

CHAPTER IV

FINDINGS AND DISCUSSION

A. Findings

The research findings were the answering of problems statements that formulated in the first chapter. This part is also present the data analysis of using kahoot application as evaluation tools. In order to collect the data, the test and questioner were used to find out the validity, reliability, difficult items, difference items, dictator analysis and students responses.

1. The validity, reliability, difficult items, different items, distractor analysis by using kahoot application.

a. Validity of items

As mentioned in chapter III, validity refers to the precise measurement of the test. In this study, item validity was used to known the index validity of the test. To know the validity of this instrument, the researcher used the person product moment formula to analyze each item. Result validity of item can be seen in table 4.1 below:

Table 4.1 Validity items

Item	r_{xy}	r_{tabel}	Classification
1	0,423	0.291	Valid
2	0,247	0.291	Invalid
3	0,305	0.291	Valid
4	0,218	0.291	Invalid
5	0,378	0.291	Valid
6	0,132	0.291	Invalid
7	0,305	0.291	Valid
8	0,154	0.291	Invalid

9	0,326	0.291	Valid
10	0,309	0.291	Valid
11	0,129	0.291	Invalid
12	0,362	0.291	Valid
13	0,260	0.291	Invalid
14	0,443	0.291	Valid
15	0,180	0.291	Invalid
16	-0,189	0.291	Invalid
17	0,226	0.291	Invalid
18	0,228	0.291	Invalid
19	0,353	0.291	Valid
20	0,584	0.291	Valid
21	0,121	0.291	Invalid
22	0,216	0.291	Invalid
23	0,187	0.291	Invalid
24	0,171	0.291	Invalid
25	0,068	0.291	Invalid
26	0,220	0.291	Invalid
27	0,153	0.291	Invalid
28	0,238	0.291	Invalid
29	0,532	0.291	Valid
30	0,375	0.291	Valid

Based on the table above, the results obtained from the 30 questions that have been worked on by students. There are 12 valid questions, namely questions with

number 1,3,5,7, 9, 10, 12, 14,19,20,29, 30. 18 invalid question is the question number 2,4,6,8,11,13,15,16,17,18,21,22,23,24,25,26,27,28. The analysis of validity items can be seen in appendices 3.

b. Reliability

To get the coefficient of reliability of the test the writer applying the Kuder-Richardson 21 formula. From the calculation it is found the coefficient of reliability of the test is 0,44 with a range 0,00-0,59. So it can be concluded that the level of reliability in the test categorized low. The analysis of reliability can be seen in appendices 4.

c. Difficult Items

After analyzed the data for difficult items, the result of difficult items can be seen in table 4.2 below:

Table 4.2 Difficult Items

Item	Level of difficult	Classification
1	0,63	Moderate
2	0,63	Moderate
3	0,72	Easy
4	0,75	Easy
5	0,55	Moderate
6	0,82	Easy
7	0,72	Easy
8	0,82	Easy
9	0,55	Moderate
10	0,42	Moderate

11	0,69	Moderate
12	0,72	Easy
13	0,12	Hard
14	0,30	Hard
15	0,66	Moderate
16	0,57	Moderate
17	0,60	Moderate
18	0,72	Easy
19	0,63	Moderate
20	0,57	Moderate
21	0,60	Moderate
22	0,66	Moderate
23	0,51	Moderate
24	0,72	Easy
25	0,42	Moderate
26	0,81	Easy
27	0,48	Moderate
28	0,45	Moderate
29	0,42	Moderate
30	0,54	Moderate

Based on the result of data, the results of the calculation of the difficulty items of the 30 questions that have been issued are 2 questions in the hard category, 19 questions in the moderate category and 9 questions in the easy category. The analysis of difficult item can be seen in appendices 5.

d. Different Items

After analyzed the data for different items, the result of different items can be seen in table 4.3 below:

Table 4.3 Different Items

Item	Level of different	Criteria
1	0,44	Well
2	0,33	Enough
3	0,44	Well
4	0,44	Well
5	0,44	Well
6	0,44	Well
7	0,22	Enough
8	0,33	Enough
9	0,33	Enough
10	0,33	Enough
11	0,22	Enough
12	0,55	Well
13	0,22	Enough
14	0,44	Well
15	0,33	Enough
16	-0,33	Very Bad
17	0,33	Enough
18	0,55	Well
19	0,33	Enough

