

Development of Flashcard Use with QR Code to Teach Vocabulary for Fifth Grade Students in SD Negeri Modangan 03

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Abstract: Language is a very important thing to learn to be used in everyday communication. In learning a foreign language, vocabulary learning is one of the things that has a significant role. This is because vocabulary is the basis for making a sentence that can then be used for communication both in writing and orally. In an unstructured interview conducted by the researcher with teachers and students of grade 5 at SD NEGERI MODANGAN 03, the researcher found an interesting problem. The teacher who teaches English

in grade 5 of SD NEGERI MODANGAN 03 does not come from an English Education background, so she has difficulty finding effective media to teach English in class other than using student worksheets. Students have difficulty learning English because they do not know the meaning of the words on the student worksheets. Thus, the researcher decided that the purpose of this study was to develop teaching media that can help teachers in teaching vocabulary to 5th grade students of SD NEGERI MODANGAN 03. The research model used in this study is the ADDIE Model developed by Michael Molenda in 2015. There are 5 stages in this research process, namely Analysis, Design, Development, Implementation, and Evaluation. The media chosen by the researcher is Flashcard using QR Code to teach vocabulary. The results of this study can be seen from the N-Gain score of 58% which indicates that the learning media used is effective and provides good results. In addition, the average response value from students to the teaching media used is 88.5% which indicates that the teaching media used is able to increase students' interest and motivation in learning English.

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INTRODUCTION

English has become one of the subjects that are taught in Elementary schools in Indonesia as a local content subject. It is formally stated in the 1994 Curriculum based on the Education Minister's Decree number 1702/104/M/ 1994. In line with this regulation, English is taught starting from elementary school until college. Furthermore, English is taught from a young age for a certain reason, that is younger age students in level of elementary school, are capable of absorbing knowledge better (O'grady, 2009) This is intended to students an advantage in learning English sooner with the idea that the earlier the better (Faridatuunnisa, 2020).

Along with the implementation of an independent curriculum in 2022, English become an elective subject that can be given to students based on government regulations and regional characteristics/ local wisdom (Vivekanantharasa et al., 2022). However, the Education of Blitar District states that English is taught as a local content subject at Elementary Schools in Blitar Regency (Widiarini, et.al, 2023), hence all elementary schools provide English to their students from the first grade until sixth grade without considering the availability of sources including the availability of English teacher.

Independent curriculum mandates the focus of teaching English at the end of elementary school is students focus study on oral and written skills. Furthermore, in the procedure to achieve these oral and written skills, students are introduced to English through oral skills first, then it is followed by introducing written skills. In addition, the urgency of teaching English in the elementary school level was reported to respond the parental and social needs (Rusda & Kusnia, 2023).

Furthermore, it was found that in general, English is taught to students by a classroom teacher who did not have an English education background. This condition causes some problems in English language teaching in elementary school. English teaching in elementary school was less innovative. Teachers only give direct instruction to students to do some tasks from the available books or student worksheets.

The preliminary study about English language teaching has been conducted in SD NEGERI MODANGAN 03 on July 26th 2024. The result of this study found that the learning method used was the conventional method, namely direct instruction. Students were asked to read and do assignments from the book with instructions from the teacher "open the English book to page 45, then do the questions on the back page". In English learning there was only one student who brought a dictionary. At the end of the learning activity the teacher invited students to compare and discuss the results of the students' work. Researcher also conducted unstructured interviews with teacher who taught English lessons.

From interviews with teacher, it was found that students were only asked to answer questions from books. This is because teachers who teach English do not have a background in English education. Teachers who teach English are graduates of Indonesian Language Education. Then the researcher also conducted unstructured interviews with students. From the results of the interview, the researcher knew that students had difficulty working on questions from the book because they did not know the meaning of the words written in the book. With these difficulties, students often do not answer questions or answer carelessly. Based on the results of the observations above, the researcher knows that learning English is not fun because it only involves doing questions. Even though students need input and models for introducing vocabulary and pronunciation related to learning material. Based on the results of the preliminary study above, learning media is needed to increase students' learning motivation and also improve students' vocabulary skills.

Vocabulary is important point in language learning process (Permana, 2020). Teaching vocabulary can improve student's knowledge about English. Teacher can start teach vocabulary to students by show the name of something around students in English. According to it, teacher can also ask students to start communicate by using English in class. The important of mastering vocabulary in elementary school is a vital component of a well-rounded education. It not only supports academic achievement but also contributes to effective communication, critical thinking, and the development of lifelong learning skills.

