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Development of the Wordwall Game for Learning Mandarin Vocabulary for Grade VI Elementary School

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Abstract: *Given the circumstances that occur in learning Mandarin, there is still a lack of teacher ability in developing learning media to increase the vocabulary skills of elementary school-age children and teachers are less creative in packaging interesting learning. This study aims to develop word wall media to improve the Chinese vocabulary skills of sixth-grade elementary school children. This research is development research that uses the 4D development model. The research subjects used consisted of 1 material expert, 1 media expert, and 2 linguists. Data collection methods in this study, namely observation, questionnaires, and interviews. The instrument used in this study was a questionnaire or questionnaire. The data analysis technique used is descriptive qualitative and quantitative analysis. The results of the study, namely the assessment by learning material experts got a score of 94% (very good), the results of the learning media expert test got a score of 92% (very good), the results of the language expert test got a score of 96% (very good). Based on the results of the study, it can be concluded that word wall media which was developed to improve the Chinese vocabulary skills of sixth graders of elementary school is suitable for use in the learning process. This research implies that the media developed in the form of word wall media can be used by teachers to improve vocabulary skills in sixth-grade elementary school children.*

Keywords: 4-D Model, World Wall Game, Learning Chinese, Vocabulary.

INTRODUCTION

At this time, students are happier playing games instead of studying or reading books. Therefore, variations in the process are required learning using media learning in the form of educational games. Wordwall games make it easy for students to understand the lesson to be a thoughtful method so that learners are not bored with the learning methods commonly used by teachers in the form of lectures, discussions, or questions and answers. Wordwall games are a type of media learning used to provide teaching, adding to the knowledge of its users through unique and interesting media. Wordwall games are made with a specific purpose as a tool for education, to learn to know colors, know letters and numbers, math, and learn language foreign. Wordwallgames with educational purposes like this one can use as an educational medium that has learning by doing learning patterns. Based on the pattern that is owned by the game, players are required to learn so they can solve existing problems. Based on this description, it can be concluded that an educational game is one form of the game that can be used to support the

learning process in a more fun and creative way, and used to teach or increase the user's knowledge through the interesting medium.

Based on the results of previous research, Pramono et al (2021) have that games help and facilitate learning. Jack's research results state that games support learning Mandarin more easily. The research results of Pramono et al (2021) state that children more easily learn social relations material by using games. In addition, according to Wati & Purbaningrum (2021); Hartono (2016), digital games are used to learn vocabulary, as an alternative media for teacher learning in changing conventional learning methods into game simulation learning methods, so that they can develop student creativity because educational games have elements of challenge, precision, reasoning, and ethics. The research of Sahlina (2015); Rahman & Tresnawati (2016) as well as Nugroho et al (2022) that games can help children master foreign languages more quickly and learning activities in class are not boring. Wordwall is a web application that can be used to create fun quiz-based games. With a word wall, we can make various kinds of game models so that they can make students more interested in trying them. This website-based application can be used to create learning media such as quizzes, matchmaking, pairing, anagrams, random words, word searches, grouping, and so on. Interestingly, besides users being able to provide access to the media they have created online, it can also be downloaded and printed on paper. This application provides 18 patterns that can be accessed free of charge and users can switch activity templates from one activity to another easily. Teachers can also make their content as assignments, for 5 games. Meanwhile, the way to access word wall games is to register an account at <https://wordwall.net/>. Click Sign Up then enter your name, email address, password, and location. Select Create Activity then select one of the provided activity templates.

Write down the title and description of the game. Type in the content. Educators are required to be creative in utilizing all available learning media so that students do not get bored with learning quickly. Especially in this pandemic era, educators must be creative in presenting their learning. One application that can be used to create interactive learning media is Wordwall. Wordwall features include One free account. There are 18 types of free games. Depending on the type of game. In some types, we are allowed to upload images. Click done when finished. although for the free version account the user is only given 5 slots for the activity game created, the user can switch from one game to another with one click. Change the game type with one click. Can be played via device/laptop. Results can be downloaded as PDFs and printed. In word wall games there are several patterns, the patterns are: Matching game; quiz; open the box; random wheel; find a match; justify sentences; maze work; group sorting; game show quizzes; matching pair; missing word; anagram; labeled diagrams; random card; crossword puzzle; aircraft; hitting moles; flip tiles.