20	0,44	Well
21	0,22	Enough
22	0,33	Enough
23	0,44	Well
24	0,44	Well
25	0,33	Enough
26	0,33	Enough
27	0,66	Well
28	0,55	Well
29	0,66	Well
30	0,33	Enough

Based on the results of the evaluation, the results of the different items test were obtained, namely there were 14 questions in the well category, 15 questions in the enough category, and 1 question in the very bad category. The analysis of difference item can be seen in appendices 6.

e. Dictators Analysis

After analyzed the data for dictators' analysis, the result of dictators' analysis can be seen in table 4.4 below:

Table 4.4 Dictators Analysis

No Item Test	Dictators Analysis				Information				Description
	a	b	c	d	a	b	c	d	
1	3+	4++	21**	5++	G	VG	KA	VG	Multiple choice
2	21**	3+	4++	5++	KA	G	VG	VG	Multiple choice
3	24**	9++			KA	VG			True False

4	7---	1-	0--	25**	VB	E	B	KA	Multiple choice
5	19**	1--	7+	6+	KA	E	G	G	Multiple choice
6	7++	26**			VG	KA			True False
7	2+	24**	6--	1-	G	KA	B	E	Multiple choice
8	4--	27**	0--	2++	B	KA	B	VG	Multiple choice
9	19**	14++			KA	VG			True False
10	3-	14**	6++	10-	E	KA	VG	E	Multiple choice
11	23**	4++	3++	3++	KA	VG	VG	VG	Multiple choice
12	10++	23**			VG	KA			True False
13	12++	4-	4**	13+	VG	E	KA	G	Multiple choice
14	15--	5+	10**	3-	B	G	KA	E	Multiple choice
15	22**	11++			KA	VG			True False
16	3+	6++	19**	5++	G	VG	KA	VG	Multiple choice
17	2-	20**	1--	10---	E	KA	B	VB	Multiple choice
18	10++	23**			VG	KA			True False
19	3+	21**	2-	7-	G	KA	E	E	Multiple choice
20	6+	4++	19**	4++	G	VG	KA	VG	Multiple choice
21	20**	13++			KA	VG			True False
22	22**	3++	4++	4++	KA	VG	VG	VG	Multiple choice
23	17**	6++	5++	5++	KA	VG	VG	VG	Multiple choice
24	14**	9+	5++	5++	KA	G	VG	VG	True False
25	24**	9++			KA	VG			Multiple choice
26	27**	2++	2++	2++	KA	VG	VG	VG	Multiple choice
27	17++	16**			VG	KA			True False

28	15**	5++	7++	6++	KA	VG	VG	VG	Multiple choice
29	14**	4+	5++	10-	KA	G	VG	E	Multiple choice
30	18**	15++			KA	VG			True False

Where:

** = Key Answer (KA)

++ = Very Good (VG)

+ = Good (G)

- = Enough (E)

-- = Bad (B)

--- = Very Bad (VB)

Based on the results of the evaluation that has been carried out, it is found that the quality of the distractors that have been tested, the answer options are very good because only a few answer options have bad and very bad quality marked in red in the table above, while for yellow it means the answer key. The analysis of difference item can be seen in appendices 7

f. Recapitulations of test

The result of recapitulation test can be seen from the table 4.5 below:

Table 4.5 Recapitulation test

Item	Validity	Difficult items	Different items	Information
1	Valid	Moderate	Well	Used
2	Invalid	Moderate	Enough	Abandoned
3	Valid	Easy	Well	Used