There are several previous studies which use flashcards as learning media. One of them is Supriatin & Rizkilillah, (2018) entitled Teaching Vocabulary Using Flashcard. The result of the research showed how helpful the flashcard for students in learning vocabulary. The research according to Luardini, (2020) entitled Teaching Vocabulary By Using Flashcard Media At The Fifth Grade Elementary School. In this study researcher start the lesson by using book. Then researcher used flashcard as supported media. Flashcard can be helpful mediator between teacher and leaner in the process of learning English, The research according to Oryzanda et al., (2022) entitled Developing Flashcards Learning Media to Teach Grammar In Recount Texts For Tenth Grade. The development of learning media in the form of flashcards can be used in learning recount text on English grammar skill.

The flashcards to be developed are equipped with QR Codes. This use will help teachers pronounce words according to the picture. Innovation is carried out as an effort to make it easier for teachers to teach vocabulary in English. As is known, teachers who teach English in elementary schools are class teachers who generally do not have an English education background. Thus, the development of flashcards equipped with QR Codes plays a very important role in the smooth learning of English and students. According to previous researcher it can be seen that flashcard can be used to teach vocabulary in elementary school and also other language components.

However, the previous researches still have the limitation that is flashcard cannot help students how to pronouncing vocabulary. Moreover, acquiring vocabulary should be followed by knowing the meaning and pronouncing the vocabulary correctly. In hence the current research develop flashcard that completed with QR code which connected with pronunciation.

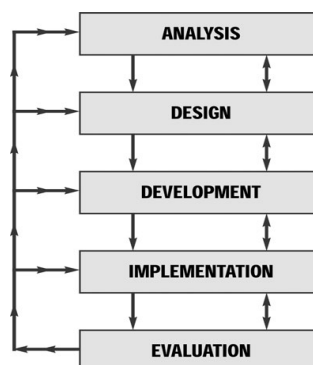
METHOD

Model Development

Research and Development is a research method that was used to create and evaluate the effectiveness of a product. To be able to create the product that match the needs of user, the research that is a needs analysis is carried out and to evaluate the effectiveness of the product so that it is in accordance with what is expected by the user, the research on the find product effectiveness is needed. The development research model will be used in this study is ADDIE model which is a process for developing and validating products in the form of English material for the fifth grades students in SD Negeri Modangan 03.

Procedure of Development

ADDIE was developed by influential experts, namely Michael Molenda in 2015. Molenda employs nouns (analysis, design, development, implementation, and evaluation) in her explanation of the ADDIE components. This model is derived from the ADDIE model, which is frequently used since it illustrates the systematized approach to instructional design (Molenda, 2015). Branch schematized the ADDIE model as a learning system design in this way:



Picture 1. Stages of the ADDIE Model

Analysis

In this phase researcher collect data from the target research. The data consist by student character, English level, teaching media, and the effectiveness of the media. The output from this phase is researcher can be easier to find objectives, then researcher can also easier to choose the media to achieve the objective

Design

After the researcher collect the data, researcher start to design teaching media. Researcher choose flashcard as a media to teach vocabulary. Flashcard designed as the following specifications:

1. Flashcard is a piece of paper containing images that match the theme for class 5 at SD NEGERI MODANGAN 03.
2. The Flashcard is contained about "asking and giving information" material.
3. Flashcard is made from A4 size HVS paper which is printed with colored images.
4. This flashcard is also equipped a QR code that can be scanned via a cellphone connected to the internet.
5. The QR code directed the teacher to the complement of the image on the flashcard. This resource provided assistance in identified objects in the image in the form of spelling and pronouncing.

Development

Researcher begin to develop flashcard using Canva to insert pictures into the flashcard. Flashcard also added QR Code that make teacher easier to teach vocabulary. QR Code added to flashcard by using QR Code Generator. To evaluate the prototype the researcher validated the quality to the validator:

1. Instruments Validator
2. Material Validator
3. Media Validator

Implementation

Researcher implemented the flashcard to teach vocabulary to Fifth Grade Students in SD NEGERI MODANGAN 03.

Evaluation

Evaluation process was conducted in each step of ADDIE model such as Analysis step, Design step, Development step, and Implementation step.

Data and Data Source

The types of data used in this study consisted by qualitative data and quantitative data.

Quantitative Data

Quantitative data is obtained from database of fifth grades in SD NEGERI MODANGAN 3. In looking for sampling for research, researcher used the Quota Sampling method. Quota sampling is a type of nonprobability sampling in which the researcher selects sample according to some fixed quota. Subsets are chosen and then either convenience or judgment sampling is used to choose people from each subset. The researcher decides how many of each category is selected (Anieting & Mosugu, 2017).

Class 5 at SD NEGERI MODANGAN 3 contains 13 students consisting of boys and girls. The researcher decided to choose all of them as the research sample.

Qualitative Data

Qualitative Data is obtained from the result of interview with class teacher and several students, observation of the class learning process.

Technique and Instrument of Collecting Data**3.4.1 Technique**

1. Observation

The researcher visited the school directly which is used as the research location to conduct observations. In this observation activity, an analysis was conducted related to several aspects including obstacles in learning English, student character, English language skills, learning media, and the effectiveness of learning media. This information is obtained by conducting unstructured interviews with class teachers and students.

