The Development of Web-Based Image Puzzle Media for Madrasah Tsanawiyah Students

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ABSTRACT. *One of the learning media which can be used in mufrodat learning (Arabic vocabulary) is a web-based image puzzle. However, in reality, the educator that uses web-based learning media in learning Arabic still needs to be found. This research is development research (RnD) which aims to develop web-based image puzzle media for mufrodat learning (Arabic vocabulary) for VIII grade of MTs students and determine its feasibility through validation and practicality tests. The research model uses a 4-D model that has been modified to 3-D, which is divided into three stages; define (definition), design (design), and development (development). The research instruments include validation sheets to measure product feasibility, interviews with subject teachers, and student response questionnaires to measure the level of product practicality. Web-based image puzzle media obtains a score of 3.5 in material validation and a score of 3.6 from media validation that meets the valid category. Based on the student response questionnaire, web-based image puzzle media obtains a practicality percentage of 76% which categorizes in the excellent category. Therefore, web-based image puzzle media in mufrodat learning (Arabic vocabulary) can be feasible and practical for the learning process.*

Keywords: *Web Puzzle Media, Media Validity, Media Practicability*

INTRODUCTION

Media has the characteristic of being a channel that provides information assistance to someone (Fikrotin V et al, 2021). Learning media plays an important role in learning foreign languages, including Arabic. Why is that? Because the use of media in the learning process can help facilitate a teacher in delivering material so that it can achieve the goals of the learning process. The blog is one of the learning media by using one of the technological tools, namely the computer. Nugroho et al, said that through computers and blogs, users will gain their own skills and knowledge (Nugroho, et al, 2017). Blogs can also be used as a medium for interaction and discussion between students and teachers (Supriyono et al, 2015).

Vocabulary is an important element in learning a foreign language, which aims to facilitate communication with users of that language. One of the important factors in learning a language is vocabulary mastery. The quality of a person's language skills clearly depends on the quantity of vocabulary he has. The more vocabulary he has, the more likely he is to be able to speak the language. In learning Arabic in Indonesia there are still many educators who have not implemented an educational component, including the lack of understanding and utilization of educators on the role of the media as a learning tool. Which has an impact on students' lack of interest in Arabic. The success of the teaching and learning process cannot be separated from the role of the media used, because the media is an integral part of the educational process in schools. As a result of the lack of understanding and utilization of the role of the media for an educator in learning Arabic, the next problem is that an educator will be less creative in creating and developing media images as a means or tool to support learning and memorizing Arabic vocabulary.

Puzzle media can also allow students to participate directly in the learning process and puzzle media can also be done in groups so that students can work together with others and solving puzzle pieces together that were originally random to be whole again. Puzzles are an educational game tool that can be used by children in the learning process. Meanwhile, in Agus Hariyanto's opinion, puzzle media is a learning media that can improve children's memory (Srimulyanti, 2016). Puzzle media includes image media in visual media which can only be digested by the sense of sight. The shape of this puzzle is in the form of thin pieces in the form of pieces of the image. So it can be interpreted that what is meant by puzzle media is a learning component or physical vehicle that contains instructional material in the form of pieces or pieces of vocabulary images that can be assembled (disassembled).

Based on the experience of researchers in field practice at MTsN Medan there were difficulties in memorizing Mufrodat (Arabic vocabulary). Not a few students also experience difficulties in memorizing the arrangement of letters and writing down the order of letters to form a word. This can be seen when writing the order of letters to arrange the names of professions and hobbies where there are still many mistakes, as well as the results of students' test scores that do not reach the KKM score that has been determined. One of the causes is the lack of interest and interest and attention of students in participating in ongoing Arabic learning. The student's assumption of monotonous Arabic is also one of the causes of the process learning Arabic is not going well. In addition, the teacher's media is less attractive so that the material provided is not easily absorbed by students.

