



Improve Beginning Reading Skills Through Braille Rotary Wheel Media for Blind Children

Faiqah Dzakiyatus Safna¹, Damri², Asep Ahmad Sopandi³, Johandri Taufan⁴

¹ (Pendidikan Luar Biasa, Universitas Negeri Padang, Indonesia).

² (Pendidikan Luar Biasa, Universitas Negeri Padang, Indonesia).

³ (Pendidikan Luar Biasa, Universitas Negeri Padang, Indonesia).

⁴ (Pendidikan Luar Biasa, Universitas Negeri Padang, Indonesia)

E-mail : [1faiqahdzakiyatussafna@gmail.com](mailto:faiqahdzakiyatussafna@gmail.com), [2damrirjm@fip.unp.ac.id](mailto:damrirjm@fip.unp.ac.id)

Receive: 17/12/2023

Accepted: 15/01/2024

Published: 01/03/2024

Abstrak

Permasalahan dilatarbelakangi ditemukannya siswa tunanetra di SLBN 1 Alahan Panjang kelas VII yang yang tidak mampu membaca kata dengan pola konsonan vokal konsonan vokal (KVKV) braille. Akibatnya, siswa tersebut masih berada di fase A. Tujuan dari pelaksanaan penelitian ialah untuk mengetahui media roda putar braille dalam peningkatan membaca permulaan dengan pola KVKV. *Single Subject Research* (SSR) menjadi metode yang akan dilakukan peneliti dengan desain penelitian A-B-A. Variabel (Y) penelitian ini ialah kemampuan membaca permulaan braille sedangkan variabel (X) adalah media roda putar braille. Teknik pengumpulan data dilakukan dengan menggunakan pengamatan dan tes perbuatan, sedangkan alat pengumpulan data ialah instrument ceklis yang dimuat dalam bentuk skor persentase. Hasil yang diperoleh menjelaskan bahwa kemampuan membaca permulaan braille pada kondisi *baseline* (A1) persentase hasil tes (38%-44%), kondisi intervensi (50%-63%) dan kondisi *baseline* (A2) persentase hasil tes (66%-77%). Kesimpulan yang didapatkan ialah terjadinya peningkatan membaca permulaan setelah penggunaan media roda putar braille.

Kata Kunci: Anak Tunanetra, membaca permulaan, media roda putar braille

Abstract

The problem was motivated by the discovery of blind students in SLBN 1 Alahan Panjang class VII who were unable to read words with braille vowel consonant (KVKV) vowel consonant patterns. As a result, the student is still in phase A. The purpose of the research is to find out the braille rotary wheel media in improving initial reading with the KVKV pattern. *Single Subject Research* (SSR) is a method that will be carried out by researchers with research design A-B-A. Variable (Y) of this study is the ability to read the beginning of braille while variable (X) is braille rotary wheel media. Data collection techniques are carried out using observations and deeds tests, while data collection tools are checklist instruments loaded in the form of percentage scores. The results obtained explain that the ability to read the beginning of braille in baseline conditions (A1) percentage of test results (38%-44%), intervention conditions (50%-63%) and baseline conditions (A2) percentage of test results (66%-77%). The conclusion obtained is that there is an increase in initial reading after the use of braille rotary wheel media.

Keywords: Blind Children, beginning reading, braille rotary wheel media

Introduction

The limitations of an individual in using physical, intellectual and cognitive abilities, controlling emotions and social behavior in his life are called children with special needs or currently known as children with disabilities (Yolanda & Damri, 2022). These children have the same opportunity to receive education as other children to facilitate them in living and developing in the community later (Taufan et al., n.d.). There are many children who experience special needs, one of which is blind or visual impairment. The definition of blind is a child who experiences limitations when seeing objects due to malfunctioning of the sense of sight (Praptaningrum, 2020) Blind people are individuals who experience permanent damage to both eyeballs (Yunisya & Sopandi, 2020). In simple terms, it can be known that blind people are individuals who experience disturbances in vision caused by malfunctioning parts of the senses that affect their lives.

