Memorizing Hijaiyah Letters for Children with Moderate Mental Retardation Using VAKT-Based Media

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Abstract
This research aims to develop VAKT-based learning media (Visual, Audio, Kinesthetic, Tactile) for hijaiyah letters memorization of children with a moderate level of mental retardation. The research was conducted at Putera Asih Special School (SLB) Kediri. The method used was Research and Development (R&D) combined with the ADDIE model. However, this research only reached the design stage. The data were collected using interviews, observation, and questionnaires. Based on the assessment by media experts, the videos, flashcards, and plasticine developed were very feasible to use, with an average of 90.4%. Also, the material experts stated that the material in the VAKT was very suitable for use at 85%. In addition, the result of the media acceptance questionnaire calculation reached 85%. It means that the VAKT-based learning media was very suitable for use by children with moderate mental retardation to memorize hijaiyah letters at Putera Asih Special School.

Keywords: Hijaiyah Letters; Mental Retardation; VAKT Method
INTRODUCTION

The Central Agency on Statistics reported that there were 6,360 intellectual disabilities people during 2018 in East Java. This number exceeds quadriplegic, speech impaired, visually impaired, and other types of disabilities. Intellectual disability occupies the top position of other types of disabilities, as shown in the figure 1.

![Figure 1. Number of Disabilities in East Java (source: Village Potential in Central Agency on Statistics 2018)](image)

The number of intellectual disabilities is the highest of all types of disabilities, not only in the Province of East Java but also in Kediri City. Thirty-seven people in Kediri City are suffering from intellectual disability. A total of 30 people in Kediri City are quadriplegic, 28 people are emotional and behavioral disorders, and 27 people are visually impaired.

Children with intellectual impairment are categorized into four intelligence categories, i.e. mild (C) with IQ 70-55, moderate (C1) with IQ 55-40, severe (C2) with IQ 40-25, and very severe with IQ <25 (Kurniawati, 2016). Intellectual disability refers to mentally disabled, mentally impaired, or mentally retarded with intellectual levels below the average of normal students. In terms of physical characteristics, the intellectual disability people have an unbalanced appearance. For example, their head may be abnormally small or disproportionately large, they are unable to take care of itself, paying no or having very little attention to their surroundings, and the synchronization of their movements may frequently be uncontrollable (Rochmah & Sa’diyah, 2017).
The mentally retarded children focused in this study are in a moderate level of mental retardation. Children with moderate level of mental retardation are categorized as a trainable group. The IQ range of this group is 55-40. With moderate intellectual disability, children frequently struggle with attention issues, specifically difficulties concentrating and readily shifting their focus elsewhere. Consequently, in memory training, children with moderate intellectual disability frequently encounter difficulties brought on by the impact of their perceptive skills, causing their notion of comprehension to deviate from the teacher’s directions (Yulis, 2016). With such a condition, teachers are required to choose effective and efficient methods, media, and teaching materials according to the students’ ability (Oktorina, 2017).

The observations at Putera Asih Special School Kediri, during the implementation of learning hijaiyah letters in the class of moderate intellectual disability, showed that the teachers wrote all hijaiyah letters on the blackboard incrementally and hastily due to limited time. The teachers then mentioned those letters in a loud voice and asked students to repeat them. Sometimes, the teachers also used media in the form of flash cards. Mrs. Ning, the teacher of the moderate level of mental retardation, stated that children had different memory abilities. There were children who successfully memorized hijaiyah letters even though they stuttered. There were also children who memorized none, and some of them memorized only three letters, i.e., اب ت.

Mrs. Ning employed the drilling technique during the learning process. The findings revealed that the students preferred to be quiet and unenthusiastic. This occurred as a result of students becoming bored with the repetition technique. The method used to stimulate students’ interest and enthusiasm was not innovative.

Even though they have implemented learning methods, teachers still need a method for interacting with students with moderate intellectual disabilities who need special services in order to receive the information provided by the teacher. It means that the media is an integral component of the technique. If the learning method is applied using media that is in accordance with the learning objectives that are intended to be accomplished, the learning method will be more successful (Salsabila et al., 2020).

Therefore, the researcher felt the need to develop media that are capable of providing solutions to the challenges faced by children with moderate mental
retardation at Putera Asih Special School. The VAKT method is one of the methods-based media development techniques that can be applied to moderate intellectual disability children. The VAKT method, also known as multisensory method, uses Visual, Auditory, Kinesthetic, and Tactile to symbolize each sense that humans has (Sari & Sagala, 2015).