Therefore, through the above phenomena, it is important to create learning media in the form of web-based image puzzles in Mufrodat learning (Arabic vocabulary) which can facilitate the student learning process with concepts while playing. This is in line with research by Yasmin, 2015, in the Thesis of the Department of Arabic Literature, Faculty of Letters, State University of Malang, which indicates that learning vocabulary through "Development of Electronic Puzzle Media in Learning Arabic Vocabulary in Class XI Students of SMK Muhammadiyah III Ambulu-Jember" can improve student learning responses. Therefore, the use of web-based image puzzle media in learning Arabic mufrodat is given more attention, because it does not only have an impact on knowledge of learning material, but also on knowledge of Arabic vocabulary.

The purpose of this research is to create a web-based image puzzle media that has been developed regarding mufrodat (vocabulary) in Arabic about the names of professions and hobbies; knowing how the level of web-based image puzzle media validation; determine the level of practicality of web-based image puzzle media and determine the level of effectiveness of web-based image puzzle media in learning Arabic.

Pendahuluan (Tidak lebih dari 4 sd 6 paragraf) (1) Apa yang krusial dari suatu ISU (fenemona) sehingga perlu ditulis (perlu diterbitkan): kuantitatif atau kualitatif (atau kedua-duanya). (2) Apa tulisan yang (sudah) ada tidak cukup? Jelaskan: apa yang SUDAH ditulis orang lain dan apa yang BELUM ditulis (makanya perlu tulisan ini). (Riset terdahulu) (Novelty). (3) Tujuan (khusus) dari tulisan apa? (apakah itu berbeda dengan yang lain? Tujuan tulisan ini MELENGKAPI kekurangan dari tulisan yang ada)=> focus tulisan. (4) Apa yang ingin diuji (dibuktikan) dalam tulisan ini? (argument atau hipotesis yang mau diuji).

METHOD

This research uses the type of research RnD (Research and Development), which aims to produce a certain product and test its feasibility (Sugiyono, 2017). The model used is the 4-D development model (define, design, develop, and disseminate) by Thiagarajan which was modified into 3 steps, namely define, design, and develop (Destania &History, 2021).

At the define stage, the researcher analyzes the needs of students, analyzes teaching materials, and analyzes concepts. At the design stage, the researcher arranges the puzzles contained in the web, then selects the image elements that are in accordance with the material in

mufrodat (Arabic vocabulary) to the preparation of web-based image puzzle media. Then at the development stage, the researcher conducted a validation test by material experts and media experts. After fulfilling the valid requirements, web-based image puzzle media in mufrodat learning (Arabic vocabulary) was tested on students to see the practicality of web-based image puzzle media. The trial of students was carried out at Private MTs NU Punden Rejo with the research subjects being 24 students who were members of class VIII.

The data generated from this web-based image puzzle media development research are classified into quantitative data and qualitative data. Quantitative data were obtained from the assessment score by the validator and the practicality level percentage resulting from the student response questionnaire. Meanwhile, qualitative data was obtained from suggestions for revision by the validator on the validation sheet.

The data analysis technique uses a qualitative descriptive method. The validation instrument is intended for material experts and media experts, to see the feasibility level of web-based image puzzle media. The assessment score used in the validation sheet has a range of 1 to 4 with details: 1 (invalid), 2 (less valid), 3 (valid), and 4 (very valid). The score obtained is then calculated using the following formula:

$$Sr = \frac{Total\ score\ by\ expert}{Highest\ Total\ score} \quad (1)$$

Information:

Sr = Average score

Table 1. Learning Devices Validity Criteria

Score	Criteria
$3,5 \leq Sr < 4,0$	Very Valid
$2,5 \leq Sr < 3,5$	Valid
$1,5 \leq Sr < 2,5$	Invalid
$1,0 \leq Sr < 1,5$	Totally Invalid

(Hisni et al., 2022)

Test the practicality of web-based image puzzle media on mufrodat learning (Arabic vocabulary) through a student response questionnaire using a 4-scale Likert Scale, with the following guidelines for value classification.

