

The Use of Flashcards in Vocabulary Mastery of The Students with Down Syndrome at SLB Negeri Pagar Alam

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ABSTRACT

It will be more complex and challenging when the English knowledge have to be delivered to the down syndrome students who essentially have serious interference in understanding concepts and ideas. Nevertheless, the teachers surely expect that students with down syndrome are able to comprehend English as students commonly. The main focus of this research was to find out there was significant improvement in vocabulary mastery after applying flashcards to the students with down syndrome at SLB Negeri Pagar Alam?" Pre-experimental design one group of pretest and posttest method was used in this research. The result of pre-test and post-test in class were compared by using paired sample t-test. The value of t -obtained was 10.156, at the significance value $p < 0.05$ in two tailed testing with $df = 4$, the critical value of the t -table was 2.776. Since the value of t -obtained was higher than the critical value of t -table, it means there was any significant improvement in vocabulary mastery after applying flashcards. So that flashcards media could improve students' vocabulary mastery to the students with down syndrome at SLB Negeri Pagar Alam.



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Teaching of English as a foreign language actually becomes a challenging and complex activity for teachers because it involves the process of teaching English Teaching of English as a foreign language actually becomes a challenging and complex activity for teachers because it involves the process of teaching English language to students whose first language is not English. Moreover, it will be more complex and

challenging when the English knowledge have to be delivered to the down syndrome students who essentially have serious interference in understanding concepts and ideas. Nevertheless, the teachers surely expect that students with down syndrome are able to comprehend English as students commonly, especially in teaching vocabulary. Education for students with special needs has been crucial issue and also a modern phenomenon distinctively. It took attention from many people, researchers especially, in all over the world.

According to Yanto (2020, p. 1) this issue basically has developed due to a stigmatization that the students with special needs or disabilities are mostly regarded having significant differences than students commonly. The differences clearly look on their interferences which adhere in them. One of serious interferences is a physic and mentality backwardness which is known well as down syndrome. It means that the studies tend to present how students with down syndrome obtain a language and it disappear the process of the teaching – learning itself was conducted. Therefore, it seems to be important to explore how actually the teaching – learning of foreign language is implemented to the students with down syndrome where in the teaching – learning of foreign language for down syndrome students at least will be found various obstacles and difficulties.

The teacher needs good strategies in teaching vocabulary to the students especially in keeping mental of students with disability such as Down Syndrome students. The teacher must be patience in teaching Down Syndrome especially in teaching foreign language that difficult. Down Syndrome children usually need guide with good handling, so they will be obedient, listen and more focus to the teacher (Nuryanti, Yulianti, and Rohaniah, 2021, p. 44). So, it needs more specific preparation and development of teaching-learning for the English teachers. In other words, the teachers are demanded to design what appropriate strategies and proper method must be implemented in the classroom. Then, how the teachers formulate very suitable syllabus design, methods and even assess to the down syndrome students in order to the learning effectiveness and materials given by the teachers can be obtained well by the students. In short, students with down syndrome need more attention in teaching especially teaching English as a foreign language.

It is known that teaching process need good strategies to make the students understand and interest to the material. The obstacles in teaching may come from the teacher itself, for example by giving less explanation, less mastering the materials or lack media used in teaching that makes the students are uninterested. Besides, the obstacle will come from the students for instance, since they were born as we called by Down syndrome. One of the strategies that can be apply in teaching vocabulary mastery at students with down syndrome is flashcard media.

Flashcard is a cardboard consisting of a word, a sentence, or a simple picture on it, definition by Komachali & Khodareza (2012). Flashcard is considered as a helpful strategy because its benefits. Moreover, teachers can also use flashcards for finding, assembling and presenting new words. Wulandari (2017) state that flashcards are the cards on which words and picture and painted or drawn. Flashcard is a set of cards that read information, such as words or numbers, on one or both sides. By using flash cards used casually, students are expected not feel burdened with the questions posed. Physically flash cards usually contain questions on one side, and answers on the other. The teacher holds the card and shows the student one side of the card containing the question. Then the student responds by answering the question on the card shown to him.