2. Unstructured interview

Researcher conducted unstructured interviews with teacher and students. This was done to correlate the obstacles faced by teachers and students in the English learning process in the classroom.

3. Pre-Quiz and Post-Quiz

The researcher conducted a pre-quiz and post-quiz in testing the teaching media. The difference between the two is that the pre-quiz was conducted without using flashcards, while the post-quiz was conducted using flashcards. This aims to determine the results of using flashcards as teaching media.

4. Questionnaire

The researcher distributed questionnaires to students who are used as research samples. The questionnaire was contained a collection of questions that must be filled in by students. From the results of the questionnaire, the researcher determined what the teaching media was used in teaching English vocabulary.

3.4.2 Instrument

Instruments that researcher have been used are:

1. Field Notes

Field notes are detailed records that researcher create to document their observations, experiences, and reflections during fieldwork. In qualitative research, these notes are used as a main source of data since they capture the subtleties of the surroundings, interactions, and events as they happen. The goal of field notes is to help with subsequent analysis and interpretation by giving a thorough and accurate record of the research environment.

2. Unstructured Interview

Unstructured interviews were conducted by conducting small talk with teachers and students separately. In the chat, the researcher highlighted one important question and its answer to each teacher and student.

Highlight of unstructured interview with Teacher Highlight if unstructured interview with students

Researcher: "What is the difficult of teaching English in class 5?"

Teacher: "Because my background is not from English Education, I feel difficult to choose the media used to teach English effectively"

Researcher: "What is the difficult of learning English?"

Teacher: "Learning English is difficult because I do not know the meaning of the words"

3. Pre-Quiz and Post-Quiz Task

The researcher conducted a Pre-Quiz and Post-Quiz by giving assignments for each quiz. The assignment was given by writing questions on the board. The questions given were **"Make comparative sentences with different adjectives in each sentence!"**. That way, it can be known how much vocabulary the students have.

4. Questionnaire Sheets

A questionnaire is a research instrument consisting of a series of questions designed to gather information from respondents. It is frequently used to gather information about people's attitudes, beliefs, behaviors, or other traits in a variety of sectors, including psychology, marketing, social sciences, and health care. One can give questionnaires in a variety of ways, such as through interviews, online, or paper and pencil.

Validation of the Data

The validity test of the data includes the validity test and the reliability test (Siyoto and Sodik 2015). An unreliable or invalid research will produce biased conclusions, not in accordance with reality or can be wrong about the research being carried out. The following is the explanation of the validity and reliability tests in this study:

a. Validity

Brown (2004) noted that a legitimate instrument is one that is capable of measuring what was measured. Validation was used to assess whether or not the product's value is effective. Some skilled specialists inspected and evaluated the product that was made. The researcher could uncover the product's strengths and weaknesses by checking and assessing them, and then address the product's weaknesses. The product was validated by some professionals, including media experts and material experts. Furthermore, the instrument of media validation and material validation validated by expert judgement.

The assessment of the student's respond was served by questionnaire that validated by used product moment correlation formula is used as follows:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

Information:

Rxy = Instrument validity

x = Variable score (respondent's answer)

y = Total score of the variable

N = Number of Respondent

The basis for making decisions is valid or not the statement on the validity test can be seen in the following table:

Table 1. Validity Test Value Criteria
Validity Test Value Criteria

Correlation Coefficient	Interpretation
0,80-1,000	Very Strong
0,60-0,799	Strong
0,40-0,599	Medium
0,20-0,399	Weak
0,00-0,199	Very Weak

Source: Arikunto (2013)

Based on the table above, the criteria for the value of the validity test, that the statement on the questionnaire instrument can be declared valid if the validity level is above 0.60. If the level of the correlation coefficient is below 0.40, it is necessary to revise the statement of the questionnaire instrument based on the results of the validity test using the product moment correlation formula.

a. Reliability

The goal of reliability testing is to see how consistent the measurement findings are when done twice or more times for the same symptoms with the same measuring device. The Alpha Cronbach formula was used to assess the reliability of a test that does not contain a choice of "true" or "false" or "yes" or "no." It was used to evaluate the reliability of a test that measures attitude or conduct. The formula for Cronbach's Alpha is as follows.

$$r_{11} = \left(\frac{k}{k-1} \right) \left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2} \right)$$

Informations:

r_{11} = instrument reability

k = amount of question

$\sum \sigma_b^2$ = variable number of items

σ_t^2 = total variant

Table 2. Reliability Test Values

Interpretation of Reliability Test Values	
Question Reliability	Interpretation
Alpa>0,9	Perfect reliability
Alpa between 0,70-0,90	High reliability
Alpa between 0,50-0,70	Moderate reliability
Alpa<0,50	Low reliability

