The effectiveness of context-based flashcard media on the reading and writing ability of Bima script of elementary school students in Rabakodo

Naila Fauziah [a, 1, *], **Khusnul Khatimah** [a, 2], **Nastri Khairunnufus** [b, 3]

[a] STKIP Taman Siswa Bima, Bima, Indonesia

[1] nailafauziah0515@gmail.com; [2] khatimah19@gmail.com; [3] khairunnufusnastri@gmail.com
* Correspondent author

KEYWORDS	ABSTRACT
Bima Script Elementary School Flashcards Learning Literacy	This study aims to evaluate the effectiveness of contextual-based flashcard media in improving the ability to read and write Bima script among elementary school students in Rabakodo Village, Bima Regency. The background of this study departs from the condition that learning Bima script in schools is still very limited, generally only relying on textbooks without media variations, so that students are less motivated and not able to read their local script properly. The research used a descriptive quantitative approach with a simple one group pretest-posttest design. The research subjects were 35 students in grades IV, V, and VI who were purposively selected from two elementary schools in Rabakodo. The instruments used were Bima script comprehension test, observation sheet, and documentation. Data were analyzed using normality test, paired t test, and effect size calculation. The results showed a significant increase in students' ability after learning with flashcards. The average pretest score of 24.25 increased to 81.20 on the posttest with $p < 0.001$ and a very large effect size (Cohen's d = 5.32). In addition to the increase in test scores, students also showed enthusiasm, active engagement, and higher learning motivation. Thus, contextual-based flashcard media proved effective in improving literacy in Bima script while contributing to the preservation of local culture.

Introduction

Bima script, also known as Mbojo script, is a traditional cultural script used by the Bima people on the eastern tip of Sumbawa Island. Bima script has two versions, namely the ancient Bima script and the Bima Mbojo script. Bima script is said to have a shape similar to the Lontara script in Bugis. Bima script was originally useful for writing various religious texts, customary law, literature to writing the Bima language or Nggahi Mbojo (Salahuddin et al., 2021). So far, the majority of schools have not been optimal in introducing Bima Script material in their local content subjects. It is evident from research conducted by Arsyad that most schools in the Bima region have not made Bima script part of compulsory local content, so students do not get access to learning it formally (Arsyad, 2020).

This is also based on initial research with elementary school students in Rabakodo Village who are members of the Teman Belajar community. They said they only saw the shape of the letters of the Bima script. Initially, the Teman Belajar community was a group of students who studied every Saturday afternoon to improve students' literacy. Learning lasted for three months with significant results. The improvement experienced by students varied, such as being able to recognize letters, reading fluently and being able to retell their reading and writing. They also expressed a desire to learn Bima script. In addition,

the results of an interview with one of the teachers at SDN Rabakodo stated that Bima Script learning is only in a few classes with a textbook as a guide.

The current situation is the lack of student knowledge of local culture. The majority of elementary school students are more familiar with popular culture outside the region and even the country. This is due to the rapid exposure to social media, the internet and other digital entertainment. This situation causes students to be less familiar with their own local culture such as regional languages, dances, traditional music, traditional ceremonies, and regional scripts (Takiddin, 2025). Another cause is the lack of integrity of local culture in the curriculum. Currently, although the national curriculum provides space for local content, the application of teaching local culture in schools is still very minimal. Many teachers in elementary schools do not have sufficient teaching materials or training to teach local culture in an interesting and effective way to their students (Kembdikbud, 2018; Hidayati, 2020). One of the media that can be applied to support learning Bima Script is Flashcard Media.