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In the other side, Andalas (2019, p. 23) said there are two types of flashcards, word flashcard and picture flashcard. Word flashcard are cards on which words have been printed. When practicing word order, the teacher can use a number of cards representing all the word in a sentence. The cards can be stacked to the board, or given to a student, and arranged correctly either by the class as whole or individual students. The pictures or illustration on the card should be attractive, a lot of fun and large enough for the whole class to see, because it will make the students interested.

By applying flashcards as a media in teaching English many advantages that students get, such as: help students in remembering what they have learned. Flashcards give variation on teaching. Teacher is not only to teach and to explain the lesson verbally, but also students are asked to express words on their own sentence. Flashcards can be brought everywhere because the size of the cards is not too big so that students can use their time to learn vocabulary easily. Flashcards are very helpful to refresh the mind of students' previous lesson before starting the new lesson. So that is why, the researcher interested to conduct this research, hopefully flashcard media also gives many advantages for students with down syndrome in mastery vocabulary.

For these reasons, the researcher conducted to find out how actually the English teachers do preparation such as designing syllabus of English, developing the materials of English as foreign language and others to the students with students down syndrome especially in mastery vocabulary. Based on the previous explanation, the researcher is interested in trying to know whether the use of flashcard can mastery vocabulary of students with down syndrome or not.

METHOD

Research Design

The design of this research used pre-experimental design, which used the one group of pre-test and post-test design. The characteristics of pre-experimental design was this design has pre-test and post-test without a control group. According to Fraenkel and Wallen (2009) "In the one-group pre-test-post-test design, a single group is measured or observed not only after being exposed to a treatment of some sort, but also before". The population of this study were all of the students with down syndrome C1 at SLB Negeri Pagar Alam in academic year 2021/2022. It consisted of 5, they were in one class XI. Saturation sampling was used by the researcher in this research to determine the sample, because the population in this research was less than 30 populations". In taking the sample, the researcher took XI as sample class that consisted 5 students.

Instruments and Procedures

Survey questionnaire

In this study, the researcher used tests for collecting the data. According to Brown (2000, p.384), "A test is a method of measuring a persons' ability or knowledge in given domain." The kind of test which used in this research is multiple choices test. There were two types of tests in this study, they were Pre-Test (before treatment) and Post-Test (after treatment).

The test was given to know the mastery vocabulary of the students which consists of 20 multiple choices. In the pre-test the researcher gave the test to the students in form of instruction to guest the meaning of word card and picture card based on the topic given by the researcher. Meanwhile, in post-test, the students asked to answer the same

procedure as the pre-test but with different topic, the post-test were used to measure the effect of certain treatments, in this case improving students' mastery vocabulary by using flashcard media. In the Pre-Test and Post-Test, the researcher used picture card and word card as the topic. The students' mastery vocabulary in the pre-test and post-test were analyzed by using Arikunto's scoring system for reading test. The formula to get the score was the total number of correct question multiplied by one hundred and then divided them by the total number of questions or $score = \frac{\text{the total number of correct question}}{\text{the total number of questions}} \times 100$.

In categorizing the students' presentation, the researcher used the range of the students' score from Arikunto (2013).

Table 3.3. The Distribution of Category Range (Arikunto, 2013)

Percentage Range	Grade	Qualification
80-100	A	Very Good
66-79	B	Good
56-65	C	Enough
40-55	D	Poor
<40	E	Failed

Fraenkel and Wallen (2009, p.147) say, "Validity is the appropriateness, meaningfulness, correctness, and usefulness of the inferences a researcher makes." they also argue that validity is the most important idea to consider when preparing or selecting an instrument for use. More than anything else, researcher want the information that they got through the use of an instrument helped them to reach their objectives.