Source: Sugiyono (2013;173)

After calculating the validity test of the research instrument, the researcher also carried out calculations by measuring the reliability of the entire questionnaire instrument items that could be understood by the research respondents and did not have a double meaning from each instrument. Calculation of reliability test using SPSS 16 for windows. If the statistical reliability test is above 0.90, the statement item can be interpreted as perfect reliability, and if the reliability test is below 0.50, then the statement item is interpreted as low reliability

Technique Data Analysis

The data used in this research and development are qualitative and quantitative. Qualitative analysis techniques are used to analyze the results of data collection suggestions and input from experts using a qualitative approach, reducing data means

summarizing, selecting the main things, focusing on important things, then presenting data to conclusions (Sugiyono 2017).

Quantitative analysis used data processing in improving this research. Quantitative analysis of percentages is used to process data obtained from respondents including material experts, media experts, practitioners/teachers, and students. To determine the effectiveness of the media, the N-Gain score was calculated along with the percentage results from the student questionnaire.

1. N-Gain Score

"Normalized gain" (N-Gain) serves as a valuable framework in educational research. The N-Gain test is a widely used method for measuring the effectiveness of instructional strategies or interventions in enhancing student learning outcomes. This method provides a robust basis for evaluating the extent to which a learning program has contributed to the improvement of students' understanding.

Equation Used to Calculate the N-Gain Score:

$$N - Gain Score = \frac{Posttest Score - Pretest Score}{Maximum Score - Pretest Score}$$

N-Gain Score Interpretation (based on Hake, 1999):

Table 3. N-Gain Criteria

N-Gain Criteria	
N-Gain Score	Interpretation
0,70 - 1,00	High
0,30 - 0,70	Medium
0,00 - 0,30	Low
$g = 0,00$	No Improvement
-1,00 – 0,00	A decreased occurred

2. Media Feasibility

The data analysis technique used in this study is a form of descriptive analysis technique with percentages. The formula that will be used to process the data includes descriptive data analysis techniques in the form of percentages used to present data collection on trial data through questionnaires for material experts, media experts, and students.

The formula used to process the data is as follows:

$$P = \frac{\sum x}{\sum x_i} \times 100\%$$

Information:

P = needed percentage

$\sum x$ = ideal number of answers in 1 item

$\sum x_i$ = total respondent's answers in 1 item

100% = constanta

After obtaining data that is processed using this formula, the results are matched with the criteria. The product eligibility criteria are adapted from Arikunto (2010: 284-285). Product eligibility criteria can be seen in the following table.

Table 4. Test Result

Test Result			
Category	Percentage	Qualification	Follow-up
4	85-100%	Very decent	Implementation
3	75-84%	Decent	Implementation
2	56-74%	Decent enough	Revision
1	<55%	Not feasible	Revision

Source: Arikunto (2010:284)

Research Findings And Discussion

Research Finding

The conclusion presents several outcomes regarding the effectiveness of the product development. The initial findings were derived from the analysis of teachers' needs. Subsequently, the development of learning resources utilizing flashcards constituted the

second outcome. The third conclusion established the feasibility of creating media flashcards, as evidenced by expert validation and student feedback on the media. Additionally, the researcher examined the results of the student response survey in relation to the findings from the product trial conducted with fifth-grade students.

Results of need analysis

In the needs analysis phase, the researcher observed the teaching and learning activities in a fifth-grade classroom at SD Negeri Modangan 03. This observation aimed to determine the effectiveness of student learning in the classroom. Additionally, the researcher distributed a questionnaire to the students to gather information about their attitudes toward learning English, their interest in English-related subjects, their abilities, and the teaching and learning tools used.

Based on the observations and questionnaire responses, it was found that most students had difficulties with vocabulary. Moreover, students mentioned that the learning media used in class was still uninteresting, as it primarily consisted of student worksheets.

The researcher also conducted a needs analysis by interviewing English subject teachers. According to the interview results, the teacher reported that 13 fifth-grade students at SD Negeri Modangan 03 experienced difficulties with vocabulary-related material. This was demonstrated by the teacher's explanation of the students' performance when practicing simple sentences involving comparative structures. The teacher noted that the students tended to compose sentences using the same words repeatedly in some example sentences.

The teacher also described the media used during the classroom learning process. In teaching and learning activities, the teacher utilizes student worksheets. However, students often become bored during these sessions. This is evidenced by the teacher's observation that students tend to become sleepy or inattentive when the material is presented in class.

Based on the findings from the needs analysis, the researcher discovered that 77% of the students had difficulties with sentence construction in English. Additionally, 80% of the 13 students expressed a preference for learning through engaging and interesting media.