4	Invalid	Easy	Well	Revision
5	Valid	Moderate	Well	Used
6	Invalid	Easy	Well	Revision
7	Valid	Easy	Enough	Used
8	Invalid	Easy	Enough	Abandoned
9	Valid	Moderate	Enough	Used
10	Valid	Moderate	Enough	Used
11	Invalid	Moderate	Enough	Abandoned
12	Valid	Easy	Well	Used
13	Invalid	Hard	Enough	Abandoned
14	Valid	Hard	Well	Used
15	Invalid	Moderate	Enough	Abandoned
16	Invalid	Moderate	Very Bad	Abandoned
17	Invalid	Moderate	Enough	Abandoned
18	Invalid	Easy	Well	Revision
19	Valid	Moderate	Enough	Used
20	Valid	Moderate	Well	Used
21	Invalid	Moderate	Enough	Abandoned
22	Invalid	Moderate	Enough	Abandoned
23	Invalid	Moderate	Well	Revision
24	Invalid	Easy	Well	Revision
25	Invalid	Moderate	Enough	Abandoned
26	Invalid	Easy	Enough	Abandoned
27	Invalid	Moderate	Well	Revision

28	Invalid	Moderate	Well	Revision
29	Valid	Moderate	Well	Used
30	Valid	Moderate	Enough	Used

Based on the results of the evaluation recapitulation, there are 12 questions that can be used, namely questions with the numbers 1,3,5,7,9,10,12,14,19,20,29 and 30. And there are 6 questions that must be revised because these questions are invalid but have different items and a level of difficulty good, namely questions 4,6,18,23,24,27 dan 28. And there are 12 questions that must be replaced.

2. Student's responses to use kahoot application

This term explained about student respond after using kahoot application, which answer in second question in this research, after conducting a test which was carried out online through the kahoot application which involved 33 students. Researchers distribute questionnaires to find out student responses. Then the results are obtained as in the table below.

Table 4.6 Student's Responses

No	Assessment Indicator	Percentage of score	Criteria
1	Attractiveness	78%	Interesting
2	Content quality	82%	Very Interesting
3	Language	82%	Very Interesting
4	The ease	85%	Very Interesting
Percentage results		81%	Very Interesting

Based on the table above, from the students' assessment after using the kahoot application, the results obtained on the assessment indicator were 78% attractiveness, content quality got a score of 82%, and language got a score of 82% and the ease of

getting a score of 85%. From the percentage results obtained from each assessment indicator obtained an average score of 81% with attractive criteria.

B. Discussion

The research findings were the answering of problems statements that formulated in the first chapter. This part is also present the data analysis of validity, reliability, difficult items, and difference items by using kahoot and analyze student responses after using kahoot.

1. Validity, reliability, difficult items, different items and dictator analysis by using kahoot

The results of the study of the 30 questions showed that there were 12 questions (36%) that were included in the valid category and 18 (60%) that were included in the invalid category. Invalid items should be revised and valid items can be used again for the test. The results of this study are in accordance with the theory of validity according to Anas Sudijono who says that items that have high validity reflect that these items have reliability and there is no need to doubt their accuracy in measuring students' abilities.¹For items that have low validity, it reflects that the questions are invalid so that it is necessary to take action on these questions.

Validity also concerns the extent to which the measurement is precise in measuring what it is trying to measure. Accuracy was assessed by content validity, construct validity, and criterion validity. The accuracy of content, constructs is judged by experts from their fields. The instrument is declared valid in terms of content and construct if the expert has not provided input from the instrument. The accuracy of

¹Anas Sudijono , *Pengantar Evaluasi Pendidikan*, (Jakarta: Raja Gravindo Persada,2012), p. 183

the criteria is assessed by comparing the instruments with the criteria. Comparisons were tested by correlation test. The more the validity coefficient is closer to +1.00, the more valid the instrument is indicated.²

Based on the description above, it can be concluded that most of the evaluation questions of the kahoot application are included in the low category of questions based on their validity because students simply answer questions without paying close attention first. For invalid items, revisions should be made by increasing technical mastery of how to make test questions. The problem can be valid because the construction is good and includes the material that is really the whole to be measured.

After calculating the validity, then calculating the reliability. Calculation of reliability using the KR-21 formula. Calculations are performed manually in Excel. The number of items is 30 questions. Providing interpretation of the test reliability coefficient (r_{11}) uses a benchmark if r_{11} is equal to or greater than 0.80 then the questions are declared reliable. However, if r_{11} is less than 0.80 then the test is declared unreliable.

Based on the calculation, the reliability level is obtained at 0,44. When consulted with the criteria from Guilford that determine the value of 0,60-0,79 is in the good or high category.³ So that it can be concluded that the question instrument is low and is said to be unreliable.