In this study the writer used content validity. Fraenkel and Wallen (2009, p.148) explain, "Content related evidence of validity refers to the content and format of the instrument." The content and format of test instrument must be consistent with the definition of the variable and the sample of subjects to be measured, then the instrument also must consistent with the material that have been given to the students. In order to meet content validity, mastery vocabulary test was used in this study was designed based on teaching materials that is adjusted to the curriculum and syllabus used for the students with down syndrome C1 at SLB Negeri Pagar Alam as the sample of the study.

Therefore Fraenkel & Wallen (2009, p.154). "Reliability is the consistency of scores or answer, how consistent they are for each individual from one administration of an instrument to other, and from one set of term to another". Fraenkel & Wallen (2009) stated that reliability should be at least 0.70 and higher. After the score produced, the reliability calculated. To find out the reliability, the writer used Alpha Cronbach. The value of pre-test in experimental class was 0.759.

Reliability Statistics

Cronbach's Alpha	N of Items
.759	20

The result of reliability was 0.759 since the standard of reliability was 0.70, it means that the test of the study was reliable.

Data Analysis Procedures

The data in this study was analyzed by using Paired Sample t-test. Paired sample t-test were used to find out whether or not there was significant improvement of students with down syndrome at SLB Negeri Pagar Alam in the experimental before and after treatment.

For the calculation the writer used SPSS 23 (statistical product and service solution 23). According to Fraenkel and Wallen (2009, p. 23), “SPSS is a powerful statistical program that can be used to perform a variety of statistical procedures”.

In using this program, the writer did some activities those are:

1. Checked the data of students' score
2. Analyzing the data
3. Taking the conclusion base on statistical.

In this study to get the data from pre-test and post-test, the writer was analyzed and the process used statistical calculation by using SPSS program based on the formula, used paired t-test to analyze the significant progress in mastery vocabulary to the students with down syndrome at SLB Negeri Pagar Alam by using flashcards media.

In this research, the researcher used paired sample t-test to analyzed the significant progress from student' who are taught by Flashcard media. The researcher took one class as the sample that consist of 6 students and sig. 5% (0,05). While degrees of freedom (df). $df: 5-1=4$. $t \text{ table} = 2.776$. If the $t\text{-obtained} > t \text{ table}$ (2.776), the null hypothesis (H_0) was rejected and the alternative hypothesis (H_a) was accepted. But if the $t\text{-obtained} < t \text{ table}$ (2.776), the null hypothesis (H_0) was accepted and the alternative hypothesis (H_a) was rejected.

FINDINGS

Based on the result of the test, it was showed that in pre-test of class the lowest score was 40, the highest score was 65, the mean was 52.00, and the standar deviation was 9.74. Meanwhile, in the post test, the lowest score was 65, and the highest score was 80, the mean was 71.00 and the standar deviation was 6.51.

Table 1. Frequency, Mean and Standard Deviations of Students' Writing

Persentage Range Qualifica-tion	Experimental Class					
	Pretest			Posttest		
	F	%	mean	F	%	Mean
Very Good (A)	-	-	-	1	20%	16.00
Good (B)	-	-	-	2	40%	29.00
Enough (C)	1	20%	13.00	2	40%	26.00
Poor (D)	4	80%	39.00	-	-	-
Failed (E)	-	-		-	-	-
Total	5	100%	52.00	5	100%	71.00

In the table 1, the result showed there was significant improvement in students with down syndrome at SLB Negeri Pagar Alam after applying bilingual flashcards media. The results of students with down syndrome at SLB Negeri Pagar Alam showed that in pre-test there were 4 students (80%) which got D level with mean score (39.00), and 1 student (20%) got C level with mean score (13.00). Meanwhile in the post-test there were 2 students (40%) which got C level with mean score (16.00), 2 students (40%) which got B level with mean score (26.00), and 1 student (20%) got A level with mean score (29.00). It found that the students' score with down syndrome at SLB Negeri Pagar Alam had improvement from pre-test and post-test.