The Process of Development

This process aims to develop educational media in the form of flashcards for teaching vocabulary. The initial stage of product development involves analyzing student needs in relation to the teaching requirements identified by teachers. The production and development of this media are tailored to the material for the second semester of fifth-grade students at SD Negeri Modangan 03. After determining the appropriate product based on the results of the teacher's needs analysis, the researcher proceeded to the initial phase of media design.

The flashcard media consist of picture cards, with the front side displaying an animal-themed image alongside the name of the animal. On the reverse side, the cards feature the corresponding word in Bahasa Indonesia. Additionally, the cards include translations used to construct simple comparative sentences, which students write based on the image or word presented on the flashcards. Furthermore, each flashcard contains a QR code in the corner, which directs teachers to audio resources demonstrating the correct pronunciation of the words.

Upon completing the product design, the researcher printed the flashcards, producing physical cards approximately the size of an identification card. An example of the final flashcard product is presented in Table 5.

Table 5. An Example of The Final Flashcard Product

No.	Picture of Flashcard	Information
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1.

Flashcard featuring
animal images

2.

Flashcard featuring
adjectives

3.

Flashcard featuring
comparative
vocabulary

4.

Flashcards featuring
superlative vocabulary

The results of the development of this flashcard media was checked for product feasibility by expert validation. This aims to see whether the product is worthy of being used as a teaching medium for fifth grade students.

Expert Judgement

Two experts evaluated the feasibility of the product developed by the researcher. This evaluation will be conducted by a media expert and a subject matter expert, who will assess whether the media aligns with the curriculum and learning material for fifth-grade students.

a. The Result of Media Expert Validation

The finished media is then brought to a media expert to see if the product is following media standards.

Table 6. Media Validation Table

No.	Judgment	Score	Max Score	Percentage
1.	The design is easy to use	4	5	80%
2.	The text and images make it easy to find the right vocabulary	4	5	80%
3.	Makes learning more varied	4	5	80%
4.	Can enhance student motivation	3	5	60%
5.	Students show enthusiasm when using flashcards	4	5	80%
6.	Media presented in card format	5	5	100%
7.	The language is clear and easy to comprehend	5	5	100%
8.	The typeface utilized in the material	5	5	100%
9.	Clarity of the text	5	5	100%
10.	Clarity of picture	5	5	100%
11.	The size that is used	5	5	100%

Total Score	49	980%
Mean	4,5	89,1%

According to the results presented in the validation table, media experts evaluated the teaching media and assigned a score of 89.1%. This score is categorized as highly valid, indicating that the media is appropriate for instructional use, but there is a minor revision shown in the following table:

Table 7. Revision from The Media Expert

Media Expert	Revision
Winda Khoirun Nisak, M.Pd	A discrepancy was identified between the barcode and the corresponding image; a minor revision is required to ensure consistency

b. The Result of Material Expert Validation

The validation of this material was carried out to determine whether the media created by the researcher was valid following the material in the research class. The table of material validation results is in table 7.

Table 8. Material Validation Table

No.	Judgment	Score	Max Score	Percentage
1.	The material aligns with the Core Competencies (KI) and Basic Competencies (KD)	4	5	80%
2.	The material aligns with the indicators and the intended learning objectives.	4	5	80%
3.	The media material is easy to understand	4	5	80%
4.	The material is presented systematically	4	5	80%
5.	The material aligns with the underlying concepts	4	5	80%
6.	The content is designed to suit the learners' abilities	4	5	80%
7.	The example images are easy to understand	4	5	80%
8.	Comprehension of the questions provided	3	5	60%
9.	Understanding the framework for using the media.	3	5	60%
Total Score		34		680%
Mean		3,7		75,6%

It can be concluded from the material expert validation results that the teaching media received a score of 75.6%. This score falls within the “valid” category, indicating that the media is deemed appropriate and feasible for instructional use, but there is one revision of the material following the table:

Table 9. Revision from The Material Expert

Media Expert	Revision
Fitri Arini	It is necessary to provide clear instructions on how to use the flashcards. Additionally, a dedicated box or container for organizing the flashcards would enhance usability and maintenance.

c. Revision

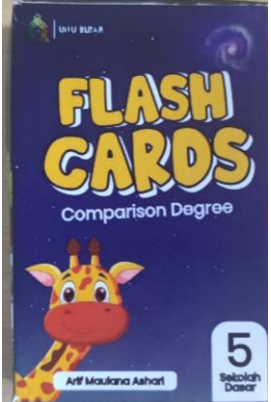
After conducting media validation and content validation with two experts, the author made revisions based on the feedback received. The following are the results of the revisions suggested by the media expert:

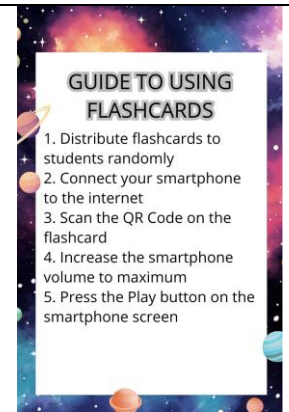
Table 4.6. Before and After Revision from The Media Expert