When following learning, children with visual impairments need different methods to adjust their abilities and obstacles. Academic concepts such as reading, writing, and numeracy in learning are foundations that must be mastered by a child to support further learning. Reading requires cognitive ability to digest information contained in a reading text (Putri & Damri, 2023) According to (Damri, 2019), the purpose of beginning reading is so that children can recognize and string the letters into syllables that can be used and have meaning. According to Wati in (Yolanda & Damri, 2022) the initial reading stages are divided into: (a) Recognizing the concept of letters; (b) Forming the concept of letters into a syllable; (c) Make letters into syllables; (d) Know the concept of words; (e) Make syllables into words; (f) Know the concept of sentences. During the learning process, teachers have an important role as facilitators and managers in the classroom.

Meanwhile, students as learners must play an active role in exploring knowledge. In order to create an effective classroom, infrastructure and environment are needed that can support the learning process (Damri et al., 2023). The use of media raises high enthusiasm and curiosity in children so that good communication and interaction arise in teaching and learning activities (Wulandari et al., 2023). In line with that, learning media is a tool to convey or describe learning opinions (Ardisal & Damri, 2013). The principle of learning in blind children according to (Oemiati, 2016) is that it must be based on concreteness, totality, and doing.

Researchers conducted a preliminary study in August 2023 at SLB Negeri 1 Alahan Panjang, found a child with the initials AF with the initials of 13 years old who is a blind child who is not fluent in reading braille. In fact, AF is already in class VII and is still in phase A of the current independent curriculum. After interviews with class teachers and parents and three assessments, it was found that children were unable to read KVKV braille. Children are able to recognize braille but to combine these letters into a word still has difficulties. In addition, in learning the media used is only based on the use of braille board media, there is no use of other media in the teaching and learning process other than the auditory method.

The solution that can be given from this problem is to use other media besides braille boards in learning, namely by using braille rotary wheel media. Based on previous research, it is understood that rotary wheel media can be interesting for students in learning to read and facilitate learning understanding. Rotary wheel media is a media with a circular shape that can rotate, with movement on its axis which will later stop at one part that has an arrow (Putri, 2020).

Therefore, researchers want to modify the media according to the obstacles possessed by blind children by using braille letters in the use of rotary wheel media so that it becomes an effective braille rotary wheel media used by blind children.

This study was conducted to determine the improvement of initial reading with syllables patterned K-V-K-V using braille rotary wheel media for blind children in SLBN 1 Alahan Panjang. The benefit of the study is to provide insight into the learning of blind children in the ability to read beginning braille.

Method

1. Types of Research

This research uses a type of research with a quantitative approach with the Single Subject Research (SSR) method, the research design used is A-B-A. In the baseline condition (A1), which is to find out the child's initial ability before being given the intervention, 5 meetings were given, in the intervention condition (B), which provided independent variables in the form of braille rotary wheel media in the implementation of research conducted as many as 7 meetings, and the baseline condition (A2), which is the condition after release from the intervention carried out as many as 5 meetings. This method is used because in carrying out research, the subject of research is only a child.

2. Time and Place of Research

The research period is from January 24, 2024 to February 17, 2024. The research site was carried out in the classroom at SLBN 1 Alahan Panjang from 12.00-13.30 WIB.

3. Research Subject

The subject of the study was a blind child with the initials AF class VII who had limited vision but still had a little residual light to help mobility.

4. Research Procedure

The research procedure is a stage in conducting research. The procedure for conducting research is as follows:

- a. The opening and preparation stage is preparing the braille rotary wheel media to be taught.
- b. Stages of implementation, in the form of:
 - a) Creating a comfortable classroom atmosphere for the learning process.
 - b) Explain to children how to use the rotary wheel media and the purpose of the implementation of learning
 - c) At the time of learning, the researcher gives an adjusted word on the braille rotary wheel media and the child is asked to read the reading.
- c. Evaluation stage, is the stage of assessment of the results of implementation.