The connection between local culture that elementary school students have not yet learned and supporting media such as flashcards lies in the role of flashcards as concrete, engaging visual tools that facilitate the introduction of cultural values, symbols, and practices in an accessible and enjoyable manner. Since local culture is often abstract or unfamiliar to students due to limited exposure or experience, the use of flashcards featuring relevant images, vocabulary, or cultural contexts helps bridge this gap. By providing visual and linguistic cues, flashcards make it easier for students to comprehend, recall, and internalize cultural concepts, thereby fostering awareness, appreciation, and a deeper understanding of their local heritage from an early age. The use of flashcard media has been proven effective in improving the memory of elementary school students through systematic and effective repetition exercises, to introduce new vocabulary to elementary school children (Yuliana & Prasetyo, 2018; Sari, 2020). Moreover, findings from various studies indicate that flashcard media demonstrate a high level of effectiveness in supporting the learning process (Erni et al., 2025; Fadilah et al., 2025; Hasan et al., 2023; Rachmawan et al., 2025). Therefore, learning Bima script through flashcard media is very important to be introduced to elementary school students.

Bima script is one part of Bima culture that should be preserved and maintained. Many ancient manuscripts and important historical documents use Bima script. Currently, elementary school students are shackled by the times. On the other hand, it makes learning easier because of the ease of obtaining information. The influence of the internet without supervision causes a decline in morals and character in students. In addition, students tend to be apathetic towards their environment (Irham, 2023; Yuliana & Hidayat, 2020). In the midst of rapid globalization, Bima script, Bima language, or Nggahi Mbojo, needs to always be learned as a symbol of pride in local values. In addition, Bima script is currently included in the category of script that is almost extinct in the community. This is because it is rarely used and known in everyday life. In addition, teachers only teach from textbooks without other media. This causes elementary school students to be slow to know, read and write Bima script. Therefore, it is very important that Bima Script be introduced to elementary school students so that they can directly access authentic sources of regional history and literature from the manuscripts and foster a sense of love for the region (Hakim, 2020; Pemerintah Kabupaten Bima, 2017; Rohimah et al., 2023; Yamin, 2016). Therefore, learning Bima Script is important to be implemented.

In the world of basic education, efforts to improve early literacy cannot be separated from adaptive and innovative learning approaches. One ofm the media that has proven effective in supporting the learning of letters and characters is flashcards. Flashcard media is a learning tool in the form of letter cards with information content in the form of words, pictures, symbols that are useful for increasing students' understanding of the material and their memory (Arsyad, 2007; Suyanto, 2005). This media is not only a visual aid, but also activates a fun, concrete, and meaningful learning experience for students. Flashcard media can have a positive effect on improving reading, writing, learning outcomes, motivating students and increasing students' language vocabulary effectively and significantly (Prabowo et al., 2021; Tarusu & Harun, 2024; Budiyanto & Hotimah, 2022; Arsyad, 2007). Flashcard media can make it easier for students to recognize, write and read the Bima script. In the midst of the limitations of students and school facilities in Rabakodo in technology, Flashcard media can be the main alternative in learning.

The contextual-based approach / CTL (Contextual Teaching and Learning) is a learning approach that makes it easier for students to understand the subject matter by linking it to the context of students' real lives. In CTL, learning does not only focus on theory but on the application of knowledge in everyday life situations (Depdiknas, 2023; Nurhadi, 2004). Flashcard media is used as a visual aid because it contains images, words designed to stimulate thinking with the experience or environment around students (Lestari & Hidayat, 2022; Rahmawati & Amin, 2023).

The study Rohmatin et al. (2023) at SD Inpres Malakaya Gowa confirmed that the use of flashcards can significantly improve students' letter shape recognition. In this classroom action- based research, student

learning achievement increased from 24% in cycle I to 92% in cycle II. This increase shows that flashcards are able to build student interest, reduce boredom in the classroom, and encourage active participation in the learning process. In line with that, (Wiranti & Hasanah, 2024) also found that Javanese script flashcards had a significant impact on the ability to write Javanese Legena script of third grade students of MI Darul Huda 02 Karanggondang. In the pretest-posttest experimental design, the average student score increased from 69.62 to 91.29. These results show that visual media contextualized with local culture not only functions as a cognitive trigger, but also as a medium for cultural preservation.

