

Development of Smart Board Visual Media for Autistic Children in Learning Indonesian Language

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ABSTRACT

This study aims to determine the development process and the results of the "Smart Board" visual media validation for Autism children in grade 2 Indonesian language learning using the ADDIE research model, which consists of 5 stages, namely: (a) Analysis Stage, (b) Design Stage, (c) Development Stage, (d) Implementation Stage, and (e) Evaluation Stage. This research was tested on grade 2 autistic students who experienced behavioural, communication, and interaction barriers. The research instrument used a material expert validation sheet to display design experts and a teacher/principal response questionnaire. The results of the material expert validation received a score of 96, an average score of 4.8 with an interval score of $X > 83.94$, so it obtained the "Very Good" category. The results of the display design expert validation received a score of 86, an average value of 4.3, with an interval score of $X > 83.94$, so it obtained the "Very Good" category. The results of interviews with teachers and principals show that the visual media "Smart Board" can accommodate autistic students in learning Indonesian; the material is on the level of ability of autistic children so that it is easy to understand, and the design of media displays that can attract students' attention to use. So, it can be concluded that the visual media "Smart Board" is very effective in supporting Indonesian language learning in the classroom as a tool for students to understand the material presented by the teacher.

Keywords: Media Development, Smart Board, Autism, Indonesian Language.

INTRODUCTION

Education is a conscious and planned effort to provide guidance or help in developing the physical and spiritual potential given by adults to students to achieve maturity and achieve the goal that students can carry out their life tasks independently (Hidayat & Abdillah, 2019: 24). Education seeks to direct all the potential of students to the maximum to realize a better personality for themselves in the future. Expectations for the world of Education are huge to develop students' abilities and improve their quality of life and dignity to realize national Education goals by the Law. Based on this and referring to Chapter III, Article 5, Article 6 and Article 8, the State provides full guarantees to all children, including children with special needs, to obtain equal opportunities and quality education services in studying at the same school as normal children of the same age.

Inclusive Education (PI) is an education delivery system that provides opportunities for all Learners with Special Needs (PDBK), including Learners with Disabilities and those who have the potential for intelligence and unique talents to attend Education or learning in an educational environment together with students in general (Yuwono et al., 2021: 5).

The purpose of inclusive Education is to provide equal rights to children with disabilities or students who have abnormalities and have the potential for exceptional intelligence and talent to carry out the same Education as children in general according to their needs and skills carried out together in educational units, in supporting inclusive Education in regular education units at the Elementary School (SD) or Madrasah Ibtidaiyah (MI) level, it is necessary to have a Learning Media that can be used to convey material so that children with disabilities can also understand it during the learning process in the classroom.

Learning media is a physical or non-physical tool deliberately used as an intermediary between educators and students in understanding learning materials to make it more effective and efficient (Amka, 2018: 16). As a teacher. You must be able to develop a medium that can be adjusted to the conditions of your students if the media is not suitable for conveying messages to students. Visual media is the core, which attracts and directs learners to concentrate on the content of the lesson related to the visual intent displayed or accompanying the text of the subject matter.

Visual media that provide context for understanding the text help learners who are weak in organizing and recalling information in the text (Nurdyansyah, 2019: 61-62). The more attractive the media is, the more motivated students will be to learn, especially students who experience barriers to social behaviour and communication. The learning outcomes obtained will increase with the help of modified learning media.

Children who experience barriers to social interaction, behaviour, and communication or children who have very complex developmental barriers are called Autistic Children (Suprajitno & Rachmi, 2017: 2). This autistic disorder is the inability of individuals to interact with other individuals; there is a language disorder which is shown by several signs, namely: delayed language acquisition, echolalia test, and sentence reversal; then there are repetitive and stereotype play activities, vital desire routes, and an obsessive desire to maintain order in the environment (Kristiana & Widayanti, 2016: 52).

Based on the observation and identification results, children with Autistic obstacles at MI Hamzanwadi School No.1 Pancor are one student in grade 2. One of the obstacles is a barrier to communicating verbally or having difficulty talking to other people. The communication used daily is Non-verbal communication or using certain sign symbols that he and his interlocutors easily understand. In addition, children with autistic barriers prefer to be alone or choose their world when in the school environment. So, to communicate and understand the material provided by the class teacher in learning Indonesian, especially in practising writing skills and increasing verbal and non-verbal vocabulary.

For Indonesian language lessons in elementary schools (SD) or Madrasah Ibtidaiyah (MI), one of the objectives is to expect students to be able to communicate using Indonesian, both orally and in writing. Solchan (2014: 1.25). Indonesian language lessons with material that is modified as simply as possible can increase the knowledge of autistic children in the form of vocabulary and practice writing skills. A good vocabulary will help autistic children understand other learning materials as well, apart from the Indonesian language lessons themselves. In addition, good speech can help autistic children communicate with their interlocutors and receive, understand, identify, and respond to the information they receive and then convey it back through writing or using non-verbal language that can be understood.

Based on the description above, the research was conducted to develop a product, namely the visual media "Smart Board," whose development refers to the needs of Autistic students at MI Hamzanwadi No.1 P, especially in learning Indonesian.