²Febrianawati Yusup, *Uji Validitas Dan Reabilitas Instrument Penelitian Kuantitatif*, Jurnal tarbiyah: Jurnal ilmiah kependidikan, (2018), p. 22

³Ahmad Soleh, Muhammad Khumaedi, Suwito Eko Pramono, *Pengembangan Instrumen Penilaian Mata Pelajaran Pkn Standar Kompetensi Memahami Kedaulatan Rakyat Dalam System Pemerintahan Indonesia*, Jurnal of educational research and evaluation, 2017, p. 78

For the difficulty items of the analysis results obtained from 30 questions, it was obtained 2 questions in the difficult category (7%), 19 questions in the medium category (63%) and 9 questions in the easy category (30%). In the evaluation questions using the kahoot application, the number of difficulty items in the medium category is still too much, namely 63% or 19 questions. This number is ideal number of questions set.

The ratio of the difficulty level of the questions should be 3: 5: 2. This means that 30% of the questions are in the easy category, 50% are in the medium category and 20% are in the difficult category. However, from the results obtained, the difficulty level of the questions with the medium category was more. And it can be seen from the results obtained by students which show that some questions cannot be answered by students so they get unsatisfactory results.

In relation to the results of the analysis of the difficulty level of the questions, follow-up is needed as follows:

- 1) For items that are in the good category, it means that the level of difficulty is moderate, if these items are entered into the question bank, so that they can be used again in future tests.
- 2) For items that are in the difficult category, there are several possible follow-ups, namely:
 - a) The item is discarded and will not be issued again in the next test.
 - b) Re-examine the factors that cause the students to answer the questions difficult to answer correctly in terms of clarity of sentences, clarity of work instructions, the possibility of terms that are difficult to understand, or misunderstanding of teaching materials.

3) For items that are in the easy category, there are several possible follow-ups, namely:

a) These items are no longer used in future tests

b) Reexamined to find out the factors that cause the students to answer the items so easily. The average questions are in the easy category, the distractor does not function properly so that students easily know which options are key and which are distractors. Therefore, revisions can be made by changing the choice of answers. After repairs are made, the items in question still have to be tested again to find out whether the degree of difficulty of the items is better than before. Like the questions in the difficult category, the questions in the easy category are also needed in evaluating student learning outcomes but with an ideal proportion of around 30% of the whole question.

The different items relates to the ability of the items to distinguish between students who master the material and students who do not master the material. A positive discriminating power value means it has a high distinguishing power, while a negative value of difference power means it has a low discriminating power. In the analysis that was carried out, the overall difference in the questions was known to have several questions that had very bad distinction or had a negative value. Of the 30 questions that had been tested, there were 14 questions with well difference, 15 questions with enough difference, and 1 questions with very bad difference.

Based on the results of this study, it can be concluded that as many as 87% of the questions tested had adequate differentiation power while 13% of the questions had weak distinctive power. The problem in the accepted or good category means that the question has the ability to distinguish between students who already understand

the material and students who do not understand the material. Problems on the criteria that are not accepted must be discarded because they cannot distinguish between students who have understood the material and students who have not understood the material.

Distractor analysis of the items was calculated using the distractor index formula using the ANATES program. Distractors are said to function well if at least 5% of all students are selected. Based on the analysis on the evaluation items that have been carried out from 30 items, there are 20 items (67%) with excellent distractor analysis, 4 (13%) items with good distracting analysis and 6 (20%) items with very bad distracting analysis not good. From this explanation it can be concluded that the results of the evaluation test using the kahoot application are of good quality in terms of the analysis of the fraudsters. Because 80% of all tests have a confusing analysis in the very good and good categories. According to Anas Sudijono, some of the follow-ups that can be done are as follows:

1. Items with well-functioning distractors can be stored in the question bank and can be reused in future tests.
2. The items with a distractor that are not functioning properly are replaced by another one.⁴

Guidelines that can be used to make good trickster according to Sumarna Surapranata are by using answer choices that are easy to understand by students,

⁴Anas Sudijono, *Pengantar Evaluasi Pendidikan*, Jakarta: Raja Grafindo persada, 2012, p. 147

using words that sound the same, using words that are roughly related, and using unquestioned book language or terminology. The truth.⁵

2. Students' responses to use kahoot application

Researchers have prepared a questionnaire on google form and sent it to students after doing an evaluation on the kahoot application. Researchers provide a questionnaire as an instrument in this study. Questionnaires help researchers to find out student responses after using the kahoot application as an evaluation tool in learning English. Researching adapting to the questionnaire. The number of questions in the questionnaire was 20 questions. Regarding the use of kahoot media as an evaluation tool in terms of attractiveness, quality of content, language, and ease of using the kahoot application.