Contextualization is an important point in the effectiveness of flashcards. When the pictures and words in flashcards are relevant to the students' environment or culture, the learning process becomes more personalized and meaningful. This is proven in a study by Azzahra et al. (2025), where flashcards were used in thematic learning with a local approach. Flashcards containing images of animals around students as well as local characters were shown to accelerate the mastery of letters.

Furthermore, Febriana & Asfuri (2024) research at SD Negeri 03 Wonorejo shows that learning Javanese characters through flashcards is not only able to improve learning outcomes, but also helps students in understanding complex letter forms such as Javanese characters. Teachers observed that with the use of pictorial media and concrete texts, lower grade students became easier in performing the letter abstraction process, increased learning activities, and showed higher interest in local Javanese cultural materials.

Learning media innovation was also raised in a study by Pebriyani et al. (2023) regarding Sundanese script flashcards. Here, flashcards functioned not only as a memorization tool, but also as a medium for fine motor training in writing the script. When the flashcards were designed in an interactive and colorful way, the children showed higher interest and enthusiasm in getting to know the local letters.

This study presents a novelty in the development of a learning medium for the Bima script through the use of contextual flashcards. Unlike previous studies that primarily focused on theoretical introductions to the Bima script or utilized digital-based media, this research emphasizes a contextual approach that connects the learning process with the learners' cultural environment. The materials presented in the flashcards not only include equivalents in the Indonesian language but also feature representations of the Bima (Mbojo) script and vocabulary in the Bima/Mbojo local language, thereby strengthening the interrelationship between language, script, and local cultural identity.

Furthermore, the content of the flashcards is designed using examples of objects, terms, and concepts that are familiar to the Bima community, including traditional items used in the past. This approach enables learners to perceive the script not merely as a writing system, but as a medium for understanding and appreciating the cultural values embedded within it.

Compared with previous studies, to date no research has specifically linked the learning of the Bima script with the use of flashcards as a culturally contextual educational tool. Therefore, this study provides a new contribution to the field of local script preservation and education through the innovation of a simple, contextual, and culturally oriented learning medium aimed at strengthening cultural literacy.

Based on the description above, the purpose of this article is to examine whether contextual- based flashcards are effective in improving students' Bima script reading and writing skills at SDN Rabakodo, Bima district.

Method

This research used a descriptive quantitative approach with a simple one-group pretest- posttest design. This design was chosen because it is suitable for measuring the effectiveness of learning media in the form of flashcards in improving students' understanding of Bima script, by comparing students' abilities before and after being given treatment.

The research was conducted for one month, with an intensity of three meetings per week. The research sites were two primary schools in Rabakodo Village, Bima District. The selection of this location was purposive because the two schools had diverse student characteristics and represented the learning conditions in primary schools in general in the area.

The number of research subjects was 35 students selected from several different classes, namely classes IV, V, and VI. The number of students taken from each class ranged from 4 to 8 people. The selection of these various classes was done deliberately with the aim of obtaining more representative research results and providing a more comprehensive picture of the use of flashcards in a broader learning context. The sampling technique was carried out by purposive sampling by considering the diversity of students' cognitive levels. Thus, the research subjects did not only come from students with high academic ability, but also included students with moderate to low ability. This consideration is important so that the effectiveness of flashcards can be assessed thoroughly and not biased towards certain groups of students.

The instrument used in this study was a Bima Script comprehension test, which consisted of multiple choice and short fill-in questions prepared in accordance with the basic competencies in the school curriculum. The test was given in two stages, namely pretest before treatment and posttest after treatment. In addition, the researcher also used an observation sheet to record student activities during the learning process using flashcards, including student engagement, enthusiasm, and interaction between students. Documentation in the form of photos and field notes were also used as supporting data to strengthen the research results can be seen in Table 1.