Table 2. Student Response Percentage Criteria

| Score	Criteria
$75\% \leq x < 100\%$	Very good
$50\% \leq x < 75\%$	Good
$25\% \leq x < 50\%$	Average
$0\% \leq x < 25\%$	Poor

(Yakin, 2021)

RESULT AND DISCUSSION

Result

The development of web-based image puzzle media in mufrodat learning (Arabic vocabulary) is structured using a four-D (4-D) development model which is modified to 3-D. The 3 stages are define (defining), design (design), and develop (development). The analysis of each stage is described as follows:

Define Stage. At this stage, observations were made in class and interviewed with Arabic teachers for grade VIII MTs Private NU Punden Rejo. This is done to find out how teaching and learning activities are carried out in the classroom and what things are needed by students. The results obtained were that learning used the 2013 Curriculum. The sources and teaching materials used were printed books. The lecture method is one of the permanent methods used by teachers in teaching and does not use learning media in it. The teacher is the center of information in learning, but some students also actively ask questions and participate in the ongoing learning. For the intellectual and cognitive abilities of the students, each class has abilities from high to low. This is influenced by the randomization of the class of students when increasing grades.

The Design Stage The design of web-based image puzzle media in mufrodat learning (Arabic vocabulary) takes 3 materials sourced from textbooks, as themes in filling out mufrodat in images that will be used as web-based puzzles. The first step is selecting the web through Google, in which there are several learning media webs as intermediaries in learning. Then the selected vocabulary and images must have a connection with the material in the book. For مهنة (Profession) material, the selected Arabic vocabulary is مدرس - مدرسة (Pr/Male Teacher) طبيب - (Barber). حلاق (Painter) رسم (Singer) مغن (Pr/Male Police) شرطي - شرطية (Pr/Male Doctor) طبيبة For the material الرياضة (Sports) the chosen vocabulary is كرة القدم (Football) كرة السلة (Basketball) (Volleyball). كرة الطائرة (Badminton) كرة الريشة (Table Tennis) كرة الطاولة For the material عيادة (Patient/Sick المرضى (Hospital) مستشفى (Visiting the Sick) the chosen vocabulary is المرضى
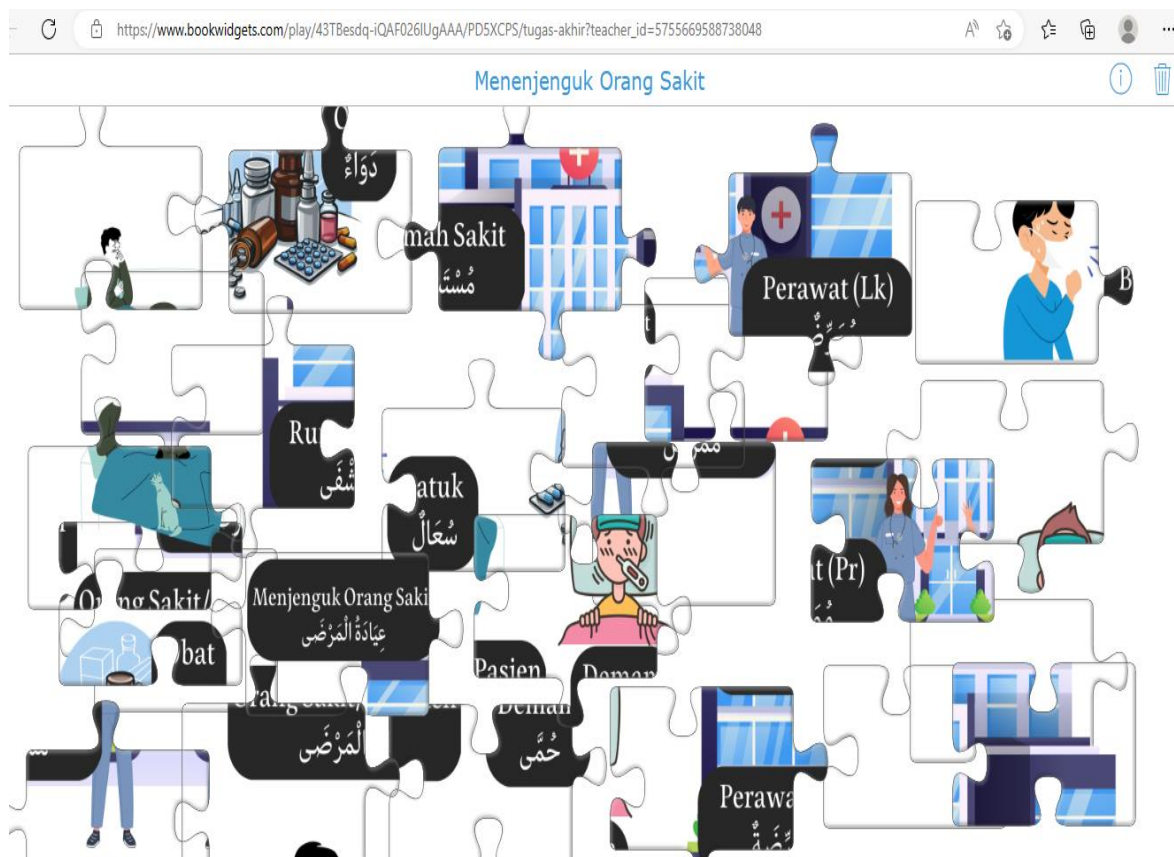
Person) حمى (Fever) سعال (Cough) دواء (Medicine) ممرض - ممرضة (Pr Nurse/Male). After selecting the vocabulary to be embedded in the image puzzle, then arranging the images and vocabulary in the puzzle, paying attention to the language in writing Arabic vocabulary, then choosing how many squares of puzzle pieces to the side and down. Furthermore, web-based image puzzle media has been produced at this stage. Furthermore, the web-based image puzzle media entered the validation stage by experts.
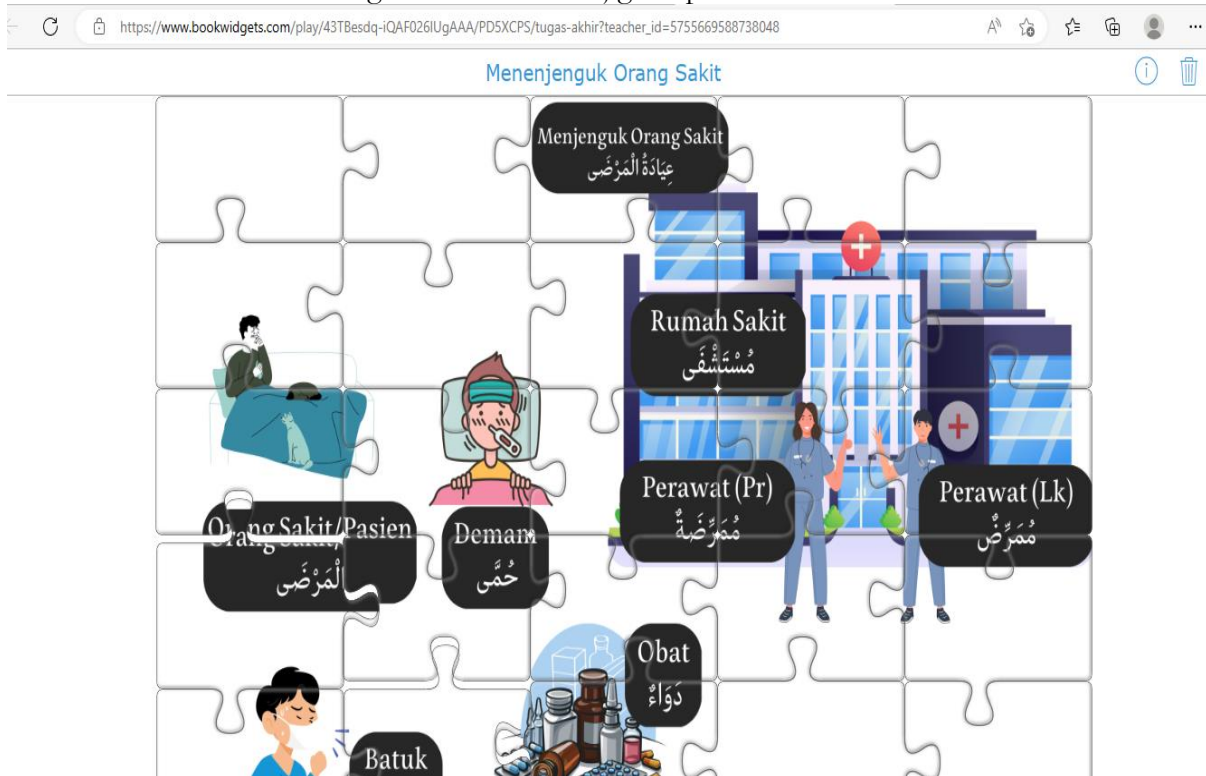
Figure 1. Mufrodat's jigsaw puzzle assembled

