (2 tailed) of 0,641 is greater than 0.05 ($0,641 > 0.05$) then H_0 is accepted and H_a is rejected. So it can be concluded that if H_0 is accepted, then there is no significant difference between the use of the Quizizz assessment tool and the paper

test assessment tool on student learning outcomes in mastering the comparative degree material.

A. Discussion

This research was carried out in classes X RPL 1 and X RPL 2 to obtain comparison results of student learning outcomes in English subject, in the degree of comparison material. The comparison of scores uses data results that have been tested on the two classes using the Quizizz assessment tool and paper based test.

Quizizz is a web tool that can be used as an evaluation tool. The Quizizz display is very interesting and interactive. It is accompanied by background sound which can increase students' enthusiasm in completing the tests given by the song instruments and can also stimulate students' thinking when studying and competing with each other to become first place (Lintjewas, 2022). Like a game, Quizizz has motivated students to get the most points and compete to be the winner in the first place. Therefore, the Quizizz assessment tool can improve students' cognitive learning outcomes. although the results of the increase are not significant. The paper based test is a traditional assessment tool that still uses paper as the medium. This assessment tool does not require an internet network so students do not have to be connected to a network (Tananda et al., 2023). It's just that when using paper as an assessment tool students are more passive.

The researcher prepared 45 questions on degree of comparison material, then the questions were tested for validity and it turned out that only 40 questions

were valid and 5 questions were invalid as shown in table 4.1. The researcher will explain the invalid questions one by one along with the analysis.

The first question that is invalid is question number 27 or question number 2, a true-false question. Of the 30 students, 11 students answered correctly and the rest answered incorrectly. Apart from the SPSS calculation which states that this question is invalid, after analyzing it, this question has a double meaning. The question is:

Sarah runs fastest than any other girl in her class. (F)

This question means it could be that Sarah is the fastest runner or Sarah runs faster than any other girls in her class. It is possible that students cannot guess and understand the reason why the question sentence is wrong, so they think the sentence is correct even though it is wrong. Students do not understand that the use of the word **than** in superlative degree is not necessary, if students want to continue using the word **fastest**, then remove the word **than**. On the other hand, if students continue to use the word **than**, then the word **fastest** is changed to the comparative degree formula, namely **faster**. So, the correct sentence is **Sarah runs faster than any other girl in her class.**

The next invalid questions are numbers 33 and 34 or numbers 8 and 9, true and false questions. In number 33 there were 18 students who answered correctly, and in number 34 there were 20 students who answered correctly. In the SPSS calculations, these two questions were declared invalid after analyzing these two questions as they were related and sequential. The question number 33 is:

Senny's hair is curlier than Bianca's (T)

and the question number 34 is:

The Building is higher than his company (T)

these two questions are related in terms of the type and form of presentation, namely they are both true-false. Apart from that, both of them also use the comparative form "**-er...than...**" in their statement sentences. This analysis strengthens the invalidity of these two questions. It would be better if the two questions were not arranged sequentially, so as not to make it easier for students to guess the correct answer because the degree of comparison form for the two questions is the same.

The fourth invalid question is question number 36 or number 1 from a fill-in-the-blank type question. This question is too difficult, the question and analysis are:

**Risma and Riri join marathon competition. Risma can run for 5 KM. But
Riri gives up earlier than Risma. Risma can run than Riri . (further)**

Out of 30 students, only 6 students answered correctly, this question is too difficult. The question consists of 2 paragraphs that students must read and understand to be able to answer it. This makes the question difficult. One possible reason the question is invalid is that students are confused about which adverb to use to complete the incomplete sentence in the question. There are no keyword clues in the question that point to the adverb "**further**" and there are several adverb choices that at first glance seem reasonable: **better, speed, longer, and more**. So many students answered this answer.

The fifth or last invalid question is question number 44 or question number 9 from the fill-in-the-blank question type. This question is too difficult, the question is:

My school is 3 KM from here, the market is 4 KM from here and the Town Square is 5 KM from here. So the school is than the market. (nearer)

There were only 6 students who answered correctly, so can be confirmed this question is too difficult. Just like the previous question, this question consists of 2 paragraphs which students must read and understand to be able to answer it. Students are also confused about which adverbs to use to complete incomplete sentences in the questions. This can be seen from the number of students who answered **far** and **closer** even though the truth is **nearer**.

Some of the things explained above are some of the reasons why these questions are invalid. After getting valid questions, the researcher simplified questions into 35 questions which the researcher then used as data collection instruments using two models of assessment tools.

Based on the teacher's explanation when the researcher conducted pre-observation, the students were familiar with both assessment models, both paper tests and Quizizz. So there is no significant difficulty in doing both. This is the reason that the increase in learning outcomes is not very significant even though the average value of the two assessments increases. This can be seen from the average score of the Quizizz assessment tool of 78,32 and the average result of the paper based test of 76,41.

Comparison of the cognitive learning outcomes of class X students is also necessary with hypothesis testing. After the test result data was tested, it produced a calculated t value of -0.468 and t table, namely 1,993, which means $t_{\text{calculated}} < t_{\text{table}}$ ($-0.468 < 1.993$). This means that H_0 is accepted and H_a is rejected. Then in the results processed by IBM SPSS 26, the sig value (2-tailed) is 0,641 compared to 0,05 it turns out to be bigger and means H_0 is also accepted. Based on this research hypothesis test, it can be concluded that there is no significant difference in student cognitive learning outcomes between the use of the Quizizz assessment tool and the paper based test.

There is no significant difference in students' cognitive learning outcomes in this study in line with the theory of Ayunengdyah et al., (2022), which states that there is no significant difference between the use of the Quizizz assessment tool and paper based test on student learning outcomes due to the time for completing questions in the Quizizz application which is too fast. This is different from research by Asria (2021) which states that the Quizizz media is effective as a medium for evaluating learning outcomes because students feel happy when using the application so they are quick and enthusiastic in working on questions.

However, the results of the data analysis did not show any significant differences between the Quizizz assessment tool and learning outcomes. The work test activities went well in class X RPL 2 which used Quizizz. During Quizizz in class, students looked very enthusiastic about answering the quiz. This is in line with research conducted by Nainggolan & Dewi (2022) which stated that from the

first to the last meeting, students always showed positive responses to the implementation of Quizizz in English classes.

Based on the explanation above, it can be concluded that there is no significant difference in the use of Quizizz as an assessment tool in the degree of comparison material on student learning outcomes. Even though there is no significant difference, the learning outcomes of students who use Quizizz have a better average of 78.32, while those in classes that use paper based test are 76.41. These results are to the statement of Pham (2023) which says that currently, gamification applied in various fields of English language teaching and learning has brought great benefits. Among them, fast feedback, music, colorful backgrounds, and clear displays can create a more interesting experience for students when working on assignments.