Table 1. Instrument Observed

No	Aspects Observed	Descriptive Guidelines	Observation Results
1	Student Engagement,	o How is the students' attendance and level of attention toward the teacher and the Bima script material? o To what extent do the students actively participate by asking questions, providing answers, or following the teacher's instructions? o Do the students demonstrate consistent focus during the learning activities, or do they appear easily distracted?	
2	Enthusiasm	o What facial expressions and gestures do the students display during the learning process (such as smiling, laughing, or showing curiosity)? o Do the students demonstrate an eagerness to practice writing the Bima script and to use the media autonomously? o Are there observable comments or indications of sustained enthusiasm throughout the learning session?	
3	Interaction between Students.	o How do students communicate with their group mates? o Do they collaborate, help each other, or copy each other's writing and reading skills? o Do they have positive conversations or provide feedback?	

The research procedure was carried out through several stages. First, the researcher coordinated with the class teacher to determine the schedule of activities and identify the students who became the samples. Second, the researcher gave a pretest to the students to determine their initial level of understanding of Bima script. Third, the treatment in the form of learning using flashcards media was carried out in six meetings. At this stage, students were introduced to the letters of the Bima script through interesting and interactive visual media. The flashcards were designed with simple yet contrasting colors, images, and text, making it easier for students to recognize the shapes and sounds of the letters. Fourth, after the treatment was completed, the researcher gave a posttest to measure the improvement of students' understanding.

Data collection techniques in this study were conducted through three ways, namely: (1) test, to measure students' learning outcomes; (2) observation, to see students' involvement during learning activities; and (3) documentation, to record the implementation of activities. The data obtained from the test results were analyzed using comparative descriptive statistical techniques, namely by comparing the average scores of students' pretests and posttests. This analysis aimed to determine the extent to which flashcard media contributed to the improvement of students' understanding of Bima script. Observation and documentation data were analyzed descriptively qualitatively to provide a contextual picture of student activeness during the learning process.

Results and Discussion

Effectiveness Analysis Result

The effectiveness of the contextual flashcard media in learning the Bima script was evaluated through pretest and posttest assessments conducted with 35 elementary school students in Rabakodo. The tests were designed to measure students' ability to **read and write Bima script characters**. The analysis showed a significant improvement in students' performance after the implementation of the contextual flashcards. The **mean posttest score was considerably higher than the mean pretest score**, indicating that the use of culturally contextualized flashcards effectively enhanced students' literacy in the Bima script.

Students demonstrated greater accuracy in recognizing symbols, improved fluency in reading simple words, and increased confidence in writing short sentences using the script. In addition, qualitative observations revealed that the inclusion of familiar cultural elements and traditional objects in the flashcards fostered higher engagement and motivation among learners. These findings suggest that contextual flashcards serve as an effective and culturally responsive medium for revitalizing local script literacy among young learners in Bima can be seen in Table 2.

Table 2. Score of reading and writing Aksara Bima before and after using
Media Flashcard of Bima Script

No	Data	PreTest	PosTest
1.	MAP	21	88
2.	ZM	30	90
3.	PK	18	73
4.	AF	30	78
5.	P S	34	84
6.	NAR	33	87
7.	AP	38	83
8.	RM	9	50
9.	AP	15	76
10.	DPN	18	87
11.	SKA	30	80
12.	MB	24	80
13.	PAA	15	90
14.	AS	27	70
15.	AN	27	82
16.	SI	9	78
17.	AF	15	86
18.	AR	12	87
19.	KR	30	89
20.	AL	15	88
21	AR	33	75
22.	NL	26	72
23.	MA	15	76
24.	ID	48	94
25.	RG	26	70
26.	AM	33	88
27.	NF	27	87
28.	RR	24	77
29.	FN	35	74
30.	FAA	16	88
31.	AK	32	82
32.	NL	21	80
33.	ALM	15	88
34.	KA	12	75
35.	MLA	36	90

The results of the normality test of the pre-test and post-test variables can be seen in Table 3.