METHOD

This research was conducted at MI Hamzanwa.di This research uses the R&D (Research & Development) development method. Research and development (R&D) is a systematic study process to develop and validate products used in Education (Ibrahim et al., 2018: 154).

The product developed in this study is a visual media "Smart Board" for autistic children learning the Indonesian Language in Grade 2 using the ADDIE development model (Analysis, Design, Development, Implementation, and evaluation). The researcher chose this model because the stages or steps are simple, easy to understand and systematic compared to other development models.

The subjects in this study were 1 student with autistic barriers in grade 2. The data collection techniques and instruments used in this study were qualitative data and quantitative data. Qualitative data in the form of suggestions put forward by material and display design experts and the results of interviews using teacher and principal response questionnaires. Then, quantitative data is obtained from the material expert validation sheet, and the display design validation sheet is converted into qualitative data with a scale of 5 (Likert scale), which refers to the Benchmark Assessment (PAP).

RESULT AND DISCUSSION

The results of this product trial impact Autistic students in the form of students' academic development in recognizing various Indonesian language learning content presented on the visual media "Smart Board," and autistic students show interest in using the media and doing exercises in sequence. However, students with autistic barriers must still be explained repeatedly and shown first how to use the media. Then, students are asked to try until they understand and understand what has been exemplified. The image of the visual media "Smart Board" can be seen in the following figure:



Figure 1. "Smart Board" visual media design

Material expert validation was conducted by an elementary school teacher at SLBN 1 Lombok Timur, namely Mrs AR. This validation was carried out on 20 May 2023. There are 3 aspects developed into 20 statement items that the material expert validator must fill in.

The three aspects include the suitability of the material with KI and KD, the strength of the material, and the feasibility of language by obtaining a total score of 96 and an average value of 4.8 so that it can be categorized as "Very Good." More details can be seen in the following table:

Table 1. Material Expert Validation Score

Total Score	Average	Score Interval	Category
96	4.8	96 > 83.94	Very good

The qualitative data obtained by researchers from material experts can be seen in the following table:

Table 2. Qualitative data obtained by researchers from content experts

Before Revision	After Revision
No revision	No revision

Display design expert validation was conducted by Mrs AJ on 22 May 2023 as a teacher at MI Hamzanwadi No 1 Pancor in the field of media experts. There are 2 aspects developed into 20 statement items that the display design expert validator must fill in. The two elements include the suitability of appearance/design and content/design of information presentation by obtaining a total score of 86 and an average score of 4.3 to be categorized as "Very Good." More details are seen in the following table:

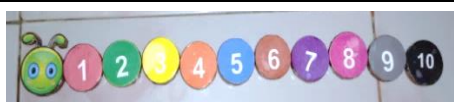
Table 3. Validation Score

Total Score	Average	Score Interval	Category
86	4.3	86 > 83.94	Very good

The quantitative data obtained by researchers from display design experts is that at this stage, the teacher gets advice on the animal-shaped number puzzle (caterpillar) to adjust the colour number writing to the colour of the background so that the number writing does not sink so that it can be seen clearly. In addition, different colours are added to the letter puzzle, especially in the vocal letters. Finally, in the names of animals and plants, additional colour is also given to the writing background that autistic children are more interested in using the media.

Table 4. Quantitative data obtained by researchers from display design experts

Before Revision	After Revision
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The number writing is drowned out by the colour of the background.



The numbers have been changed as suggested, especially numbers 3 and 5.



Before Revision	After Revision
There is no colour variation so children will be less interested.	The background has been changed as suggested so children will be more interested.

The results of interviews with teachers and principals showed that with the visual media "Smart Board," children will be more interested, and their learning experience will be more explored, especially for students in the autistic category and for normal children in general. Visual media "Smart Board" is very accommodating for autistic children in learning Indonesian because autistic children will be more stimulated from the visual side; the ability to see something developed in the symbol can facilitate the teacher in organizing the class and making children focus will be easier so that by using this media the learning process will be more structured, students will more quickly accept delivery of messages/learning objectives, and student reasoning will be more trained. Teachers feel greatly helped by the existence of innovations from students who are expected to help teachers meet students' needs in the classroom learning process.

CONCLUSION

This development research produces a product in the form of visual media, "Smart Board," for autistic children in Indonesian language learning grade 2. This research uses the R&D (Research & Development) development method with the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). The products produced in this study have been assessed as valid or suitable for use in Indonesian language learning, as seen from the assessment results by validators, namely material experts and display design. The results of the content expert validation that the visual media "Smart Board" received an average score of 4.8 with a total score of 96 and a score interval of $X > 83.94$ with the assessment category is very good. The validation results of the display design expert validator, namely the visual media "Smart Board," received an average score of 4.3 with a total score of 86 and an interval score of $X > 83.94$, with the assessment category being excellent.

The results of interviews with teachers and principals showed that with the visual media "Smart Board," children will be more interested, and their learning experience will be more explored, especially for students in the autism category and for normal children in general. Visual media "Smart Board" is very accommodating for autistic children in learning Indonesian because the condition of autistic children will be more stimulated from the visual side, can facilitate the teacher in organizing the class, and make children focus more efficiently by using this media in the learning process will be more structured, students will more quickly accept delivery of messages/learning objectives, and student reasoning will be more trained.

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