According to Orton and Gillingham, the VAKT multisensory method could help children remember words (Aprilia & Lestari, 2016). Based on this statement, they believed that the multisensory approach could help moderate intellectual disability children memorized hijaiyah letters because the media that engaged their senses facilitate them in remembering letters better. By combining sight (eyes), sound (ears), movement (hands and feet), and smell (nose), a strong memory would be established (Julita, 2015).

The VAKT method could also improve the ability of mildly intellectual disability children to distinguish letters that were almost in the same shape, i.e.: M, W, V, and A (Jayanti, 2019). In addition, the VAKT method was useful when working with moderate intellectual disability children. According to Kusumaningtyas et al., (2019), by applying the VAKT method, the ability to write the beginning letters a, i, u, e, and o for children with moderate disabilities had continuously increased. The percentage increase ranged from 6.66% to 100%.

The previous researches described in the previous paragraph focused on reading the alphabet letters. Therefore, this current research focuses on developing VAKT-based media for children with moderate mental retardation in memorizing hijaiyah letters. This research collaborate video as a learning media, flashcards, and plasticine. The media selection is based on its application in utilizing the senses according to the VAKT role.

Video as a learning media containing hijaiyah letter material are used as an optimization of visual and audio (visual and auditory senses). Flash cards or word cards containing hijaiyah letters are used as an optimization of the visual (sense of sight). Plasticine, which is easy to shape and safe to use by learners, serves as an optimization of kinesthetic and tactile (motion and touch).

**METHOD**

**Research Design**

This research used Research and Development (RnD) research design. The researcher also combined the Research and Development (RnD) model with the ADDIE method. Dick and Carry (1996) are the ones who develope the idea for
the ADDIE model, which includes a total of five stages: Analysis, Design, Development, Implementation and Evaluation.

The ADDIE model was chosen because it has an endless revision and evaluation stage in each phase, so the resulting product are valid and reliable (Hadi & Agustina, 2016). Additionally, the ADDIE model has a very straightforward process and its implementation cannot be randomized. Another benefit of this model is that it is simpler to comprehend and put into practice by researchers, educators, or developers (Cahyadi, 2019).

However, this research was only conducted up to the level of development, and no actual implementation on students was performed. This was because, at the time of the research, the students could not perform face-to-face learning and use cell phones. Therefore, in order to determine the effectiveness of the development of VAKT-based teaching materials, experts’ validation was carried out. The experts who participated in this study were professionals in their respective fields, which were relevant to the subject matter of the investigation (Chaeruman, 2015).

Media Expert Test

The developed product was validated by seven experts. Expert validation was carried out so that the media developed could be used by students with moderate mental retardation disorders (Dewanti et al., 2018). The validators were split into three categories: 1) media expert; 2) material expert; and 3) companion teacher/Special School teacher.

Three lecturers as media experts were selected to assess 1) video; 2) flashcards; and 3) plasticine. Two material experts were selected, including a lecturer of Special Education study program and a lecturer of Islamic Religious Education study program. As for the teachers, two teachers from Putera Asih Special School Kediri were also selected.

Instruments

Three instruments were used in this study. First, the observation guidelines. The observation guideline was used as a tool in carrying out the research. The observation guideline served as a tool to see teacher and student activities during learning about the introduction of hijaiyah letters.

Second, the rating scale. This scale was designed to determine whether or not children with moderate mental retardation are capable of using VAKT-based media to learn the hijaiyah (Dewanti et al., 2018). The rating scale was provided in the form of a question with a rating score range of 1-4 as shown in Table 1.
Table 1. Score determination based on Absolute Category Rating (ACR)

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>4</td>
</tr>
<tr>
<td>Good</td>
<td>3</td>
</tr>
<tr>
<td>Poor</td>
<td>2</td>
</tr>
<tr>
<td>Bad</td>
<td>1</td>
</tr>
</tbody>
</table>

Third, the interview guidelines. Similar to the observation guideline, the interview guideline was used to find out the experts’ opinion or views of the developed product.

The headmaster and teachers of moderate intellectual disability students in Putera Asih Special School Kediri became the interviewed subjects during this study. In addition to conducting the interview during the needs analysis, the interviews were also conducted with seven validators.

Data Analysis

Data were analyzed quantitatively and qualitatively. Quantitative analysis was done by scoring through descriptive statistical analysis. The average score of each expert was calculated and then concluded through categorization based on the assessment categories as written in Table 2.

Table 2. Eligibility Level Qualification

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>Eligibility criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-85</td>
<td>Very Eligible</td>
</tr>
<tr>
<td>84-75</td>
<td>Eligible</td>
</tr>
<tr>
<td>74-60</td>
<td>Eligible Enough</td>
</tr>
<tr>
<td>59-45</td>
<td>Less Eligible</td>
</tr>
<tr>
<td>44-0</td>
<td>Extremely Ineligible</td>
</tr>
</tbody>
</table>

Table 2 shows the conclusion of the assessment of VAKT-based media development to facilitate hijaiyah letters memorization for moderate mental retardation students.