Table 3. The results of the normality test of the pre-test and post-test

	Kolmogorov-Smirnov [a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pre-test	.125	35	.186	.957	35	.179
post-test	.152	35	.039	.882	35	.001

Based on table 3 above, the komogorov-smirnov test shows that the p-value for the pre-test is 0.186 (>.05) and Shapiro-wilk shows the p-value for the pre-test is 0.179 (>.05). This indicates that the pre-test data is normally distributed. For the post-test data, the Komogorov-Smirnov test showed that the p-value for post-test was 0.039 (<.05) and Shapiro-wilk showed the p-value for post-test was 0.001 (<.05), indicating that the post-test data was not normally distributed. Since one of the data is normally distributed, the parametric test through paired sample t-test can be conducted. The paired sample t -test results are shown in Table 4.

**Table 4**. Paired samples statistics of pre-test and post-test

Paired Samples Statistics				
		Mean	*N*	*Std. Deviation*	*Std. Error Mean*
Pair 1	*Pretest*	24.2571	35	9.39131	1.58742
	Posttest	81.2000	35	8.50536	1.43767

Table 5. Effect sizes (Cohen's d and Hedges' correction) for pre-test and post-test

Paired Samples Effect Sizes					
		Standardizer[a]	*Point Estimate*	*95% Confidence Interval*	
				Lower	*Upper*
Pair 1	*pretest – posttest*	*Cohen's d*	10.70168	-5.321	-6.619	-4.016
		Hedges' correction	10.94521	-5.203	-6.472	-3.926

Based on the paired sample t-test results, there is a significant difference in the pre-test and post-test results. The pretest results were much lower (M = 24.25, SD = 9.39) than the post-test results (M = 81.20, SD = 8.50) with a difference of -56.94 points. These results show that there is a high difference in mean scores between the post-test and post-test. This is reinforced by the statistical test results which show t(34) = -31.48, p < 0.001. With a p-value lower than 0.05, the paired sample t-test shows the significance of using Contextual Based Flashcard Media in learning bima script. Furthermore, the very large effect size value (Cohen's d = 5.32) indicates that this contextual-based flashcard media has a strong influence in learning Bima script.

A comparison chart between the pre-test and post-test scores obtained can be seen in Figure 1.
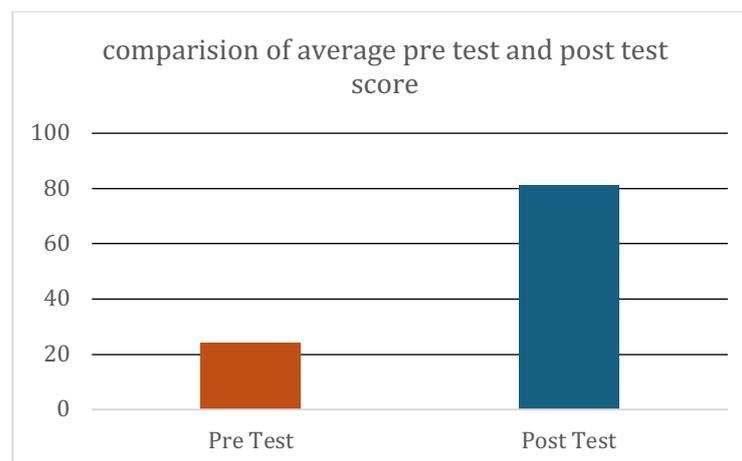
Fig 1. Average pre-test and post-test scores

The results of the comparison of the average pretest and posttest scores can be seen in Figure 1. The bar chart shows a very striking difference between the initial achievement and the achievement after the treatment. The average score on the pretest was only around 24 points, indicating that the majority of students were still at the low end of their ability to read the Bima script. Most students were only able to recognize the shape of the letters without being able to pronounce or arrange them into meaningful words.