To find out whether was significant progress in students' vocabulary before and after treatment, the result of students with down syndrome at SLB Negeri Pagar Alam in pre-test and post-test were compared by the researcher, paired sample t-test was used.

Table 2. The Result of Paired Sample t-test and Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Post-test_class	71.000	5	6.5192	2.9155
Pre-test_class	52.000	5	9.7468	4.3589

Based on the result above, it was found that in both pre-test and post-test were at the significance level of 0.000 with the mean of pre-test was 52.000 and the mean post-test was 71.000. From the data analyses, it was found out that there was significance improvement between students with down syndrome at SLB Negeri Pagar Alam who were taught by using flashcards media

Table 3. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
			Std. Devia tion	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Post-test_class Pre-test_class	19.0000	4.1833	1.8708	13.8057	24.1943	10.156	4	.000

Since the value of t-obtained (10.156) the significant value (0.000) was less than 0.05 with the degree freedom (df) was 4 and the value t-obtained was higher than critical values of t-table, in which $10.156 > 2.776$, the null hypotheses (H_0) was rejected and the alternative hypotheses (H_a) was accepted. It was proved that there was significant improvement in vocabulary mastery after applying flashcards media to the students with down syndrome at SLB Negeri Pagar Alam.

DISCUSSION

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Based on the finding, the result of this study showed that there was any significant improvement in vocabulary mastery the students with down syndrome, it can be seen from mean score of pre-test was 52.000 while post-test the mean score was 71.000. In addition, the data analysis shows that t obtained higher than t_{table} ($10.156 > 2.776$). It means that the alternative hypothesis (H_a) was accepted and null hypothesis (H_o) was rejected. It shows that there was significant different score of the students' between before and after being taught using flashcards media in teaching vocabulary. It was supported by Habibi (2017) the result of his research was found the use of flashcards in teaching and learning students with disability of second grade in SMP Diponegoro, Junrejo, Batu has successfully improved students with disability' scores in vocabulary test. flashcards build students with disability positive response during vocabulary teaching and also the volunteer role help the English teacher in controlling the class condition. It is proven from field note that is written by the observation.

In line with Wulandari (2017) she states, after applying the use of bilingual flashcards in teaching vocabulary, the researcher found that such an approach was effective. During the process of treatment, the researcher observed that the students were very interested in the material that the researcher presented to them. The student thought that the teaching vocabulary through Bilingual Flash Cards was helpful to improve their vocabulary. In the use of flashcards media in vocabulary can increase the vocabulary of students because at the time before and after given pre-test and post-test students have comparison, before given post-test students have weakness in vocabulary and after post-test vocabulary students increased learning flash media cards can be effective because the results are significant.

Teaching vocabulary by using flashcards media made the students understood the meaning of vocabularies easily and they can write correct of vocabulary. So, flashcards media was alternative for the students in learning English especially in vocabulary students with down syndrome. This reason was based on the result of test after getting treatment. By applying flashcards as a media in teaching English many advantages that students get, such as: help students in remembering what they have learned. Flashcards give variation on teaching. Teacher is not only to teach and to explain the lesson verbally, but also students are asked to express words on their own sentence. Flashcards can be brought everywhere because the size of the cards is not too big so that students can use their time to learn vocabulary easily. Flashcards are very helpful to refresh the mind of students' previous lesson before starting the new lesson.

Practically this study was expected to able to give much contribution either as thought contribution or scientific contribution. Furthermore, it could be helpful information even as an additional reference for those who were conducting the same topic that was the teaching of English as a foreign language for students with Down syndrome.