Before	Revision	After
	A discrepancy was identified between the barcode and the corresponding image; a minor revision is required to ensure consistency	

The following are the revisions made in response to the material expert's evaluation is:

Table 10. Before and After Revision from The Material Expert

Before	Revision	After
No box.	It is necessary to provide clear instructions on how to use the flashcards. Additionally, a dedicated box or container for organizing the flashcards would enhance usability and maintenance.	



d. Data Validity Test

At this stage, the researcher conducted a trial of the flashcard media feasibility questionnaire with students above grade 5. A sample of 13 sixth-grade students from Blitar Regency was selected. The following are the summary results of flashcard media feasibility questionnaire trial:

Table 11. Results of Flashcard Media Feasibility Questionnaire Trial

No.	Respondent	Score
1.	Respondent 1	40
2.	Respondent 2	38
3.	Respondent 3	36
4.	Respondent 4	37
5.	Respondent 5	41
6.	Respondent 6	24
7.	Respondent 7	24
8.	Respondent 8	39
9.	Respondent 9	23
10.	Respondent 10	36
11.	Respondent 11	42
12.	Respondent 12	35
13.	Respondent 13	37

Based on the data obtained, the researcher processed the data using the Product Moment formula and Cronbach's Alpha coefficient to determine the validity and reliability of the questionnaire that was developed. The results of the data analysis are as follows:

1. Validity Test

The researcher tested the validity of the questionnaire used in the study to assess the feasibility of the flashcard media by employing the Product Moment formula. The results of the questionnaire validity test are as follows:

Table 12. Validity Test Result

Number of Questions	$r_{\text{calculate}}$	r_{table}	Decision
1	0,759	0,553	Valid
2	0,589	0,553	Valid
3	0,635	0,553	Valid
4	0,625	0,553	Valid
5	0,620	0,553	Valid
6	0,757	0,553	Valid
7	0,612	0,553	Valid
8	0,703	0,553	Valid
9	0,600	0,553	Valid

Based on the validity test conducted by the researcher on the feasibility questionnaire of the flashcard media with 13 respondents, using the Product Moment formula, the results showed that the calculated r-value (r count) was higher than the critical r-value (r table) (r

count > 0.553). Therefore, it can be concluded that the questionnaire is valid for use in the study and data collection in the field.

2. Reliability Test

The researcher tested the reliability of the questionnaire used in the study to collect data regarding the feasibility variable of the flashcard media, employing Cronbach's Alpha reliability coefficient formula. The results of the reliability test are as follows:

Table 13. Reliability Test Result

Reliability Statistics	
Cronbach's Alpha	N of Items
0,828	9

Based on the reliability test conducted by the researcher on the flashcard media feasibility questionnaire with 13 respondents, using Cronbach's Alpha reliability coefficient, the calculated r-value was 0.828 ($r \geq 0.70$). This result indicates that the questionnaire falls within the "very strong" reliability category and is therefore reliable for use in the study and data collection in the field.

Implementation

This implementation was conducted to see the results of the data on the effectiveness of the teaching media used. This product trial exercise was carried out by giving quizzes to students. At the first step, researcher give students a quiz only used student worksheet without flashcards.

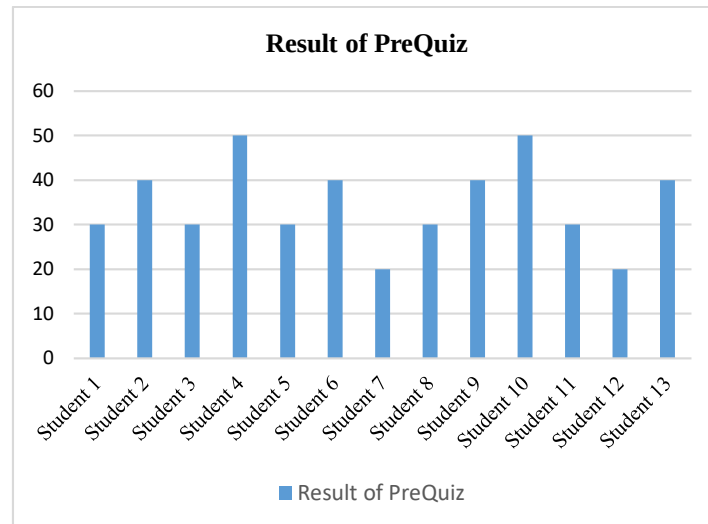
a. N-Gain Score

The quiz was conducted through a direct question-and-answer session with students, consisting of ten questions on comparative vocabulary. During the quiz, students were asked comparative vocabulary questions related to animals, and their correct answers were recorded. The results of the question-and-answer session conducted prior to using the flashcards are presented as follows:

Table 14. The Result of Quiz Before Using Flashcard

No.	Name of Student	Result of Quiz
1.	Student 1	30
2.	Student 2	40
3.	Student 3	30
4.	Student 4	50
5.	Student 5	30
6.	Student 6	40
7.	Student 7	20
8.	Student 8	30
9.	Student 9	40
10.	Student 10	50
11.	Student 11	30
12.	Student 12	20
13.	Student 13	40

The results of the quiz before the use of flashcards are shown in the graph below:

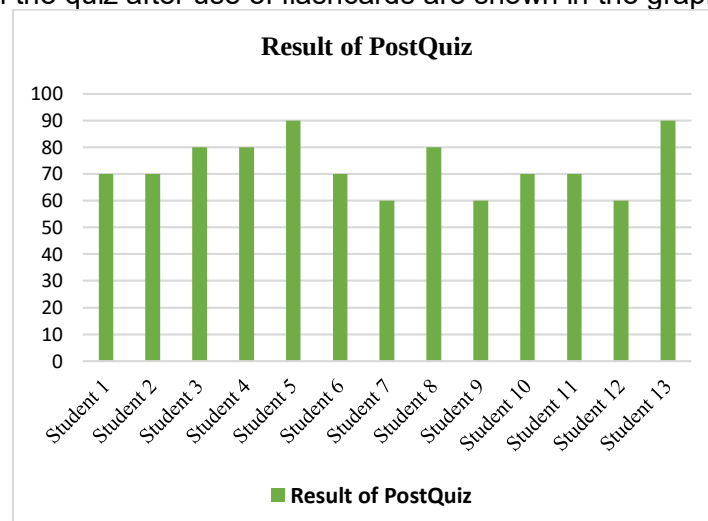
**Picture 1.** Graph of PreQuiz Result

Then step two, Researcher give students same quiz like at the first step, the difference is at the step two researcher use flashcards as teaching media. Researcher are conducting this trial to evaluate students' interest in these learning resources, which may have an impact on how the teaching and learning process develops in the classroom.

Table 15. The Result of Quiz After Using Flashcard

No.	Name of Student	Result of Quiz
1.	Student 1	70
2.	Student 2	70
3.	Student 3	80
4.	Student 4	80
5.	Student 5	90
6.	Student 6	70
7.	Student 7	60
8.	Student 8	80
9.	Student 9	60
10.	Student 10	70
11.	Student 11	70
12.	Student 12	60
13.	Student 13	90

The results of the quiz after use of flashcards are shown in the graph below:

**Picture 2.** Graph of PostQuiz Result

The results from the pre- and post-quizzes can be used to calculate the N-Gain score. This N-Gain score is used to determine the effectiveness of the media in vocabulary learning. The N-Gain score results are presented in the following table:

Table 16. N-Gain Score

No.	Name of Student	Pre	Post	Max Score	Difference	N-Gain Score
1.	Student 1	30	70	100	40	0,57
2.	Student 2	40	70	100	30	0,50
3.	Student 3	30	80	100	50	0,71
4.	Student 4	50	80	100	30	0,60
5.	Student 5	30	90	100	60	0,85
6.	Student 6	40	70	100	30	0,50
7.	Student 7	20	60	100	40	0,50
8.	Student 8	30	80	100	50	0,71
9.	Student 9	40	60	100	20	0,33
10.	Student 10	50	70	100	20	0,40
11.	Student 11	30	70	100	40	0,57
12.	Student 12	20	60	100	40	0,50
13.	Student 13	40	90	100	50	0,83
Mean						0,58

The results show an average N-Gain score of 0.58, which corresponds to 58% when converted to a percentage. This indicates that the media has a moderate N-Gain score and is reasonably effective for use in vocabulary learning.

b. Student Response Form

In addition to conducting the quiz directly, the researcher employed a student response questionnaire to assess students' evaluations of the developed flashcards. It serves as a researcher evaluation and seeks to determine how well the learning media support student learning in the classroom.

The results of the student responses are presented in the following table:

Table 17. Result of Student Response Sheet

No.	Name of Student	Score of Form	Percentage (%)
1.	Student 1	29	64
2.	Student 2	44	97
3.	Student 3	40	89
4.	Student 4	43	96
5.	Student 5	36	80
6.	Student 6	40	89
7.	Student 7	44	97
8.	Student 8	44	97
9.	Student 9	36	80
10.	Student 10	44	97
11.	Student 11	32	71
12.	Student 12	44	97
13.	Student 13	44	97
Mean			88,5

The results from the table indicate that students responded positively to the flashcards used for vocabulary learning. Nine out of thirteen students rated the flashcards as very good. With an average score of 88.5%, it demonstrates that the flashcard media is highly suitable for use in the learning process.