After being given treatment in the form of learning using contextual-based flashcards, there was a very significant increase in posttest results. The average student score rose to around 81 points, an increase of more than three times compared to the initial achievement. The increase in this graph shows visual evidence that contextual-based flashcards are very effective in strengthening regional script literacy skills. The drastic change from the average score of the pretest to the posttest also confirms that the visual and local culture-based approach can improve students' understanding more deeply while motivating them to learn actively. In addition, the data can be seen in the observation results can be seen in Table 6.

Table 6. Observation Results

No	Observed Aspects	Observastion Results
1	Student Engagement,	Of the 35 students enrolled, all were present during the learning process. The observation indicated a high level of engagement: both passive participation (listening attentively to the teacher's explanations) and active participation (asking and answering questions) were consistently observed. Qualitatively, many students responded to the teacher's instructions without additional prompting, demonstrating intrinsic motivation to participate in the Bima script learning activities. The indicators of attendance and the frequency of answering questions reflected a generally even level of engagement across the group.
2	Enthusiasm	Students demonstrated a high level of enthusiasm toward the use of flashcard media. Several aspects support this finding: (a) students were able to operate and apply the flashcards independently without continuous assistance from the teacher; (b) the activities were designed in a game-like format, allowing students to "learn through play," which elicited positive emotional expressions such as smiling, laughter, and enthusiasm; and (c) there were no significant signs of boredom throughout the session. These findings indicate that the flashcard media align well with the psychological characteristics of the learners and effectively enhance their learning motivation.
3	Interaction between Students.	The interaction among students was collaborative and constructive. During group activities, students showed strong cohesion when answering game-related questions, dividing roles, and engaging in discussions to reach correct answers. Peer assistance was also observed when some members experienced difficulties in reading or identifying the characters. This pattern of interaction indicates an effective form of cooperative learning, in which the flashcard media functioned as a facilitating tool for discussion and teamwork.

The combined results across three aspects: student engagement, enthusiasm, and interaction between strudents, indicate that the use of flashcards in teaching Bima script at Rabakodo Elementary School improves the quality of the learning process. Students learn more easily, improving their reading and writing skills. This media not only facilitates mastery of the material but also strengthens social dynamics in the classroom.

Discussion

The Effectiveness of Context-Based Flashcard Media on the Reading and Writing Ability

The implementation of the activity began with giving a pretest to identify students' initial ability to recognize and use Bima script, including letter recognition, word formation, and the ability to read simple sentences. Based on the results of the pretest that had been conducted in learning Bima script, it was found that many students had not reached the Minimum Completeness Criteria (KKM). This result shows that students' understanding of the material is still relatively low. Most students are only able to recognize the shape of Bima script letters without being able to read, write, or understand their use in the context of a sentence. This low achievement was caused by the limited learning methods. Teachers only rely on textbooks as the only source of learning. Meanwhile, the material in the textbook has not been presented comprehensively. The book only covers the introduction of Bima script letters without an in-depth explanation of how to write, pronounce, or more complex language structures. The lack of a variety of learning media also makes students less interested and have difficulty in understanding the material thoroughly. As a result, the learning process becomes less effective and unable to fulfill students' learning needs optimally.

In the first meeting, students began to recognize 30 basic letters in the Bima script by utilizing flashcards. Each card contained one letter and its pronunciation. The learning activities were interactive, starting with the teacher showing the flashcards while mentioning the name of the letter, then the students

imitated together. This is followed by a letter guessing game using cards that are displayed randomly, as well as letter writing exercises in the student book. The use of flashcards is considered very effective because its attractive and simple appearance makes students more quickly understand the shape and sound of letters. This finding is in line with research that also experienced an increase in vocabulary and recognition of hijaiyah letters after using flashcards (Syamsiah & Ma'rifatullah, 2023; Wulandari, 2025; Aisyah et al., 2022). Students also showed high engagement and positive learning spirit. The next meeting focused on the introduction of sandangan signs (harakat), which are symbols that give vowel sounds to basic letters. The teacher showed the shape of the harakat and explained how to use it. Furthermore, students practiced reading and writing syllables formed from the combination of base letters with sandangan, such as "bi", "bu", "be", and "bo".

