

The Influence of Using the Glass Analysis Method on Early Reading Skills for Students with Learning Difficulties at SDN Sidowareg I, Plemahan Kediri

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ABSTRACT

The aim of this study was to determine the impact of the glass analysis method on the initial reading abilities of children with reading difficulties at SDN Sidowareg I Plemahan Kediri. A quantitative approach was employed in this research, using a pre-experimental design with a one-group pretest and posttest format. Data analysis was performed using non-parametric statistical techniques. Prior to the intervention, the average pretest score for the children with reading difficulties was 55.4. Following the intervention, which consisted of 10 sessions with 60 minutes allocated per session, a posttest revealed an increase in the average score to 60.88. This data was further analyzed using the sign test (ZH) with a one-tailed Z-table value of 1.96 at a 5% significance level. The computed Z-value was $ZH = 2.20$, which is greater than the critical Z-table value of 1.96. Thus, it can be concluded that there is a significant impact of the glass analysis method on the initial reading abilities of children with reading difficulties. The result, with $ZH = 2.20 > Z$ -table value of 1.96, leads to the rejection of the null hypothesis (H_0) and acceptance of the alternative hypothesis (H_a).

Keywords: Learning Difficulties, Glass Analysis Method, Reading Skills.

INTRODUCTION

Reading is the most crucial function in a person's life, and it can be said that all learning processes are based on one's reading ability. Through reading activities, an individual can enhance their thinking capacity and broaden their knowledge. Reading is not just pronouncing written language or sound symbols, but also responding to and understanding the content of the written language. Thus, readers will comprehend the content or information contained in a text. With adequate reading skills, students will find it easier to obtain information from reading materials (Baki, Y. 2020).

In elementary school, reading is essential for all students. According to (Kanonire, T., Lubenko, J., & Kuzmina, Y. 2022), by reading, children will gain new knowledge and broaden their horizons, thereby increasing their intelligence and making them more capable of meeting life's challenges in the future. For lower-grade elementary school students, early reading is emphasized to form a foundation for subsequent teaching. Early reading in lower grades includes reading words and simple sentences fluently and accurately. It is not easy for children with learning difficulties to master reading skills like typical children. Children with learning difficulties experience obstacles in the process of understanding or integrating components of letters, words, and even simple sentences (Suma, M. 2020). Children can be considered to have learning difficulties if they experience specific failures in achieving their

learning objectives. When children face obstacles in reading, it affects their academic achievement (Gedik, O., & Akyol, H. 2022).

Based on observations and interviews conducted at SDN Sidowareg I Plemahan Kediri, several students experience difficulties in reading. When asked to pronounce the vowels a, i, u, e, o, the children have mastered them, but when asked to identify these letters, they still feel confused. Additionally, when pronouncing letters in a word, children often make mistakes and sometimes confuse letters with similar shapes. In lower-grade elementary school students, they are expected to master early reading skills. Children with learning difficulties in reading often make mistakes in recognizing words. These mistakes include omissions, insertions, substitutions, reversals, mispronunciations, transpositions, failure to recognize words, and hesitations. To address the issues found in the field, it is necessary to conduct research related to children with reading difficulties at SDN Sidowarek I, Plemahan Kediri. Therefore, an appropriate teaching method tailored to the children's needs is required. In this study, the Glass Analysis method is considered suitable for stimulating the reading abilities of children with learning difficulties at SDN Sidowareg I, Plemahan Kediri.

The Glass Analysis method is a specific teaching method aimed at enhancing students' reading abilities. The Glass Analysis method is a teaching method that involves decoding groups of letters into words. This method contrasts with the assumptions underlying it. First, the processes of decoding and reading are distinct activities; second, decoding precedes reading. Decoding is defined here as accurately determining the sounds associated with a written word. Reading is defined as deriving meaning from written words. If children cannot efficiently decode written text, they will not learn to read (Spiegel, J. A. et al. 2021). The advantages of the Glass Analysis method, include distinguishing the sounds produced in accurate words, enhancing students' memory through repetitive learning, forming positive character in students, and providing an enjoyable and effective learning tool in the classroom.

METHOD

The type of research employed by the researcher is quantitative research. This study utilizes data collection techniques and data types of a quantitative nature. The choice of this research type is because the author aims to test whether the Glass Analysis method influences the early reading skills of children with learning difficulties at SDN Sidowareg I, Plemahan Kediri. The location for this research is SDN Sidowareg I, Plemahan Kediri. The population in this study consists of six children with learning difficulties at SDN Sidowareg I, Plemahan Kediri, who experience obstacles in their reading abilities. This study employs a pre-experimental design, specifically the one-group pre-test post-test design, which is a form of pre-experimental design. This research design is chosen because it includes a pre-test before the treatment and a post-test after the treatment, aiming to obtain more accurate results by comparing the state before and after the intervention. The pre-experimental research design, specifically the one-group Pre-Test and Post-Test Design (Arikunto, 2010: 124), is as follows:

O₁ X O₂

O₁ represents the pre-test observation, X represents the treatment or intervention, O₂ represents the post-test observation.

