

## Development of Ternate Language Vocabulary Games Using Wordwall at SMP Islam 1 Ternate

Sasmayunita<sup>1</sup>, Roni Kurniawan<sup>2</sup>

<sup>1,2</sup>hairun University

Email: [mrsasmayunita@gmail.com](mailto:mrsasmayunita@gmail.com), [roni.kurniawan@unkhair.ac.id](mailto:roni.kurniawan@unkhair.ac.id)

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**Abstract-** The objective of this research is to develop an educational game of Ternate language vocabulary using the Wordwall application to enhance interest and learning outcomes in Ternate local language learning at SMP Islam 1 Ternate. The study was guided by Thiagarajan's 4-D model, which consists of the stages of Define, Design, Develop, and Disseminate. This model structured the development of the educational game for vocabulary in Ternate language, ensuring that it addressed students' needs, was successfully designed and validated, and was implemented in the classroom. The study's participants were 25 students from the eighth grade, specifically from class VIII-A. The data was analysed using a quantitative descriptive technique, expressed as the mean value of the validation scores. In regard to the feasibility of the educational game, the results of the verb feasibility test conducted by material experts yielded a score of 95.5%, while the test administered by media experts returned a score of 92.25%. In the case of vocabulary games, the results of the feasibility test of nouns by material experts reached 96%, while the figure from media experts was 94%. The results of the feasibility test for the adjective game conducted by the material expert reached 92.5%, while the test conducted by the media expert reached 90.5%. The learning outcome test for Ternate language using this educational game reached 100% classical completeness with an average score of 86.72. These results demonstrate that this educational game is highly feasible for use in language learning and has the potential to significantly enhance student learning outcomes.

**Keywords:** Educational Game, Ternate Language, Vocabulary, Wordwall Application Game

### I. INTRODUCTION

As younger generations view their home tongues as archaic and irrelevant to current life, local languages are alarmingly declining. Instead, they are favouring slang and foreign languages. This change weakens cultural identification and pride, particularly among young people, and endangers the survival of these languages. Since many Indonesian regional languages are either endangered or extinct, reviving their use in daily communication is essential to preserving these linguistic legacies and guaranteeing that future generations will be able to speak them.

Local languages have an essential part in preserving cultural identity and legacy since they perform as both character values' guardians and means of communication. Local languages are, however, becoming less and less accepted in the present day, especially among younger generations. The idea that regional languages are no longer appropriate for casual conversation is influenced by the emergence of slang and the influence of foreign languages. Young people who identify as being a part of the contemporary, globalised world tend to hold this sentiment more strongly than others. Teenagers no longer

prioritise learning local languages, and pride in them is declining as a result. The preservation of regional languages, which ought to continue to be an essential component of social interactions and contribute to both personal and cultural identity, is seriously threatened by this tendency.

According to Bahasa dan Peta Bahasa di Indonesia (2019), there are currently 718 local languages and 778 dialects spoken in Indonesia, many of which are endangered or extinct. It is urgently concerning that local languages are disappearing, especially when younger people don't often understand how important they are. The willingness of young people to conserve and transmit these languages to coming generations will determine their destiny. It is still unclear if they will decide to preserve their linguistic legacy or if indifference will cause additional regional languages to disappear.

As part of the Merdeka Belajar Program, the Indonesian government launched the Regional Language Revitalisation effort to address the issue of declining local language use. The Ministry of Education, Culture, Research, and Technology is spearheading this endeavour, which integrates regional languages into everyday communication in an effort to preserve and promote them. Nevertheless, difficulties still exist in the educational setting despite these attempts.

Traditional approaches of teaching Ternate, which emphasised memorisation and theoretical training, have not been successful in keeping students' interest at SMP Islam 1 Ternate. Without adding additional interactive components, teachers mostly use repetitious, passive learning strategies, like having students memorise terminology and respond to written questions. Students become disengaged and lose interest in learning their native tongue as a result of finding the process of learning dull. This circumstance emphasises the demand for cutting-edge educational materials that better suit students' interests and contemporary learning preferences.