After students understand the basic letters of the Bima Script and their harakat signs, the learning continues by giving examples of the use of Bima Script letters that have been given harakat. The media used in this activity is still in the form of flashcards, but with more complex content, namely the combination of letters and vowel pairs. The teacher shows one by one the flashcards that have displayed the letters along with their harakat, for example "bi", "bu", "bu", "bo", and students are asked to read in unison. Through this visual approach, students find it easier to recognize letter shapes and distinguish variations in their sounds. After giving examples and practicing reading syllables, the learning continued with educational games to form words from the letters of the Bima script. In this game, students were divided into small groups and given a collection of flashcards, each containing one letter or letter with a harakat. Their task was to arrange the cards into meaningful words in Bima, such as names of objects or places. This activity not only trains reading and word- structuring skills, but also builds teamwork and increases learning motivation.

This study shows that the use of flashcards is not only effective in Indonesian language learning as has been proven by a few previous researchers (Musyadad et al., 2020; Hoerudin, 2024; Musdalifah, 2023; Parawansa et al., 2022), but can also be effectively adapted in the context of local script learning. This finding confirms that flashcards are flexible as a learning medium as they can support comprehension in both national languages and traditional scripts. Thus, the results of this study broaden the scope of flashcards' effectiveness, not only limited to foreign language or national language acquisition, but also to the preservation and teaching of local scripts that have important cultural values.

Through a combination of visual media and educational games, students are more enthusiastic, active and willing to try. Learning is fun yet meaningful as it combines cognitive, affective and psychomotor elements. This media proved effective in strengthening students' understanding of the sound structure and shape of the script, as well as developing basic literacy skills in regional script. In the next meeting, the learning focus shifted to writing words in Bima script that were related to the surrounding context. Students were invited to write familiar vocabulary in everyday life, both in Indonesian and Mbojo, to make learning more meaningful. The examples given are not random, but contextual, such as the names of animals that are often encountered, objects or conditions in the school environment, and body parts. This approach aims to make students not only recognize the shape of the script but also understand the meaning of the written word, so that they are able to connect between symbols and the reality around them.

After the students were accustomed to writing the vocabulary, the activity continued with a word reading game in Bima script. In this game, students are asked to read the words they have written and those prepared by the teacher, both in Indonesian and their equivalents in Mbojo. Students play in groups in the form of "guess the word", "pair the meaning", or "speed reading". The aim is to strengthen reading skills and expand vocabulary, while creating an interactive and fun learning atmosphere. Through these context-based writing and reading activities, students showed improvement in recognizing the characters, understanding the meaning of words, and relating the characters to their environment. This method with flashcards is effective for building basic literacy skills, fostering a love for the local language. In addition, it instills a deeper meaning of learning because it is based on things that are close to students' lives.

Students who can write and read simple words in Bima script, then proceed to a more complex stage, namely composing and writing simple sentences in Bima script. At this stage, students are given several words in Bima script, then directed to arrange them into complete sentences that are in accordance with the structure of Indonesian and Mbojo language. The example sentences used are still related to the context of the students' surrounding environment, such as activities at school, descriptions of objects in the classroom or circumstances at home. This aims to keep learning relevant and easy to understand. After composing and writing, the activity continues with reading the sentences in Bima script that have been compiled previously. Students are asked to read independently and in groups, both orally and by silent reading. This activity encourages students to understand the meaning of the sentence, as well as practicing fluency in reading the Bima script. The teacher can also insert a question-and-answer session about the content of the sentence to ensure students' understanding of the content of the reading, not just their ability to read letters.