Figure 2. Mufrodat's jigsaw puzzle assembled

The Develop Stage The development stage of the web-based image puzzle media in mufrodat learning (Arabic vocabulary) begins with testing the validity of the web-based image puzzle media by experts. The validity test is divided into two, by material experts and media experts. The validators are Arabic language education lecturers. After the first material validation test, no revisions were made because it was feasible to be tested on students. Meanwhile, by the media validator, there are a few but a second validation is not required. Validation instruments and scores by the material validator are attached to the table:

Table 3. Material Validation Results

No.	Rated aspect	Second Validation Score
1.	Compatibility with Arabic Rules. Appropriate title with content	4
2.	Use of language that is effective and easy to understand.	3
3.	Presentation of material in interesting puzzles and images.	4
4.	The material is easily understood by students.	3
5.	The suitability of the material with the media used.	4
6.	Conformity of the rules for using media with the characteristics of students.	3

No.		Validation Score
7.	Appropriateness on the level of difficulty of students.	3
8.	The use of media is able to focus the attention of students.	4
	Average	**3,5**

Based on Table 3, the average score of the first material validation is included in the very valid category, so it does not require revision. For media validation, the validator's assessment is attached as follows:

Table 4. Media Validation Results

No.	Rated aspect	Validation Score
1.	The layout on the puzzle media is consistent.	3
2.	Efficient and attractive in the layout of the puzzle media components.	4
3.	Displays good and interesting images.	4
4.	Attractiveness to color and suitability of color combinations to media images.	3
5.	The use of puzzle media is interesting and easy to use.	3
6.	Images, colors, sizes and fonts are easy to read and understand.	4
7.	Illustrations can describe the content / material in the puzzle.	4
8.	Illustration of the contents of the attractiveness of the learners.	4
	Average	**3,6**

Based on table 4, the web-based image puzzle media is included in the very valid category, so it does not require a second validation.