Educational games are a viable way to address the issues surrounding local language training (Sari 2014). Playing games can greatly increase student engagement since they offer an engaging and dynamic learning environment. Studies back up the claim that learning games improve cognitive growth because they force students to actively solve problems and make decisions as they play. Piaget (Thobroni & Mustofa, 2013) points out that active learning

experiences result in greater cognitive progress, whereas Suryawirawati (2018) emphasises that learning through play enhances student engagement. Additionally, Hamari et al. (2016) emphasise how games promote flow and immersion, resulting in a more stimulating learning environment.

Playing educational games has several advantages when learning a language. They encourage problem-solving abilities, offer chances for autonomous study, and make the subject matter more approachable and joyful. As kids finish game activities, they also help to boost their self-esteem and confidence in them. This method works especially well to overcome the disengagement observed in local language acquisition because it turns what is typically a passive learning process into an interactive one.

In order to address the scarcity of engaging media in local language classes, the specific goal of this project is to create a vocabulary game in the Ternate language using the Wordwall program. Wordwall was selected because of its adaptability and intuitive user interface, which enable teachers to design interactive games that are tailored to the requirements of their students. The program provides a variety of templates that may be customised to fit various language components including verbs, nouns, and adjectives. These templates include crosswords, quizzes, and random cards.

By adopting an interactive, game-based strategy instead of a rote memorisation approach, Wordwall successfully tackles the issues raised. Students now actively participate in the learning process, where they may practise and apply their knowledge in a dynamic environment, rather than just being passive recipients of information. Furthermore, Wordwall's compatibility with several devices, such as laptops and smartphones, guarantees that students can interact with the content both within and outside of the classroom. Because of its versatility, teachers can accommodate a range of learning styles, making it an all-inclusive tool for raising student interest in learning the local language.

In order to sum up, Wordwall's Ternate language vocabulary games present a novel approach to addressing the problems of student disengagement and lack of enthusiasm for learning the local language. Wordwall not only enhances learning results but also helps achieve the more general objective of maintaining regional languages among future generations by making learning fun and engaging.

## **II. METHODS**

This research employs the research and development method. The the research and development method is typically employed to produce a product that can be implemented as required. Sugiyono (2015) asserts that the resulting product must also be tested for effectiveness. This research employs a development process to produce educational game products with the assistance of the Wordwall application. The research and development of this product was conducted at SMP Islam 1 Ternate. The design of the vocabulary game in conjunction with the Wordwall application commenced with an analysis of the learning needs of students in the local language in Class VIIIA. The design employs a 4D model comprising the following four stages: (1) define, (2) design, (3) develop and (4) disseminate (Thiagarajan, in J. Naimah, et al., 2019).

In the define stage, the selection of materials is undertaken. The design stage comprises the following elements: (a) the selection of the most appropriate media and format for the material in question, and (b) the initial design of the content to be developed. The develop stage encompasses the following: (a) expert validation and preliminary trial, (b) refinement based on preliminary trial and field trial.

The data presented in this study were gathered from a variety of sources, including interviews, media validation, student response questionnaires, and learning outcomes on the pretest and post-test. The assessment of learning outcomes allows for the measurement of the extent to which the learning objectives have been achieved through the utilisation of the developed media (Arikunto, 2013).

Quantitative data were derived from the assessment outcomes utilising game media, whereas qualitative data were derived from the input of media user respondents (Sugiyono, 2015). The media were validated through interviews with teachers of Ternate language lessons, who were invited to provide expert judgement. The validation instrument is employed for the purpose of data collection with respect to the feasibility of the media in question, with particular attention paid to the material and media aspects. A preliminary trial was conducted on a sample of 25 students from Class VIII A at SMP Islam 1 Ternate. The efficacy of the media was evaluated through the implementation of a one-group pretest-posttest design. The learning

outcomes were evaluated in terms of cognitive level through the analysis of the pretest and posttest results using the normalised gain (N-gain) method. The practicality of the media was gauged based on the feedback provided by respondents who utilised the science adventure game media.

The validity of the Ternate language vocabulary game was calculated by averaging the ratings of the indicators provided by each of the validators. Teachers who specialise in teaching the Ternate language were interviewed for this study. These educators received invitations to take part in the educational game's approval process. Because the interviews were semi-structured, the researchers were able to obtain comprehensive information about the teachers' opinions regarding the media and subject matter. The interview questions primarily addressed two areas: the media's suitability for reaching the learning objectives and the viability of the educational material. Regarding the game's accuracy in reflecting terminology from the Ternate language and its suitability for the students' level and learning needs, teachers offered their expert judgement.

