

DESIGN OF POP-UP LETTERS CARD MEDIA BASED ON EDUTAINMENT FOR DYSLEXIC CHILDREN IN ELEMENTARY SCHOOL

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ABSTRACT

This research focuses on the development based on edutainment pop-up letter card media customized for use by dyslexic children in elementary school. Dyslexia poses significant challenges for children in learning to read and write, requiring specialized educational tools to support their learning needs. The developed pop-up letter cards integrate visual, auditory, and tactile elements to create an engaging and multisensory learning experience. By leveraging interactive features and user-friendly design, it is hoped that the development of this media can provide a solution to reading difficulties for dyslexic students in elementary school. The method used in this research is Design Based Research (DBR), the selection of this method is considered appropriate for developing a product that can be one of the solutions to the problems that occur in the field.

Keywords: *Dyslexic, Edutainment, Reading, Pop-up Card Media, Sensory*

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INTRODUCTION

In elementary school, reading difficulties are one of the main problems. This difficulty can be an obstacle for students in learning, both at home and at school. Reading difficulties can occur due to various things, one of which is difficulty in reading which is caused by students experiencing dyslexia. Students who have difficulty reading show similar characteristics such as, repeating in reading, adding inappropriate letters from words, and often flipping letters, especially the letters b with d or p with q. Based on the characteristics that appear, it leads to a waste of disorders in reading, namely dyslexia. Dyslexia is simply a disorder in reading and writing skills so that dyslexic children will have their own difficulties when reading a sentence, because it is difficult to distinguish letters. As explained by (Lyon et al., 2003) (Shaywitz & Shaywitz, 2017) "Children with developmental dyslexia have difficulties with accurate words and word recognition and spelling". Dyslexia is defined as a form of difficulty in language. Explained by (Hermijanto & Valentina, 2016) that "Dyslexia is a person's difficulty in carrying out activities related to letters, especially reading and writing activities".

The identification of students who experience dyslexia occurred in class I, there were three students who were identified with a pre-diagnosis instrument for dyslexic disorders. The impact that occurs, during classroom learning, teachers sometimes find it difficult to provide learning for students who have dyslexia. Where when giving material by reading from a textbook, these students will be left behind or even not read at all, so that the material at that time cannot be achieved.

The teacher has accompanied and provided additional time specifically for learning to read, but has not shown an improvement in reading insight in these three students. During additional hours of reading lessons, teachers use the "read" book media, for some students

this book media can help the learning process of reading. The incompatibility of the use of media with the problems that occur makes it difficult for teachers to teach reading.

Traditional teaching methods often struggle to adequately address these challenges, requiring innovative approaches to support dyslexic learners in developing literacy skills. In recent years, technological advances have opened up opportunities to utilize interactive and engaging media, such as edutainment-based pop-up cards, as an intervention tool to improve learning outcomes for students with dyslexia.

Methods that can improve word recognition skills in children explained by (Jamaris, 2014) (Martini, 2014) namely the "phonic method (method of mentioning the sound of letters or spelling), basal reader (initial or basic reading), distar program (long-term program), and repeated reading (repeating reading)". It is based on the use of the glass analysis method, where children are guided to recognize groups of letters while looking at words, using the help of cards containing letters. That way, this pop-up letter card media can be a media specifically for students who experience dyslexia.

This research aims to create a product in the form of media that is specifically used for students who experience dyslexia. It is hoped that the development of this edutainment-based pop-up letter card media can increase students' enthusiasm for learning and make it easier for students to recognize letters with appropriate methods for those with dyslexia.

METHOD

This research is a qualitative research using the DBR (Design Based Research) method. The selection of this method is considered appropriate to be used to develop a product that can be used as a solution to problems that occur in the field. This statement is in line with (Plomp & Nieveen, 2013) Design Based Research (DBR) is a systematic study of designing, developing and evaluating educational interventions (such as programs, learning materials and products and systems) as solutions to solve complex problems in educational practice, with the aim of developing or validating theories".

The sample used in this study was three students who were previously identified with dyslexia. The number of samples used is based on (Creswell, 2015) (Guetterman, 2017) (Buchholtz, 2019), sample size is not a matter of representative opinions and views, but rather a matter of information richness. The sample was selected using the purposive sampling method. In qualitative research, the purposive sampling technique is a method used to achieve certain research objectives. There is no limit to the number of respondents to make a purposive sample, as long as the desired information can be obtained and generated (Bernard, 2002). (Amiel & Reeves, 2008) (Koseoglu & Pazurek, 2013) (Alghamdi & Li, 2013) dividing the stages of the DBR research procedure into 4, namely "problem identification and analysis, program prototype development, program prototype testing and implementation, and reflection to obtain the expected design principles and overcome the problems that arise"

a. Identify and analyze problems

A preliminary study was carried out at the UPI Laboratory Elementary School Tasikmalaya Campus, to explore problems regarding reading learning for students who experience dyslexia. After the problem is obtained, it is followed by conducting an analysis to find a solution to the problem that occurred.

b. Program prototype development

Researchers begin to make product designs that will be developed according to the results of problem analysis, in order to be able to solve problems with the products made. The intended product development is edutainment-based pop-up letter card media. With this media, it is hoped that it can be an appropriate solution to the problem of learning to recognize letters for students who experience dyslexia in elementary school.