Because of this, Mandarin vocabulary material, especially material numbers in the use of the calendar, which includes the year, month, and day names, family, and identity, is suitable for making educational games with the world wide web application. It is hoped that this will be very helpful in learning Mandarin vocabulary material. From observations made, not many teachers or lecturers use educational games, especially to facilitate and learn material about Chinese vocabulary. Therefore the authors are interested in conducting research that aims to develop a world wall educational game to learn valid Chinese vocabulary for elementary school students, in particular, those whose mother tongue background is a language other than Mandarin.

METHODS

This research is research development (Research and Development) to produce a new product, namely Game Education, a word wall game for learning Mandarin vocabulary. Model development is a 4-D development model (four D Models) which consists of four stages. According to Thiagajaran et al (1974)

stages of model4-D development are definition, design), development, and (dissemination). In this research, researchers only do the stages until the development stage, especially until the validation stage products by experts. Instruments used in the form of a validation sheet. Product validation results data analyzed using statistical analysis techniques descriptive. Data from product validation results were analyzed using descriptive statistical analysis techniques. The data obtained from the validation results of the game world were analyzed for all aspects presented in the form of a product validity table. The collected data is processed by adding up compared to the expected amount and obtaining a presentation (Arikunto 2010) and can be written using the following formula: $[\text{Eligibility points} = \frac{\text{Observed score}}{\text{Expected score}} \times 100\%]$

RESULTS

Defining Stage

At the defining stage, a curriculum analysis of needs analysis and student analysis were carried out. Curriculum analysis includes core competencies and basic competencies, the purpose of which is to formulate curriculum learning indicators that are analyzed in the 2013 curriculum contained in ministerial regulation No. 57/2014. Based on the results of the researcher's interview with a grade 6 Mandarin teacher, it is known that the Mandarin vocabulary material being taught to students only to the level of learning simple vocabulary that is known by students. For material up to simple conversations using vocabulary that children learn, it has not been taught optimally. Material on vocabulary related to family calendars and identity by the demands of the basic competition for elementary school students' graduates. The basic competition for Mandarin vocabulary material for elementary school students in the 2013 curriculum is as follows:

Basic competencies

- Understanding the pronunciation, writing, meaning, and meaning of simple sentences that involve the act of mentioning numbers, using them in calendars, and responding to them according to the context of their use.
- Compose simple oral and written interpersonal interaction texts that involve greeting, mentioning Suzi, and responding to them by paying attention to the social function of the text structure and linguistic elements that are correct and appropriate.
- Demonstrate short and simple speech acts to give and ask for information related to identity (including name, age, telephone number, email, origin, region, class, and school origin, according to the context of its use, taking into account the social function of the text structure and linguistic elements in the text and linguistic elements in the text of oral and written transactional interactions.
- Practice speech acts in the form of short and simple spoken and written transactional interaction texts involving the act of giving and asking for information related to identity (including name, age, address, telephone number, email, the origin of school) and taking into account the social function of the structure text.
- Identifying the names of days, months, years, and times in the speech acts of giving and asking for information according to the context of its use by paying attention to social functions, text structure, and linguistic elements in the text and linguistic elements in the interaction text oral and written transactions.
- Producing speech acts in the form of simple oral and written transactional interaction texts involving the act of giving and asking for information related to the name of the day, date of the month, and year

by paying attention to social functions, text structure, and linguistic elements in the text, which are correct and in context.

- Describe the designation, nature of the conditions, and the number of people, objects, animals, and public buildings with everyday life in speech acts of giving and asking for information according to the context of its use by paying attention to social functions, structures text and linguistic elements in the text and linguistic elements in the text of oral and written interpersonal interactions.
- Produce oral and written transactional interaction texts related to the act of giving and asking for information about the adjectives and conditions of the number of people, objects, animals, and public buildings that are close to everyday life by paying attention to the social function of the text structure and linguistic elements that are correct and in context.

Design Stage

At this stage, the design of the game world wall is carried out to learn Chinese vocabulary. The word wall game consists of several parts, namely the basic competition of the input material in the 6 types of patterns that exist in the word wall game. Basic competencies and learning achievements that must be possessed by students have been described in the definition section. The game guide is structured in such a way that it is hoped that students will understand how to play the world wall game to learn Chinese vocabulary. A snippet of the design results of this game guide can be seen in the following Fig 1 below.