Furthermore, there were several steps in the media vetting process. The experts were first shown the game, and they assessed it according to a set of standards, such as content correctness, ease of use, degree of involvement, and compatibility with educational goals. The experts evaluated various parts of the game, including the vocabulary's relevancy, the game's structure, and the directions' intelligibility. Expert input helped to improve the game's design, which resulted in adjustments made before student field testing. At the end of the validation process, a mean score was determined by ranking each indicator according to the experts. The game's general suitability for usage in the classroom was assessed using this score.

The mean value of the indicators was used to determine the mean for each aspect. The data obtained from the validation of the language vocabulary game in the form of qualitative data derived from the suggestions and comments of the validators were adjusted to the assessment criteria. The quantitative data was subjected to analysis using techniques for data analysis adapted from Purwanto (2009). The formula for calculating the average instrument used is as follows:

$$\bar{X} = \frac{\sum X}{n}$$

Description:

$\bar{X}$  : mean score  
 $\sum X$  : total item mean score  
 $n$  : number of item

Once the mean value for each instrument had been determined, the percentage of media feasibility was calculated using the following formula:

$$\text{Feasibility Percentage (\%)} = \frac{\sum \text{scored earned}}{\sum \text{maximum score}} \times 100\%$$

The results of the feasibility calculation were categorised in accordance with the N-gain criteria, which were adapted from the methodology proposed by Purwanto (2009). The assessment results were initially quantified and then converted into qualitative values based on a four-point scale to ascertain the feasibility and quality of the Ternate Language Vocabulary game developed.

Meanwhile, the results of the effectiveness test were analysed using N-gain (Hake, 1998) to measure the improvement in student learning outcomes before and after learning activities utilising the Ternate Language Vocabulary game on word class material.

$$g = \frac{\text{Posttest score} - \text{pretest score}}{\text{Maximum score} - \text{posttest score}}$$

with the following category:

g – high : g score  $\geq 0,70$   
 g – medium : g score  $0,30 \leq g < 0,70$   
 g – low : g score  $< 0,30$ .

### III. RESULT AND DISCUSSION

#### 1) Definite stage

In the initial stage of the study, the game was delineated, and it was determined that the typical student lacked the capacity to speak the Ternate language. This is due to the fact that the students originate from disparate regions within North Maluku. At this juncture, it was resolved that the initial stage of instruction would commence with an introduction to the fundamental concepts of word class. The material selected for translation was based on verb, noun, and adjective class groups within the Ternate local language. The initial stimulus was the utilisation of Ternate-

Indonesian bilingual illustrated folklore books, which were read in groups by the students. This stimulus was provided because, in the typical learning process conducted by the instructor, students are merely required to memorise the presented words and then complete a conventional examination. As reported by the students, this approach results in feelings of boredom and confusion when attempting to memorise words. The bilingual picture story stimulus enabled students to gain a deeper understanding of the translation of words and their functions in a conversation presented in the story. Subsequently, it was resolved that the student ability test would be conducted utilising an educational game. It is hoped that this will engender enthusiasm and stimulate interest in the Ternate local language among the students.



Fig. 1: Ternate-Indonesian bilingual illustrated folktales book

In conclusion, the study's define stage showed that students varied linguistic upbringings in North Maluku were a major factor in their lack of competency in speaking the Ternate language. Students became confused and disengaged as a result of this problem, which was made worse by the conventional memorization-based teaching approaches. The researchers created bilingual Ternate-Indonesian illustrated folklore books to help pupils contextualise terminology through stories and visual signals that are relevant to their culture. This method not only increased student engagement but also set the stage for the creation of an instructional game that improved interactive learning even more and strengthened students' knowledge of important word classes including verbs, nouns, and adjectives.

#### 2) Design stage

In the design stage, an educational game was developed using the Wordwall application. The game was designed as a means of assessing the ability to translate fundamental vocabulary items that frequently emerge in bilingual illustrated

folktales that had been previously encountered. The aforementioned translation game was subsequently developed into three discrete games, each comprising the translation of 10 specific lexical items: verbs, nouns, and adjectives.