Figure 3. The first item in the puzzle, almost done

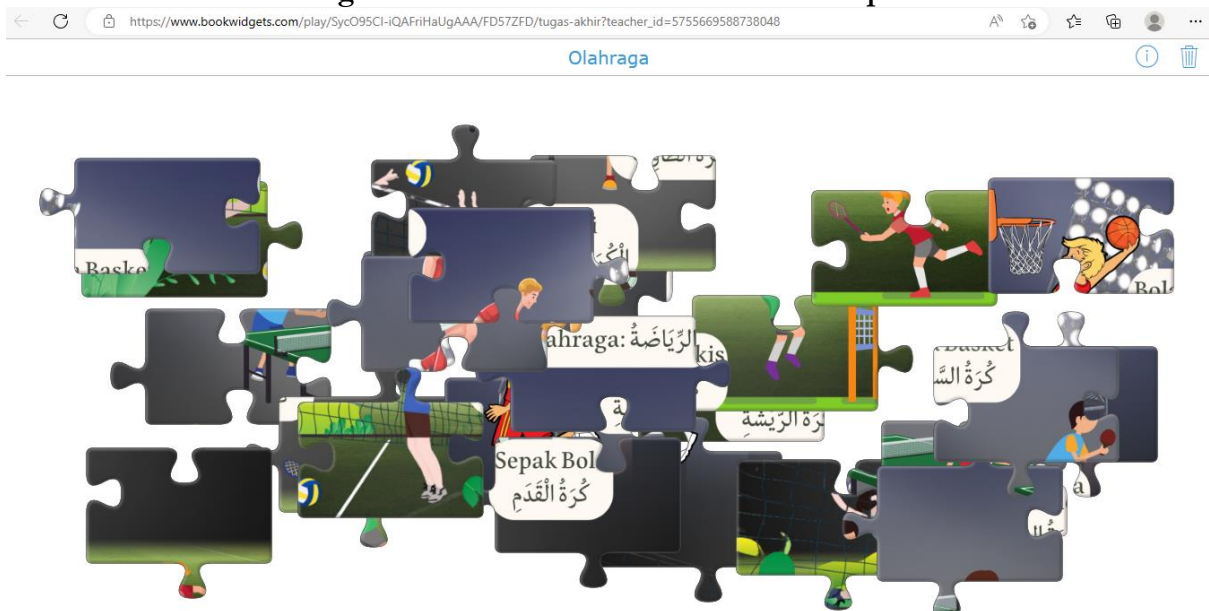**Figure 4. The first material has been completed**

Figure 5. The second material before completion

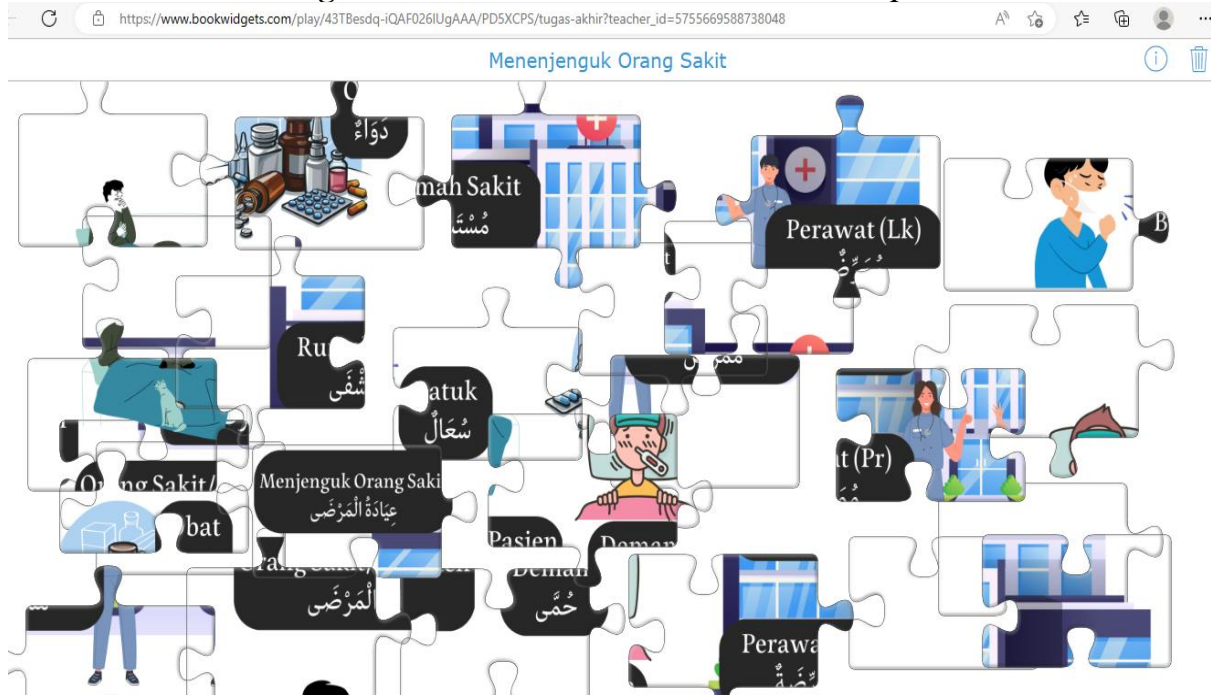**Figure 6. The second material has been completed**