Evaluation

After the media development process, expert validation, media revision, and finally product or media trials, the researcher can conclude the feasibility of the teaching media. The researcher calculated the feasibility level from the results of filling out the respondent's questionnaire, resulting in a percentage of 88,5%. It can be concluded that the teaching media is feasible to use for teaching. For evaluation, the researcher has improved the

teaching media following the revisions suggested by expert validation and improved by looking at the respondent's suggestions.

Discussion

Teaching must be able to keep up with changes in this period of more advanced development, particularly in the teaching medium. Teaching media can be utilized to support the teaching and learning process in the classroom in a significant way. Teacher can help students to avoid feeling bored with learning language using teaching media that are used in the classroom. Particularly in English-related topics, where there is relatively little student enthusiasm. The teacher found that majority of students lack enthusiasm for learning English because they believe that it is not useful in daily activities. This is also a result of the short amount of time allotted for teaching English in the classroom, which leaves many students have weaknesses in both knowledge and proficiency in these areas. As a result, a development for English-related teaching media is convened.

The researcher's formulation of the problem in light of their observations of the issues that teacher was having. The researcher discovered issues in the classroom where the usage of boring teaching media can make difficulty for teacher to improve pupil's motivation to learn. Vocabulary is really necessary for learning the language. In each quiz, the researcher discovered concepts for developing teaching media that were in line with the issues at hand. Therefore, the researcher also takes into account learning competence, in-class characteristics of the target students, time constraints, and the quality of media development when selecting this learning medium. With these factors in mind, the researcher decided to develop a product in the form of vocabulary-learning flashcards.

The development of flashcards with appealing media displays intends to serve as a teaching tool that can help teacher inspires fifth grade students of SD Negeri Modangan 03. Therefore, to increase students' interest in studying English, particularly in improve their vocabulary, the researcher created as attractive a design as they could. This caused teacher who had previously that teaching English is difficult, especially in terms of vocabulary, can be solved. The student's interest in learning activities and the responses to student surveys indicating that they enjoy the teaching medium show that the obstacles which experienced by teacher have been resolved. Students seem satisfied with the implementation of teaching through media development.

The material based on the competencies and indicators taught in the research target class is taken into consideration during the development process. The teaching medium is suitable to be utilized as an approach to education to teach English vocabulary in a classroom related to the development process by the ADDIE development model. Where the developing flashcards media results are used or implemented by teacher to fifth grade students in SD Negeri Modangan 03. From the results of the implementation process, the students progressed. After that, the researcher determined the media be developed by the results of the need analysis. Then the researcher begins to design media, validate experts, revise learning media suggestions from expert validation, implementation to targets, and evaluate the learning media. This media was developed by the analysis of teacher's needs for English teaching media in the classroom which can support teacher to further encourage enthusiasm and ability in learning English.

The researcher relates his research to the study of literature to reinforce it by examining the findings of earlier researcher, some of whom may have conducted reviews that are not included in this study. The literature study by (Kusuma, 2018), states that developing English picture cards is very suitable to be used to increase the English vocabulary of elementary school students (Iswari, 2017) in his literature study explains that the use of Flashcard Media for learning English is said to be effective because students experience increasing results. It is clear from some of these literary analyses that the development of flashcards as a teaching media for English in the classroom was quite successful.

However, due to limited time, subjects, and basic competency test materials, the researcher only developed teaching media in the form of flashcards for teaching comparative sentence material. Additionally, the researcher only tested the use of media development for fifth grade students SD Negeri Modangan 03 comparative sentence material once. The researcher only used two qualified validators for their respective fields'

validation tests. It is improbable that this media output won't affect students' learning outcomes because it is consistent with the researcher's objectives, which are limited to develop flashcards to teach English vocabulary.

The researcher suggests that the outcomes of his research into the use of media flashcards for teaching comparative sentence material can be used appropriately. Due to the growth of this medium, it uses as one of the supporting medias for vocabulary skills. Additionally, it can assist teachers in stimulating students' attention and inspiring them to participate in English learning activities. According to the final conclusions, English learning in the classroom will be more effective and conducive, especially in vocabulary skills.

CONCLUSION

The development of teaching media in the form of flashcards can be used in teaching comparative sentence on English vocabulary skills. Using media flashcards in the classroom can make teaching interesting and enjoyable. The applied flashcards media can help teacher effectively to draw in and motivate students in line with the study's goals. By the research objectives, the implemented flashcards media can successfully attract and motivate students. The development of this teaching media can provide opportunities for teacher to make students to be more enthusiastic about learning English. Where students who have weaknesses in vocabulary in English can improve their ability in vocabulary skills. Additionally, it is anticipated that teachers will be able to develop and implement teaching media that can be used to stimulate students' interest in class-based instruction. It can be concluded that the development of teaching media has a significant impact on teacher's method to teach in the classroom. So, it is hoped that future studies will be able to identify teacher's difficult and provide better teaching media for the teaching and learning process in the classroom.

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