**a) Ternate verb vocabulary game**

In this exercise, students are presented with ten Indonesian words and are required to translate them into the Ternate local language. The game model employs a quiz show format, wherein students select the correct responses from the provided word choices. A 30-second countdown is provided to students for each question. Additionally, students are presented with the option of receiving 50:50 assistance and additional time. The assistance option may be utilised on only one occasion for each of the ten quiz questions. In addition to the aforementioned options, participants may opt to double their score. Furthermore, this option may only be utilised once in ten quiz questions. This option introduces an additional element of excitement to the game, as students have the opportunity to double their score if they are confident in their response. The option of doubling the score introduces an additional element of competition between students, thereby enhancing the overall excitement of the game. Consequently, students are not only required to demonstrate their ability to translate, but they must also adopt a strategic approach to ensure that their score exceeds that of their peers.



Fig. 3: Display of the contents of vocabulary game

**b) Ternate noun vocabulary game**

In this exercise, students are presented with

ten nouns in the Ternate local language and are required to translate them into Indonesian. The game model employs the Maze Chase template. The template is presented in the form of a maze. The multiple-choice answers are distributed across the maze in a systematic manner. It is the responsibility of the students to direct the character to the location of the correct answer option. In addition, the maze contains other characters that are programmed to pursue and consume the characters that the students direct. The objective of this game is to answer questions correctly within a 30-second time limit. To do so, students must remain alert and navigate the character in the maze with precision to avoid being eaten by the barrier character. In addition to assessing cognitive abilities, this game also trains students in concentration and the avoidance of obstacles. In the event that the student's character is successfully consumed by the barrier character, the student is required to commence the game from the initial question.



Fig. 4: Initial display of the noun vocabulary game



Fig. 5: Display of the contents of the noun vocabulary game

**c) Ternate language adjective vocabulary game**

In this game, students are presented with ten adjectives in the Ternate local language and are required to translate them into Indonesian. The game model employs the use of the “Balloon Pop” template. The template has the appearance of a hot air balloon, with the capacity to carry goods containing adjectives in the Ternate language. The game incorporates a train comprising carriages containing Indonesian

words. The objective is to pop the hot air balloon containing Ternate language adjectives in a precise and accurate manner, ensuring its descent into the Indonesian word carriage. The game comprises ten levels of increasing difficulty, starting with level one, which involves selecting three Ternate language words from a hot air balloon and placing them into one Indonesian carriage. As the level of difficulty increases, the number of hot air balloon options and carriages also rises. Each level is allotted one minute for completion. In addition to assessing cognitive abilities, the varying levels of difficulty present students with distinct challenges. The game also trains students in concentration endurance when solving problems.



Fig. 6: Initial display of adjective game



Fig. 7: Display of the content of the adjective game

### 3) Develop stage

The develop stage comprises three distinct phases: (a) expert validation, (b) a limited trial, and (c) a field trial. The proportion of vocabulary game validation outcomes endorsed by material experts is 95.5%, while the figure for media experts is 92.25%. In the case of the object vocabulary game, the percentage of material experts is 96%, while that of media experts is 94%. With regard to the adjective vocabulary game, the percentage from the material expert is 92.5%, while that from the media expert is 90.5%. In light of these findings, it can be concluded that the Ternate local language vocabulary game, developed using the Wordwall application, has the potential to be effectively integrated into the learning process. Additionally, the validation process yields qualitative data in

the form of suggestions pertaining to the developed game, indicating the necessity for improvements in several aspects. The duration of time was modified, particularly in the adjective vocabulary game. Initially, each level was allotted 30 seconds to one minute. Following the implementation of the aforementioned improvements, a pilot test was conducted. A questionnaire comprising 15 questions was administered to 25 students in Class VIII A of SMP Islam 1 Ternate. The questionnaire sought to assess the readability and difficulty of the media. The mean score for the assessment was 52.25, with an average score for each item of 3.48. This equates to a percentage of 87%, which is categorised as very feasible.