There were some previous studies which were considered close to this research. The first research was done by Nugroho, Nurkamto, and Sulistyowati (2012) they found that, Student's vocabulary mastery improved. It was indicated by the results of the test. The students' achievement was satisfied enough. It can be said the existence of flashcards makes the students familiar with certain words. They can see, read, and touch the object. Thus, after the lesson is over, they can memorize the words easily. The increasing attention, motivation, and existence of flashcards improve of the students in mastering vocabulary.

These results align with prior research emphasizing the role of interactive and engaging media in language learning for students with disabilities. Hastomo et al. (2025) noted that integrating interactive tools, including AI-based chatbots, increased students' engagement and improved their language learning outcomes. Their study demonstrated that personalized feedback, gamification, and interactive tasks significantly fostered motivation and cognitive engagement. Although the current research employed traditional flashcards, similar mechanisms of engagement were observed. Furthermore, Novalina and Sari (2025) found that the Give One, Get One (GOGO) strategy significantly improved students' reading comprehension. The interactive exchange of ideas encouraged active participation, resulting in higher learning outcomes compared to conventional methods. This supports the argument that interactive and student-centered methods, whether in reading or vocabulary instruction, enhance retention and comprehension among learners.

The use of flashcards also resonates with findings by Sari et al. (2022) regarding Kinemaster-based video learning, where multimedia tools increased student enthusiasm and supported more effective teaching practices. The integration of multimedia and visual aids was shown to boost learners' motivation, similar to how flashcards enhanced the vocabulary mastery of students with Down syndrome in this study. From a pedagogical perspective, this study reinforces the importance of interactive learning tools, both traditional and digital, in supporting students with special needs. Future research could explore integrating flashcards with digital multimedia or AI-driven platforms to maximize accessibility and engagement, following the positive outcomes reported in previous studies.

Furthermore, Ngarofah, and Sumarni (2018) The experiment gave a result that there is an improvement in students vocabulary mastery after they were thought by using Flashcard. The students could memorize and understand English vocabulary more easily and be more interested to Learn English. This fact is contrast with student achievement before they were thought by using flashcard.

The similarity between the previous studies and this study was at the independent variable. All the studies used Flashcards Media. Meanwhile, the difference was at the dependent variable and the population of the research. Nugroho, Nurkamto, and Sulistyowati (2012) Used Flashcards Media to teach fourth grade students of SD Negeri II Watugung in the academic year of 2011/2012. Furthermore, Habibi (2017) used Flashcards Media to teach the students with disability at the second grade of SMP Diponegoro, Junrejo, Batu in the academic year 2017/2018. Meanwhile, Ngarofah, and Sumarni (2018) used flashcards media to teach fourth grade students of SD Muslimin Peusi Cililin. while in this study the writer used Flashcards Media to taught students with down syndrome at SLB Negeri Pagar Alam in academic year of 2021/2022

CONCLUSION

Conclusions are not just data repetition but present the essence of interpretation. They can be statements regarding expectations as stated in the introduction, finally leading to results and discussion, so that there is compatibility. In addition, the prospect of the development of the research findings and the research application in the future (based on the results and discussion) can be included.

Based on the findings and interpretation, it could be drawn a conclusion that there was a significant difference on the student post-test score students with down syndrome C1 at SLB Negeri Pagar Alam it showed that the significant value was (0.000) and t-

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obtained was (10.156). Since the significant value was lower than 0.05 level and t-obtained was higher than t-table (df = 2.776), so H_0 (The Null Hypotheses) was rejected and H_a (The Alternative Hypotheses) was accepted.

It is good idea for further study to implicate the study of down syndrom students in other skills, such as reading, speaking, listening and grammar teaching. It is suggested to provide flashcard in interesting pictures to gain students interest and make the learning process enjoyable. To make learning process more fun, it is suggested to blend the learning process using flashcard with playing vocabulary games. Overall, this teaching program is suggested to use flashcard in teaching vocabulary to students with down syndrome. For the future researchers, they can learn this study and get motivation to looking for the similarity topic and how to try get problem solving in any problem that comes in foreign language class especially in students with down syndrome.

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