RESULT

Pre-Test

The pre-test is an assessment administered to children before the treatment to determine their initial reading abilities. In this test, children are given passages containing letters and simple words and are asked to read them. This evaluation is conducted before the children receive the treatment using the Glass Analysis method. During the pre-test, children are encouraged to ask questions if they encounter difficulties and to respond to the researcher's questions regarding letters and simple words.

Table 1. Pre-test Score

| No | Participant | Letters Read | Words Read | Score |
|-------------------------------|-------------|--------------|------------|-------|
| 1 | RA | 11 | 103 | 64,77 |
| 2 | RPF | 6 | 91 | 55,11 |
| 3 | CV | 8 | 94 | 57,95 |
| 4 | SD | 8 | 83 | 51,70 |
| 5 | VA | 9 | 83 | 51,70 |
| 6 | DC | 8 | 82 | 51,17 |
| Average Pre-test Score | | | | 55,4 |

The participant RA demonstrated the highest reading proficiency, achieving a score of 64.77, with the most letters and words read. In contrast, participants SD, VA, and DC each scored below the average, with scores ranging from 51.17 to 51.70, despite having a comparable number of letters and words read. The variation in scores reflects differences in individual reading performance and efficiency among the participants.

Post-Test

The post-test evaluation was conducted to assess the beginning reading abilities of children with learning difficulties. Prior to this assessment, the children underwent a treatment intervention comprising ten sessions. The study sample consisted of six children who experience learning difficulties.

Table 2. Post-test Score

| No | Participant | Letters Read | Words Read | Score |
|--------------------------------|-------------|--------------|------------|-------|
| 1 | RA | 12 | 119 | 67,61 |
| 2 | RPF | 9 | 107 | 60,79 |
| 3 | CV | 10 | 100 | 62,5 |
| 4 | SD | 11 | 90 | 57,36 |
| 5 | VA | 11 | 92 | 58,52 |
| 6 | DC | 9 | 94 | 58,52 |
| Average Post-test Score | | | | 60,88 |

Participant RA exhibited the highest reading performance with a score of 67.61, having read the most letters and words. Participants CV and RPF also demonstrated strong reading abilities, with scores of 62.50 and 60.79, respectively. Conversely, participants SD, VA, and

DC, while still showing improvements, had slightly lower scores ranging from 57.36 to 58.52. These results indicate overall progress in reading skills among the participants following the instructional sessions.

Recapitulation of Pre-test and Post-test Results

The evaluation process involved comparing the pre-test and post-test performances of children with learning difficulties. Below is a summary of the findings for each participant:

Table 3. Recapitulation

| No | Pre-test Score | Post-test Score | Difference | Rating | + | - |
|--------------|----------------|-----------------|------------|--------|-----------|----------|
| 1 | 64,77 | 67,61 | +2.84 | 1.0 | 1.0 | 0 |
| 2 | 55,11 | 60,79 | +5.68 | 4.0 | 4.0 | 0 |
| 3 | 57,95 | 62,5 | +4.55 | 2.0 | 2.0 | 0 |
| 4 | 51,70 | 57,36 | +5.66 | 3.0 | 3.0 | 0 |
| 5 | 51,70 | 58,52 | +6.82 | 5.5 | 5.5 | 0 |
| 6 | 51,17 | 58,52 | +7.35 | 5.5 | 5.5 | 0 |
| Total | | | | | 21 | 0 |

Participants 1 through 6 all demonstrated positive improvements in their reading scores from pre-test to post-test. Each participant received a positive rating, reflecting progress in their reading abilities. The cumulative positive rating score is 21, with no negative ratings assigned, indicating that all participants showed improvement. The table and ratings suggest that the instructional sessions were highly effective in enhancing reading skills across all participants.

In this study, the Wilcoxon Matched Pairs Test, a non-parametric statistical method, was employed to analyze the data. This test is particularly useful for comparing two related samples or paired observations when the assumptions of parametric tests, such as normality

$$\begin{aligned} \mu_T &= \frac{n \cdot (n+1)}{4} \\ &= \frac{6 \cdot (6+1)}{4} \\ &= \frac{42}{4} \\ &= 10,5 \end{aligned}$$

$$\begin{aligned} \sigma_T &= \sqrt{\frac{n(n+1)(2n+1)}{24}} \\ &= \sqrt{\frac{6(6+1)(2 \cdot 6+1)}{24}} \\ &= \sqrt{\frac{6 \cdot 7 \cdot 13}{24}} \\ &= \sqrt{\frac{546}{24}} \\ &= \sqrt{22,75} \\ &= 4,77 \end{aligned}$$

After getting the mean and standard deviation results, the results are entered into the formula

$$z = \frac{T - \mu_T}{\sigma_T}$$
$$z = \frac{0 - 10,5}{4,77}$$
$$z = - 2,20$$

Calculation of the analysis results with Wilcoxon with a critical value of 5% decision making using two-sided testing $\alpha = 5\% = 1.96$ is:

Ha is accepted if Zhitung > Ztabel 1.96

Ho is accepted if Zhitung < Ztabel 1.96.