The results of the effectiveness test demonstrated a significant increase in scores between the pretest and posttest, with an average gain of 0.7 and an average posttest score of 86.72. These results indicate a high level of effectiveness. The N-gain demonstrates an increase in the mean score of students' cognitive learning outcomes prior to and following the utilisation of the Ternate language vocabulary educational game via the Wordwall application on parts of speech material. Table 1 presents the pretest and posttest scores of the trial class, as well as a quantitative analysis of the learning outcomes achieved in the study on parts of speech material with a Ternate language vocabulary game utilising the Wordwall application as the learning medium.

Table 1. Student Learning Outcomes

No.	Variation	Pretest	posttest
1	The highest score	75	98
2	The lowest score	30	76
3	Average	49,08	86,72
4	Number of students completed	2	25
5	Number of students who did not complete	23	0
6	Classical Completion	8 %	100%

### 4) Disseminate stage

In accordance with the learning outcomes delineated in Table 1, the utilisation of Ternate language vocabulary educational game media has been demonstrated to be an efficacious pedagogical approach for facilitating learning activities. The final product of the Ternate language vocabulary educational game, which has been developed, is distributed to local language teachers. Teachers may utilise this

Ternate language vocabulary educational game with word class material to facilitate learning, thereby fostering an environment conducive to student engagement. The use of Ternate language vocabulary educational games as a learning medium has the potential to enhance student engagement and enjoyment in the learning process.

The educational game created using the Wordwall program, when carefully included into teaching tactics, can be quite successful in the classroom. Teachers should utilise the game as a tool to reinforce vocabulary lessons on Ternate language in order to maximise its impact. Once word classes like verbs, nouns, and adjectives are introduced, the game can be used to help students practise their new skills in an enjoyable and interesting way. Teachers can help kids with different language competence levels support one another by encouraging them to play in small groups, which fosters peer collaboration and discussion. Furthermore, by comparing student development on pretests and posttests, the game can be used as a formative evaluation tool to help teachers modify their lessons according to each student's needs. Learning may be made more dynamic and pleasurable by utilising the competitive aspects of the game, including time limits and point doubling, to keep students motivated and interested.

Based on the results, a number of interesting areas for additional investigation are identified. Investigating how other kinds of games or digital tools, other from those that are orientated on vocabulary, could affect language acquisition is an essential direction to take. To teach more sophisticated language abilities, such sentence construction or conversational fluency, for example, role-playing games, storytelling applications, or augmented reality tools may be utilised. The usefulness of the game in diverse educational contexts, such as urban vs rural schools, or among various age groups, is another subject worth looking into. This study may shed light on the game's adaptability to various settings and highlight any other implementation-related difficulties. Furthermore, research that follow participants over time may evaluate how game-based learning affects language retention in the long run, providing important information on how long-lasting the learning objectives attained with interactive resources such as Wordwall.

#### **IV. CONCLUSION**

The study concluded by showing how the educational game on Ternate language vocabulary created with the Wordwall application greatly enhanced learning results and student engagement at SMP Islam 1 Ternate. Because there were few and boring teaching tools available, pupils thought learning the Ternate language was a boring and uninspired process until this game was introduced. The general quality of learning outcomes and student interest has decreased as a result of this stalemate in teaching strategies. By offering an interactive and captivating medium for vocabulary learning, the educational game solved these issues and turned what had previously been a passive experience into a dynamic one.

After a careful analysis of the game's viability in terms of linguistic content, material accuracy, and instructional game design, it was determined to be very beneficial for usage in the classroom. Students responded favourably to the game and expert validation evaluations were overwhelmingly positive, suggesting that the game was both entertaining and instructive. The average score increased from 49.08 to 86.72 on the pretest-posttest, and all students completed the test with 100% accuracy, demonstrating a considerable improvement in their comprehension of Ternate vocabulary. These results demonstrated the effectiveness of the game. This attests to the game's ability to both increase student engagement and improve learning outcomes in word class topic. These results show that the Ternate language vocabulary game is a useful instrument for preserving the Ternate language as a component of the area's cultural legacy and provides a workable method for reviving local language learning. To find out more about the overall effects of educational games and digital resources on language acquisition and retention, more research may examine how these resources are used in diverse educational contexts.

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