c. Trial and implementation of program prototypes

Researchers began to test and improve the products made. The first test was carried out by testing the validity of the product to experts, namely, media experts, pedagogical experts, and extraordinary education experts. The purpose of conducting this validity test is to see whether the product is suitable for use or not, as well as to get input in the form of suggestions and criticism so that this product can meet the needs. After that, the researcher began to test the product on students who experienced dyslexia in elementary school, with the help of classroom teachers to participate in the assessment, as well as students' views on the products given to be the researcher's reflection material. After that, the researcher will make improvements again by looking at the results of reflection.

d. Reflection to get the expected design principles and overcome the problems that arise

The last stage of this study is to evaluate the product according to the results of the assessment of the product, in order to produce a product that is indeed feasible and can be a solution to the problems that occur.

RESULTS AND DISCUSSION

The development of edutainment-based pop-up letter card media was developed by combining physical media and digital media to attract interest in learning and facilitate the use of media for teachers or companions who accompany when teaching. This pop-up letter card was also developed to increase the stimulus of children. Increasing this stimulus is supported by media that use children's multisensory. The use of the senses is not only sight, but needs to be accompanied by the use of other senses, such as the sense of hearing or the sense of touch. In line with this to improve children's multisensory, the letters used are made embossed and textured, so that the shape of the letters can be felt. The goal is to provide a clearer picture of the shape of the letters in his memory, so that he can distinguish them.

In addition to the embossed and textured letters, there are pop-ups in the cards that aim to provide examples of the use of letters in a word, to use animal names in its development. It is hoped that children do not just know the name of the animal without knowing what letters make up the word. The combination of education and entertainment or abbreviated as edutainment in this product is the use of a page for children to play in finding letters according to the sound of the letters they hear. The existence of games in learning will give a pleasant impression to children. This is in accordance with the concept of edutainment according to (S. Hamid, 2011) (M. Hamid, 2011) Edutainment states that it seeks to teach or facilitate social interaction to students by including various lessons in the form of entertainment that is familiar to their ears, such as television shows, games on computers or video games, movies, music, websites, multimedia devices and so on. By providing something fun for children, learning feels fun. The search page can function as an initial assessment or after the child uses the pop-up letter card media. By combining only one product, it is hoped that it can make it easier to provide learning and assessment of the understanding obtained.



Figure 1. Letter card products



Figure 2. Pop-up on the inside of the card



Figure 3. Barcode of the page looking for letters



Figure 4. The look of the word search game

The first expert validation is to extraordinary education experts, At the point "edutainment-based pop-up letter cards attract dyslexic children to learn to read" is assessed "adequately" on the grounds that this statement should need to be shown directly to dyslexic children, whether they will really be that interested in dyslexic children to want to be invited to learn by looking at this card. So that the assessment of "enough" is considered suitable

because with the assessment seen that the form of the edutainment-based pop-up letter card is eye-catching to want to see. It was concluded that this edutainment-based pop-up letter card media product "is suitable for children to use in learning to read in elementary school without revision".

The next validation is carried out on media experts. Media experts provide input on the background of the card used, if you want to give a background on the card, make it that is indeed relevant to the theme of this card. If it is not relevant to the theme, it is better to leave it plain. Based on the results of the assessment carried out, overall educational media experts concluded that this edutainment-based pop-up letter card media product "is suitable for use as an educational media without revision".

The final validation is carried out on pedagogical experts. Providing good responses to edutainment-based pop-up letter card media products. There is a comment given by the class teacher on this product, "the use of edutainment-based pop-up letter card media for children's reading learning in elementary school will be very helpful to make it easier for children to understand and remember the letters. Edutainment-based pop-up letter card media is designed with an attractive appearance, which will increase children's enthusiasm and motivate them to learn to read when learning". It can be concluded that edutainment-based pop-up letter card media is "worthy of use in learning without revision".

The next trial was to directly provide edutainment-based pop-up letter card media, to three students who were identified as having dyslexia. The trial was carried out by scanning the barcode on the back of the card, where later a page containing a letter search game will appear. Doing this at the beginning means to see the initial understanding of each student towards letters. After choosing the letters to use, one by one the letter cards are given to the children to observe, feel the shape of the letters along with mentioning the sound of the chosen letter.

After being done repeatedly, to provide an example of the use of letters, students are asked to open from the side with the intention of showing a pop-up of words and pictures of animals that match the selected letters. From the beginning, students seemed enthusiastic about the media used, making the students not stop to try to touch the letters, open the cards to see pop-up images. What makes students do it repeatedly is the page to play looking for letters, although several times they are confused in answering, but it does not make the three students stop playing.

CONCLUSION

The use of edutainment-based pop-up letter card media received a good response from these three students, their enthusiasm in trying to show the students' interest in the media products developed. In addition to students, classroom teachers who teach also provide feedback, with the existence of edutainment-based pop-up letter card media can help teachers in providing learning when in class and can make it easier for teachers. To see if edutainment-based pop-up letter card media can improve letter recognition of students with dyslexia, it is necessary to conduct further research.

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