Technology is a tool and means that can support the learning process. Learning technology can be interpreted as the application of scientific principles in solving learning problems. Therefore technology is a very important part of supporting the learning process. By utilizing existing technology, learning will be more interesting and students will be more enthusiastic in learning.

A variety of learning media can make it easier for teachers in the learning process, so that they can no longer use the same media. This is also in line with what Ningrum said that a lecturer is required to understand learning methods, especially those related to the selection of learning models. Indeed, media selection must be adjusted to the material themes to be discussed in class.⁶ Arsyad revealed that the

⁵Sumana Surapranata, *Panduan Penulisan Tes Tertulis Implementasi Kurikulum 2014*, (Bandung, PT Remaja Rosdakarya), p. 136

⁶Nigrum, *Study Of Application Of Interactive Quiz Media Based On Educational Game Kahoot! Regarding Student Learning Outcomes*, the Scientific Journal of Educational Sciences STKIP Persada Sintang, Vol 9. No.1, (2018): p. 22-27

benefits of learning media include clarifying the presentation of messages and information so that it can facilitate and improve learning processes and outcomes, increase and direct children's attention so that it can lead to learning motivation that has an impact on learning outcomes.

In teaching the teacher, of course, will try to make learning activities interesting so that students can understand and participate in learning activities well. The creation of an attractive learning atmosphere for students cannot be separated from the role of the teacher in choosing learning media. One example is the use of kahoot media as an attractive evaluation tool. The hope is that through the evaluation process using the kahoot application, it can make students more motivated and interested in the learning process so that it affects two things, namely: students and their environment. This is in accordance with the opinion stated by Susanto that learning outcomes are influenced by two things, namely students and their environment,⁷

Based on the table above, from the students' assessment after using the kahoot application, the results obtained on the assessment indicator were 78% attractiveness, content quality got a score of 82%, and language got a score of 82% and the ease of getting a score of 85%. From the percentage results obtained from each assessment indicator obtained an average score of 81% with attractive criteria.

From these results, that using the kahoot application as an evaluation tool in learning English makes casual evaluations more attractive to students. This data is also strengthened by research conducted by Flaviana Siwi Kusumawati where the

⁷Ahmad Susanto, *The Effectiveness of Using A Web Blog (Blog) as A Learning Medium on The Limit of Function Material in Class XI IPA 1 SMA Negeri 6 Yogyakarta For The 2016/2017 Academic Year*, (Yogyakarta: Sanata Dharma University), p. 12

results show that with the use of the kahoot application the classroom atmosphere when quizing is more relaxed and students enjoy taking quizzes compared to classical quizzes, making the class atmosphere tend to be serious and tense.⁸The use of the kahoot application in this learning process is fun and motivational. Some literature reveals that learning that is a game approach that involves students in digital technology, shows a greater desire to continue the next learning process compared to conventional learning. This is in line with research conducted by Lilis Amalia Rosdiana which shows that students are very interested in the use of the kahoot application as a quiz in Indonesian language learning. It can be seen from the response shown after filling out a questionnaire that has been distributed by the researcher. They answered that this kahoot application is not boring, easy to understand.⁹

The use of media as an evaluation tool is very helpful in the learning process. With the use of media for the learning process, it can increase the response of students in the learning process so that it can improve student learning outcomes.

⁸ Flaviana Siwi Kusumawati, *Perbedaan Respon Siswa Terhadap Penggunaan Kuis Klasik Dan Kuis Kahoot*, Skripsi of Universitas Sanata Dharma Yogyakarta: 2018, Unpublished

⁹Lilis amaliah Rosdiana, Students Responses toward Kahoot Application in Indonesian Subject, *Jurnal Alinea* Vol.8 No. 1: 2019.