To conclude this series of lessons, the students were consolidated in their ability to write and read sentences in Bima script. Students were given some practice questions to write sentences based on pictures, copy sentences from text and read random sentences from cards or worksheets. This stabilization activity is important to measure the extent to which students' skills have developed, as well as to strengthen their mastery in writing and reading Bima Script as a whole and continuously. This approach not only sharpens linguistic skills, but also instills confidence in using Bima script actively and contextually.

After the Bima Script learning process was completed, a posttest was conducted to measure students' level of understanding and skills in reading and writing Bima Script. This evaluation used contextual-based flashcard media, where students were asked to read and write words or sentences in Bima Script that were directly related to the surrounding environment, such as animal names, objects in the classroom, school activities, and body members from worksheets. The posttest results showed that the majority of students had met the Criteria for Achieving Learning Objectives (KKTP). This indicates that the treatment was successful. Especially with the consistent use of flashcards and based on contexts that are familiar to students. The use of this visual media helps strengthen students' memory and understanding of the letter forms, sounds, and meanings of words in Bima script.

Although some studies show that digital flashcards are more effective than conventional media, the results of this study show that even conventional flashcards can have a significant positive impact on script learning. The results of Yüksel et al. (2020) indicated that digital flashcards contributed more to students' success in learning technical vocabulary. However, in contrast to this study, the results of this study show that even conventional flashcards can have a significant positive impact on learning script. This shows that digitization is not the only factor that determines the effectiveness of the media, but the suitability of its use to the learning objectives. This is reinforced by Chen & Chan's (2019) research comparing the use of augmented reality (AR) flashcards with traditional flashcards in early childhood vocabulary learning. The results showed that both media were equally effective in improving children's vocabulary acquisition, without any significant difference between them. This finding supports the results of this study that conventional flashcards can also play an effective role in script learning, even without the support of digital technology.

This success was also supported by the high level of enthusiasm and active involvement of students during the learning process, both during writing, reading, word building and educational play with flashcards. Thus, the posttest is not only a formal evaluation tool, but also a reflection that the learning media applied has been effective in developing literacy skills in Bima script in a comprehensive and fun way. This Bima script learning activity has an important role in preserving local culture because the script is part of the identity of the Bima people. In addition to introducing cultural heritage, this learning also fosters a sense of pride in the local language. Recognizing letters and characters is an important basis in mastering regional script literacy, which will later be useful for reading ancient texts or manuscripts. In addition, the use of flashcards as teaching media is proven to be able to increase student concentration and participation, because its attractive and flexible appearance makes it easier for students to absorb material in a fun and interactive way

Conclusion

This study shows that the use of contextual-based flashcard media is effective in improving the reading and writing skills of Bima characters of elementary school students in Rabakodo Village. This is evident from the significant increase in students' mean scores, from a pretest score of 24.25 to 81.20 on the posttest, with significant paired t-test results ($p < 0.001$) and a very large effect size value (Cohen's d = 5.32). In addition to the increase in cognitive achievement, students also showed enthusiasm, active involvement, and higher learning motivation during the learning process. Observations showed that student engagement, enthusiasm, and cooperation were high. Students demonstrated consistent active and passive participation, with many responding to teacher instructions independently, indicating strong intrinsic motivation in learning Bima script. The use of picture cards proved effective in increasing enthusiasm for learning, as evidenced by students' ability to operate the cards independently, the enjoyable learning atmosphere, and the emergence of positive emotional expressions during the activity. Furthermore, student interactions demonstrated positive collaboration, with students helping and working together to achieve learning objectives. The flashcard media designed based on the real context around the students proved to help them understand the letter shapes, sounds, and meanings of words in Bima script more easily and meaningfully. Thus, contextual-based flashcards can be recommended as an effective alternative teaching media to develop regional script literacy in elementary schools. This study also emphasizes the importance of integrating local culture-based learning in the curriculum, as an effort to preserve cultural heritage as well as instill a sense of regional love in the younger generation. The limitations of this study lie in the

relatively small sample size and the limited location coverage of two schools, so further research with wider coverage is needed to strengthen the generalizability of the findings.

Declarations

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