In addition, qualitative data were obtained from the comments, recommendations, and criticisms of expert validators. This data was then qualitatively analyzed. Qualitative data was described as it was considered feedback for media revision and improvement. Suggestions and feedback were considered for revision material.

The results of quantitative and qualitative data analysis were collaborated to consider whether or not the VAKT-based media development was eligible and appropriate both theoretically and practically.
FINDINGS AND DISCUSSION

The research and development carried out produced media in accordance with the VAKT method for students with moderate mental retardation disorders to memorize hijaiyah letters. The products developed in this study were video as a learning media, flashcards, and plasticine that attracted attention to moderate mental retardation in learning hijaiyah letters so that learning objectives could be achieved. The important points of the design stage were that the video as a learning media had to be easily accepted by students, flashcards containing hijaiyah letters were visible and observable to students, and plasticine could be touched and palpated.

Media development in the form of VAKT-based video was conducted interestingly, resulting that the students were enthusiastic about memorizing hijaiyah letters. The video as a learning media was integrated with a song about hijaiyah letters. Also, the video was created using the Kinemaster application. The 2-minutes video was expected to minimize student boredom. This was because the concentration level of children with mental retardation disorders was only 15 minutes (Pradnyana et al., 2020).

The hijaiyah letter material in the video was packaged in several parts. For the first part, hijaiyah letters were presented with an interesting song so that the students could easily memorize hijaiyah letters. The second part began by pausing after each letter, so the students could repeat what they had just heard.

Flash cards were used to keep the students remained concentrated and did not lose focus (Idawati, 2019). The flashcards focused on hijaiyah letters with punctuation marks, as shown in Figure 2. The flashcards were 8 x 12 cm in size.

Figure 2. Shape of flashcards

To develop kinesthetic and tactile skills, plasticine was chosen. Three basic colors (blue, red, and yellow) were used in plasticine. These colors were chosen
so that teachers and students could be creative and combine the colors (Fitriyah & Wihandika, 2021). Being creative and combining colors was expected to attract students’ attention (Rahayu, 2019). The shape of the plasticine could be seen in Figure 3.

Figure 3. The shape of the plasticine

This VAKT-based media was validated by three experts, including two media experts, two material experts, and also two Putera Asih Special School teachers. The assessments that were provided by the three specialists were evaluated using descriptive statistics. The validators assessed whether or not the three media (video, flashcards, and plasticine) met the VAKT, as shown in Table 3. Details of the expert assessment were presented in Table 4.

<table>
<thead>
<tr>
<th>Aspects assessed</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic benefits</td>
</tr>
<tr>
<td></td>
<td>Learning interest</td>
</tr>
<tr>
<td></td>
<td>Motivating</td>
</tr>
<tr>
<td></td>
<td>Integration between visual elements</td>
</tr>
<tr>
<td></td>
<td>Emphasis on visual elements</td>
</tr>
<tr>
<td></td>
<td>Layout</td>
</tr>
<tr>
<td></td>
<td>Material contents accuracy</td>
</tr>
<tr>
<td></td>
<td>Systematic and logic</td>
</tr>
<tr>
<td></td>
<td>Significance of material formulation</td>
</tr>
<tr>
<td></td>
<td>Learning possibility</td>
</tr>
<tr>
<td>Audio</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Audio speed</td>
</tr>
<tr>
<td></td>
<td>Language clarity</td>
</tr>
<tr>
<td></td>
<td>Language selection</td>
</tr>
<tr>
<td></td>
<td>Appropriate usage of intonation, rhythm, and tempo.</td>
</tr>
<tr>
<td></td>
<td>Appropriate usage of sound effects.</td>
</tr>
<tr>
<td></td>
<td>Language</td>
</tr>
</tbody>
</table>

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Kinesthetic  | Can increase learning interest  
| Can be used repeatedly  
| Attracts learners’ attention  
| Not confusing learners  

Tactile  | Touchable and palpable by students  
| Can be used repeatedly  
| Attracts learners’ attention  
| Increasing learners’ creativity  

Table 4. Score determination

<table>
<thead>
<tr>
<th>Expert</th>
<th>Average Score obtained</th>
<th>Average maximum score</th>
<th>Percentage</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media</td>
<td>47</td>
<td>52</td>
<td>90,4%</td>
<td>Very Eligible</td>
</tr>
<tr>
<td>Material</td>
<td>34</td>
<td>40</td>
<td>85%</td>
<td>Very Eligible</td>
</tr>
<tr>
<td>Special School Teachers</td>
<td>34</td>
<td>40</td>
<td>85%</td>
<td>Very Eligible</td>
</tr>
</tbody>
</table>

The average score from all the validators shows that the VAKT-based media created is very eligible for students with moderate mental retardation to learn the hijaiyah. The substance compiled in the three media (video, flashcards, and plasticine) is considered very eligible. Table 5 shows the results of the product trial in the form of suggestions for revision.