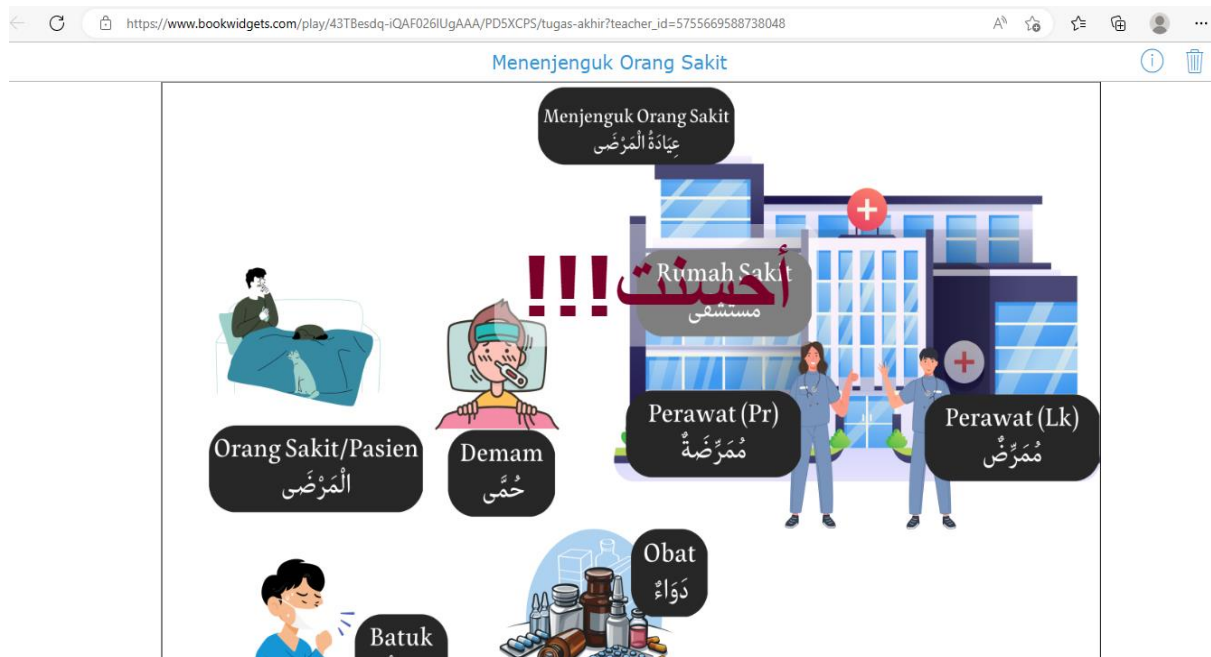**Figure 7. The third material has not been completed**

Figure 8. The third material has been completed

After completing the validation stage, then the web-based image puzzle media in vocabulary learning enters the practicality test stage. In this step, students are involved in product trials to see the practicality of web-based image puzzle media. This practicality test aims to see whether web-based image puzzle media is practical and whether students are easy to use it. Students are divided into 3 groups and then given time to work on activities on web-based image puzzle media, then given a response questionnaire to be filled out by students. The results are attached as follows.

Table 5. Student Response Results

No.	Rated Aspects	Percentage of Student Responses
1.	This is the first time I've used web-based image puzzle media on mufrodat learning.	73%
2.	Displaying images on web-based image puzzle media made me more interested in learning Arabic.	68%
3.	images and illustrations in web-based image puzzle media make me happy in memorizing mufrodat.	86%
4.	Images and illustrations in web-based image puzzle media are in accordance with the material.	77%
5.	With images on web-based image puzzle media, it's easier for me to remember Arabic vocabulary.	81%
6.	I see in real life.	71 %
7.	I can associate the contents of the vocabulary in the web-based I-image puzzle media with things that have never been	70%
8.	By using Puzzle media, I pay more attention to learning.	76%