5. Data Collection Techniques

The data collection technique used is to use:

- a. Observation techniques
(observation) to observe changes in abilities in children.
- b. Documentation
To obtain results from carrying out interventions.
- c. Deeds Test
To find out the ability of children with changes in actions that have been achieved.

6. Data Analysis Techniques

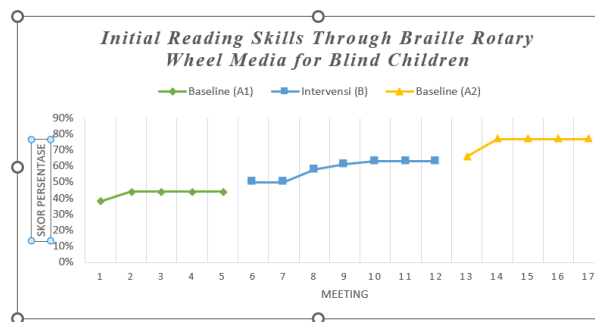
The data that has been obtained is then analyzed further. The data analysis technique is carried out by analysis under conditions and analysis between conditions analyzed from visual graphic

results in each condition, in the form of baseline conditions (A1), intervention (B), and baseline (A2)

intervention conditions are unstable at 71% while baseline (A2) is stable at 80%.

Results and Discussion

This study was conducted to determine the improvement of initial reading ability through braille rotary wheel media. The implementation of the study was carried out as many as 17 meetings, with 5 meetings to determine baseline conditions (A1), 7 meetings to determine the percentage of intervention conditions, and 5 meetings to determine the percentage of baseline conditions (A2). The study was conducted using an action test with 12 words that had been provided by the researcher. As for the baseline condition (A1) the gains obtained were 38%, 44%, 44%, 44%, 44%, intervention conditions (B) got a percentage of 50%, 50%, 58%, 61%, 63%, 63%, 63%. Meanwhile, for baseline conditions (A2) the percentage gain is 66%, 77%, 77%, 77%, 77%. The graph of percentage results in the implementation of research can be seen below:



Graph 1 Recapitulation of Initial Reading Ability Through Braille Rotary Wheel Media under baseline (A1), Intervention (B), and baseline (A2) conditions

The results of these percentages are then processed and analyzed into analysis under conditions and between conditions. Gains from analysis under conditions found that estimates of directional tendencies in conditions A-B-A tend to (+) or increase. Meanwhile, the tendency to stability in A1 conditions tends to be stable at 80%,

Table 1 Summary of Analysis Results in Conditions of Initial Reading Ability through Rotary Wheel Media for Blind Children

No	Condition	A1	B	A2
1.	Condition Length	5	7	5
2.	Estimated Directional Tendency	(+)	(+)	(=)
3.	Stability Tendency	80% (Stable)	71% (Unstable)	80% (Stable)
4.	Data Footprint Trends	(+)	(+)	(-)
5.	Stability Level and Range	38%-44% (Stable)	50%-63% (Unstable)	66%-77% (Stable)
6.	Level of Change	44%-38% = 6%	63%-50% = 13%	77%-66% = 11%

Based on the table above, it shows that there is an increase in the implementation of research in the form of using braille rotary wheel media for the ability to read beginning with the KVKV pattern in blind children. In addition, it can be analyzed into data analysis between conditions to see the comparison of each condition A-B-A. The variable that wants to be changed in this study is only one, namely the ability to read the beginning using the KVKV pattern. While changes in directional tendencies between conditions tend to increase (+). The level of change in condition B/A1 is 50% - 44% = 6%, while in condition B/A2 is 77% - 50% = 17%. Meanwhile, the overlap in conditions A1 with B is 0% while A2 with B is also 0%. This shows a small percentage, in line with it shows that the smaller the percentage of overlap, the better the impact on the target behavior. The summary of the analysis between conditions is contained in the table below:

Table 4.15 Recapitulation of analysis between conditions

Kondisi	A2/B/A1
Number of changed variables	1
Changes in directional inclination and their effects	(+) (+) (-)
Changes in stability tendencies	Stable-Unstable-Stable
Level of Change	
a. Level change in condition B/A1	50% - 44% = 6%
b. Level change in condition B/A2	77% - 50% = 17%
Percentage Overlap	
a. At baseline conditions (A1) with intervention (B)	0%
b. At baseline conditions (A2) with intervention (B)	0%

Conclusion

The purpose of conducting this research was to improve initial reading skills through braille rotary wheel media for blind children. The results of the data analysis obtained showed an increase in percentage, it can be concluded that the ability to read beginning with the KVKV pattern for blind children increased after using braille rotary wheel media.

Reference

- Ardisal, A., & Damri, D. (2013). Pelaksanaan Pembelajaran Siswa Berkebutuhan Khusus Di Smk Negeri. 4 Padang. *Pedagogi: Jurnal Ilmu Pendidikan*, 13(1), 105–109.
- Damri. (2019). *Panduan pembelajaran inklusi di sekolah menengah pertama* (p. 183).
- Damri, D., Indra, R., Tsaputra, A., Ediyanto, E., & Jatiningsiwi, T. G. (2023). Leadership evaluation and effective learning in an inclusive high school in Padang, Indonesia. *Cogent Education*, 10(2). <https://doi.org/10.1080/2331186X.2023.2282807>
- Oemiati, S. (2016). *Implementasi Prinsip Pembelajaran Anak Berkebutuhan Khusus Dalam Novel Aku Terlahir 500 Gram Dan Buta Karya Miyuki Inoue*. 205, 1005–1012.
- Praptaningrum, A. (2020). *PENERAPAN BAHAN AJAR AUDIO UNTUK ANAK TUNANETRA TINGKAT SMP DI INDONESIA* Agnes Praptaningrum *seperangkat tunanetra dan noncetak . Bahan ajar cetak dapat*. 5, 1–19.
- Putri. (2020). Pengaruh Metode Global Berbantuan Media Roda Putar Terhadap Kemampuan Membaca Permulaan Siswa Kelas II SDN Beber. *Progres Pendidikan*, 1(September 2020), 99–105.
- Putri, C. R., & Damri, D. (2023). *Edukatif: Jurnal Ilmu Pendidikan Meningkatkan Kemampuan Membaca Kata Menggunakan Media Kartu Kata Bergambar pada Siswa Tunagrahita Ringan*. 5(2), 1745–1753.
- Taufan, J., Ardisal, A., & Konitah, K. Y. (n.d.). Efektivitas Model Pembelajaran Make A Match dalam Meningkatkan Kemampuan Membaca Permulaan Bagi Anak Disleksia di Sekolah Dasar Penyelenggara Pendidikan Inklusif. *Jurnal Basicedu*, 4(4), 1149–1159.
- Yolanda, S. T., & Damri, D. (2022). Efektivitas Aplikasi Marbel Berbasis Android dalam Meningkatkan Kemampuan Membaca Permulaan bagi Anak Disleksia di Sekolah Dasar. *Jurnal Basicedu*, 6(2), 1563–1569. <https://doi.org/10.31004/basicedu.v6i2.2261>
- Yunisya, P., & Sopandi, A. A. (2020). Penyelenggaraan Pembelajaran Penjas Adaptif Bagi Tunanetra di Rumah pada Masa Pandemi Covid-19 (SMK N 7 Padang). *Ranah Research : Journal of Multidisciplinary Research and Development*, 3(1), 20–24. <https://doi.org/10.38035/rrj.v3i1.319>