Table 5. Revision of VAKT-based media

<table>
<thead>
<tr>
<th>Validator suggestions</th>
<th>Revisions made</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay attention to the purpose and target of the video</td>
<td>Video objectives and targets have been added</td>
</tr>
<tr>
<td>The video needs an additional opening</td>
<td>An additional opening has been added</td>
</tr>
</tbody>
</table>

The VAKT method, which had been used by many teachers with their students, was an effective learning method that could be implemented with both normal and special needs students (Hafni et al., 2021).

As time goes by, researchers had provided creative innovations to maximize the use of the VAKT method in learning. Some earlier studies combined the VAKT learning method with a medium that was thought to be good enough to help this method work best. Especially a medium that worked to make the best use of the senses so that the VAKT method could be used well. Therefore, this research developed the VAKT method so that its implementation could be carried out optimally.

The development of VAKT-based media to help children with moderate mental retardation remember hijaiyah letters was mostly based on problems that
happen in the classroom. For example, there were no interesting ways to help children with moderate mental retardation remember hijaiyah letters because teachers tended to use the repetition method (drill) to teach. The VAKT method was created because, in general, this memorization method only used flashcards to represent VAKT (Visual, Audio, Kinesthetic, Tactile) (Afriliya & Widajati, 2014).

The selection of video as a learning media was due to the fact that video is one of the media that could represent the functions of visual and auditory (Maslani & Maulana, 2018). The presentation of an interesting video as a learning medium would make students interested in watching it. The video could also be used to introduce and improve the ability to read hijaiyah letters. Using an animated video could help the teacher explain things in less time (Novelia & Hazizah, 2020).

The experts thought that the video used in this study as a learning media was very eligible to use for children with moderate mental retardation. Even though there were revisions at the start of the assessment and some suggestions from the media expert, this information was used to make the video a better learning media that could be used.

Flashcard media was the media that was often used in the application of the VAKT method. With a simple but interesting presentation, flash cards were easy to apply to some learning materials. Usually, flashcards are used to master vocabulary. Of course, this is because the word cards contain pictures, language, and pronunciation, making it easier for students to memorize and understand (Muhith et al., 2020).

In addition to flashcards and video as learning media, researchers collaborated with plasticine. Plasticine was easy to mold and safe to use as a learning medium in the classroom due to its soft texture and ease of use. In addition, plasticine could also be used to enhance children’s creativity (Kartini & Sujarwo, 2014).

According to Siswanti (2012), the application of the VAKT method collaborated with plasticine could improve the ability to read hijaiyah letters for students with mild mental retardation. This proved that plasticine could be used as a medium in the classroom and was effective enough to be implemented. Plasticine or wax has a soft texture that was easy to mold and could be used repeatedly. This reason encouraged researchers to use plasticine as one of the learning media so that the implementation of the VAKT method would be more complete. In addition, students could be creative with plasticine to produce hijaiyah letters in an interesting plasticine shape.
Although there has been no research related to the development of VAKT-based teaching materials by combining learning media such as video as a learning media, flashcards, and plasticine in one learning process, tracing previous studies on the success of using each media made the researcher believed that the media combination chosen to develop VAKT-based media was quite good and optimal.

The researcher used criticism and suggestions from experts to decide if the teaching materials used in this study were eligible to be used. To help students who have trouble remembering and memorizing hijaiyah letters, VAKT-based media development was performed.

CONCLUSION

The results showed that VAKT-based media was very eligible for students with moderate mental retardation to memorize hijaiyah letters. The researcher used three types of media: 1) video, 2) flashcards, and 4) plasticine. Three of the seven expert validators assessed the media. They found that the media has 90.4% of eligibility. Each of the material expert validators and the teachers at the Special School have a score of 85%.

Despite the fact that validation has been performed and found to be very eligible, it does not eliminate the possibility that this research still has deficiencies. This is especially true considering that this research only reached the development stage as a result of paying attention to product assessments made by specialists. Future research is expected to examine the stages of implementation and assessment to ascertain the product's efficacy for students with mental retardation disorders.

REFERENCES


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