A. Instructions for teachers / instructors:

1. The teacher prepares a cellphone or laptop.
2. Prepare wordwall game media before carrying out learning activities in accordance with the material to be taught and distribute wordwall game links to students.
3. Before being given a lesson, give an example of the operation of the wordwall game to the students and observe the existing activities, by checking whether the students are right or wrong.
4. Repeat the activity by giving explanations to students so that students understand very well how to operate the wordwall game.
5. Dividing children into groups to facilitate supervision, the teacher appoints 1 person to be the group leader, to record the score obtained by each group.
6. We can see the summary of students working on the score and timer

the wordwall, click on my result. There you will see who is working on it and the value/score and the time it took to do it.

6. Give praise so that children focus more on learning vocabulary.

B. Instructions for students:

1. Listen to the teacher's explanation.
2. Open the Android phone and type the wordwall game link, which was shared by the teacher.
3. Start operating the wordwall game, according to the instructions that have been explained.
4. Record honestly the score you get, don't make a mistake.
5. Record material that is often forgotten when operating wordwall games.
6. Focus on each other's cellphones to avoid bad results.

Figure 1. Wordwall game guide snippet

For the distribution of material and the types of word wall game templates used, see below.

Table 1. The distribution of material and the types of word wall game templates used.

N0	Material	Template
1	Shuzi in the name of the month(Yue/月)	Mole
2	Xingqi(星期) the names of day	Quiz
3	Nian(年) the names of the year	Quiz Gameshow
4	Jiaren(家人)family names	Match
5	Shenfen (身份) Identity	True or false
6	Páiliè cí/排列词- Arrange words	Maze chase to open the box



Figure 2, An example of a word wall game design with family vocabulary material

3.3 Development Stage

In the development stage, two stages were carried out, namely product validation and product practicality testing. the validation process was carried out by 1 expert, namely a material expert from a Mandarin teacher (Erni Arifin, S.Pd, SE, CPS, CMT) and 1 UNP educational technology lecturer (Dr. Ridwan, M.Sc. Ed) as a media validator. The stages of media validation are carried out by taking into account several aspects, Purpose, word wall game presentation, ease of use, and technical readability.

Table 2. Results of the analysis of the validity of the word wall game

No	Aspect Evaluation	Average score(%)	Criteria
1	Purpose	93,2 %	Very Valid
2	Wordwall game presentation	92,5 %	Very Valid
3	Ease of use	93,2 %	Very Valid
4	Technical readability	95, 0 %	Very Valid
Mean validity		93,4 %	Very Valid

Based on the results of the validity analysis of the game world wall Chinese vocabulary, it is known that the average validation value given by the validator is with valid criteria. The world wall game for learning Mandarin vocabulary is considered by the validator to be used as a learning medium for students who learn about Chinese vocabulary. As stated Irawati (2021) states that a valid game world wall can be used as a learning medium for students. Learning media is declared valid because the media is considered to be able to help students learn more efficiently and not just memorize material.

The world wall game is for learning valid Chinese vocabulary because the material in the game is by the competencies and learning outcomes that have been prepared by the teacher. As stated by Sharon et al (2014) That learning media is valid if the media is developed by the material that should be. This is also supported by opinions. Al Irsyadi (2019) Whereas the learning media which is a part of the learning tools developed is stated to be valid because the learning media is by the descriptors in the assessment instrument. Besides that Putra et al (2018) Also states that valid learning media means that the media is by the research objectives or media developers so that the validator provides an appropriate assessment for the media to be used as an intermediary for educators to students conveying learning material.

CONCLUSION

Several factors contribute to students' struggles with the application of sociology concept material. The first reason is that lectures are the primary form of instruction. When lectures are used, pupils become apathetic. They are unable to grow intellectually. If the lecture is boring, this could get worse. The second factor is the learning strategy which is less process-based. The teacher only assigns homework that concentrates on teaching concepts, knowledge, and facts to help students understand. Most students'

learning processes frequently leave them unable to respond to queries categorized as reasoning. The adoption of less appealing learning media is the third reason. Powerpoint is a common form of educational media (PPT). Because PPT is so abstract, it has relatively little value as a medium. PPT serves mostly as instructional material. Utilizing learning resources that are not yet diverse is the fourth cause. More student textbooks are used in the process of teaching. The examples in the book serve as the teacher's only means of knowledge; experiences or day-to-day activities of the pupils are not acceptable sources of learning for the teacher. The fifth reason is that the teaching strategy did not aid students in comprehending the idea. The learning paradigm being employed tends to make pupils memorize concepts or content rather than guiding them in the process of understanding. There isn't a more creative class assignment.

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