To test the working hypothesis (Ha) that there is an effect of the method on the initial reading ability of children with reading difficulties at SDN Sidowareg I Plemahan Kediri, we need to compare the research results with the critical value. This is done by comparing the tabulated value with the computed value obtained from a two-tailed test curve. The critical value for $\alpha = 5\%$ is $\pm Z \frac{1}{2} \alpha = \pm 1.96$. The data analysis results indicate that $Z_h = 2.20$ (the negative sign is disregarded because we consider the absolute value) is greater than the critical Z-value from the table for a 5% significance level (two-tailed test), which is 1.96. Specifically, the computed Z-value of 2.20 exceeds the critical Z-value of 1.96 ($Z_h > Z_t$). Therefore, the null hypothesis (H0) is rejected, and the alternative hypothesis (Ha) is accepted. This implies that there is a significant effect of the glass analysis method on the initial reading ability of children with reading difficulties at SDN Sidowareg I Plemahan Kediri.

DISCUSSION

In the reading process, children with learning difficulties encounter numerous obstacles. These challenges can negatively impact the child, leading to failures in their school learning. This is because reading is a crucial activity that expands a child's knowledge and understanding. According to (Albar, M., & Zulikhatin, E. 2022), reading provides children with new knowledge and broadens their horizons, which in turn enhances their intelligence and prepares them better for future challenges. Effective reading requires several cognitive processes, including imagination, observation, and memory (Rasmitadila, R. et al (2023). Therefore, addressing reading difficulties in children necessitates an appropriate intervention. The glass analysis method used in this study is suitable because it guides children in recognizing letter groups while simultaneously viewing whole words, helping them focus better on the words being studied (Khasawneh, M. A. S., & Al-Rub, M. O. A. (2020). When the glass analysis method was implemented using picture cards and letter cards, the children followed instructions effectively and showed a keen interest in this engaging learning model (Sarwanto, S. et al 2021). This method proved beneficial as it made learning more enjoyable and appealing, leading to significant improvements in the children's initial reading skills, including letter and word recognition.

The study's results demonstrate that the post-test outcomes using the glass analysis method revealed a significant improvement in the initial reading abilities of children with reading difficulties, as evidenced by a Z_h value of 2.20, which is greater than the Z -table value. The enhancement in reading skills is attributed to the use of the glass analysis method with picture and letter cards, along with a pleasant classroom environment. This underscores the importance of creating an enjoyable learning experience, which helps maintain children's interest and reduces boredom during lessons.

CONCLUSION

The conclusion of this study is that the initial reading abilities of children with reading difficulties at SDN Sidowareg I Plemahan Kediri have undergone a significant change, with an average increase of 5.48 points. Prior to the intervention, the average reading score was 55.4. After implementing the glass analysis method, this average rose to 60.88. Data analysis using the Wilcoxon statistical test confirms the effectiveness of the glass analysis method on improving the initial reading skills of these children. This is evidenced by a Z_h value of 2.20, which exceeds the critical Z -value of 1.96 at a 5% significance level ($Z_h > Z_t$). Thus, the results indicate a significant impact of the glass analysis method on enhancing the initial reading abilities of children with learning difficulties at SDN Sidowareg I Plemahan Kediri.

REFERENCES

- Albar, M., & Zulikhatin, E. (2022). Analysis of Reading Skills of Class III Students with Group Learning Method at Elementary School. *Academia Open*, 6, 10-21070.
- Baki, Y. (2020). The effect of critical reading skills on the evaluation skills of the creative reading process. *Eurasian Journal of Educational Research*, 20(88), 199-224.
- Gedik, O., & Akyol, H. (2022). Reading Difficulty and Development of Fluent Reading Skills: An Action Research. *International Journal of Progressive Education*, 18(1), 22-41.
- Kanonire, T., Lubenko, J., & Kuzmina, Y. (2022). The effects of intrinsic and extrinsic reading motivation on reading performance in elementary school. *Journal of Research in Childhood Education*, 36(1), 1-13.
- Khasawneh, M. A. S., & Al-Rub, M. O. A. (2020). Development of reading comprehension skills among the students of learning disabilities. *Universal Journal of Educational Research*, 8(11), 5335-5341.
- Rasmitadila, R., Rachmadtullah, R., Samsudin, A., Nurtanto, M., & Jauhari, M. N. (2023). Limited face-to-face learning on students in inclusive classrooms during the Covid-19 pandemic: Perceptions of elementary school teachers in Indonesia. *Cogent Education*, 10(1), 2213612.
- Sarwanto, S., Fajari, L. E. W., & Chumdari, C. (2021). Critical thinking skills and their impacts on elementary school students. *Malaysian Journal of Learning and Instruction*, 18(2), 161.
- Spiegel, J. A., Goodrich, J. M., Morris, B. M., Osborne, C. M., & Lonigan, C. J. (2021). Relations between executive functions and academic outcomes in elementary school children: A meta-analysis. *Psychological bulletin*, 147(4), 329.
- Suma, M. (2020). Assessing Expression in the Poetry Reading Skills of Elementary Students. *International Journal of Language Education*, 4(3), 420-431.