9.	The Arabic vocabulary in the puzzle got me understand the material better.	77 %
10.	With media puzzle group learning is more interesting.	74%
11.	By using Media Puzzle learning is more fun and not boring. By determining my own formula, I become more understand how to use the formula.	78%
12.	The language used by Media Puzzle is easy to understand. .	65%
13.	I can understand the instructions for using Media Puzzle to arrange an image.	77%
14.	The combination of colors in Media Puzzle increases my interest in learning.	82%
15.	The shape, model, and size of the letters used by Media Puzzle are simple and easy to read.	82%
16.	The existence of Media Puzzle can develop insight and can train students' skills in sharpening the brain and memorizing mufrodat.	83%
Average		**76%**

Based on Table 5, the average score of students' positive responses to web-based image puzzle media in mufrodat learning (Arabic vocabulary) is 76%. This figure is in the very good category. With this, it is concluded that the web-based image puzzle media in mufrodat learning (Arabic vocabulary) is very practical for learning activities in class. Students' high positive responses indicate students' interest in learning is also high (Arini & Lovisia, 2019). Through the practicality test of web-based image puzzle media in mufrodat learning (Arabic vocabulary), it was found that there is potential and can be used effectively in the learning process in class.

Discussion

The web-based image puzzle media in learning mufrodat (Arabic vocabulary) VIII grade of MTs studentsNU Punden Rejo was valid. This is evidenced by the material validation score of 3.5 and media validation of 3.6 which fall into the very valid category. Web-based image puzzle media in mufrodat learning (Arabic vocabulary) has also fulfilled the practical value based on student responses with a percentage of 76% in the very practical category. Therefore, it was concluded that the web-based image puzzle media in learning mufrodat (Arabic vocabulary) is suitable to use as teaching material in learning Arabic.

This web-based image puzzle media for mufrodat learning (Arabic vocabulary) has met the valid and practical requirements. The use of web-based image puzzle media received positive evaluations from students. During the learning process, the atmosphere in learning is also classified as more active because of the involvement of students. Students also admit that there is a sense of interest in mufrodat learning. The feeling of boredom, monotony and boredom is also no longer felt by students in learning Arabic. Therefore, the researcher also considered it important to conduct research with the theme "Development of Web-Based image Puzzle Media for MTs Students". As stated by Khan, web-based learning media in Arabic will make it easier for students to absorb and remember the material presented by the teacher because it looks attractive and fun (Khan, 2015).

This is in line with research by Yasmin, 2015, in the Thesis of the Department of Arabic Literature, Faculty of Letters, State University of Malang, which indicates that learning vocabulary through "Development of Electronic Puzzle Media in Learning Arabic Vocabulary

in Class XI Students of SMK Muhammadiyah III Ambulu-Jember" can improve student learning responses. Therefore, the use of web-based image puzzle media in learning Arabic mufrodat is given more attention, because it does not only have an impact on knowledge of learning material, but also on knowledge of Arabic vocabulary.

The researcher realizes that the web-based image puzzle media developed still has drawbacks. The development of image puzzle media has not been able to reach the effectiveness testing stage due to the limitations of the researchers. It is hoped that further research will test the effectiveness of web-based image puzzle media in mufrodat learning (Arabic vocabulary) in order to improve student learning outcomes.

CONCLUSION

Based on the previous discussion, it was concluded that the web-based image puzzle media in learning mufrodat (Arabic vocabulary) VIII grade of MT's studentsNU Punden Rejo was valid. This is evidenced by the material validation score of 3.5 and media validation of 3.6 which fall into the very valid category. Web-based image puzzle media in mufrodat learning (Arabic vocabulary) has also fulfilled the practical value based on student responses with a percentage of 76% in the very practical category. Therefore, it was concluded that the web-based image puzzle media in learning mufrodat (Arabic vocabulary) is suitable to use as teaching material in learning Arabic.

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