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Reading Beginnings Based on Sensory Integration

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Abstract

Learning methods for early reading for children who are just learning to read or for children who have difficulty learning to read, many types have been carried out but have

not yet integrated sensing (sensory) functionality. This paper describes a learning model for early reading that uses sensory integration in an integrated manner. To make early reading learning effective which can overcome difficulties in learning to read early, the aim is to get an overview of the effectiveness of the sensory integration model in learning to read beginning to six (6) students who have difficulty learning to read beginning. The method used is descriptive method. The results showed that the initial reading ability of the 6 students experienced an increase in being able to identify letters, read syllables, read simple words and sentences. As the initial reading ability that should be owned by students who have received early reading learning. Therefore, it is recommended for teachers who face students who have difficulties in learning, not only in learning to read, the sensory integration model can be applied, to overcome this, it can also be applied to students who are just learning to read at the beginning.

Keywords

Beginning Reading, Sensory Integration Based.

Introduction

Reading is a necessity for every individual, through reading will get information in writing, including information in the form of science. Therefore, children who have just entered elementary education, are first taught to read, write and count (Calistung) in connection with the developmental tasks of elementary school-aged children (M.Surya, 1990) explaining that the developmental tasks of elementary school-aged children are 6 to 12 years old. able to read, write and count. Likewise, according to Elizabeth Hurlock (1990) ages 6 to 12 years are mature in their physiological and psychological aspects, to learn academically. Based on the provisions, teaching reading begins with learning to read beginning, which is given at the initial level of grade 1 and grade 2. Beginning reading is a stage of the learning process for elementary school students in early grades, students learn to acquire skills and master reading techniques and capture reading content well. . The meaning of early reading in this case is letter recognition, syllable reading ability, word reading ability, ability to read simple sentences (Endang Rochyadi, 2011) in Mahpudian (2017). Therefore, early reading is intended to arouse fostering and fostering children's interest in reading, so that children feel accepted and are able to develop the desired attitude. Being able to read is a knowledge of skills and abilities to interpret symbols of written language (Resmini, 2006; Pragassame, Kurup, & Kour, 2020).

Reading learning methods that are often used by teachers include the S AS (Synthetic Structural Analytical) method, the Alphabetic method, the phonic method, and the linguistic method. However, what will be applied in early reading learning here is a sensory integration model, for students who have difficulty learning to read, which is found in 4th grade elementary school students who still cannot read simple sentences, while reading skills are basic skills that elementary school children must have. for further learning. The ability to read is not only in formal education, reading as the main capital for everyone in facing the challenges

of life in community work and family life, is very outdated if today's life is not accompanied by having the ability to read (M. Surya, 2005). Thus, to overcome the difficulty of learning to read at the beginning of applying sensory integration, as according to Surya (2005), if a person in learning functions all of his senses (sensory) then the learning process will be effective and obtain the best learning outcomes. Likewise, according to Jamris Martini (2014) to overcome learning difficulties in reading, by enabling sensory (sensing) so that early reading abilities can increase. Similarly, what was expressed by experts in education, including the following theory, Colin Rose (Hernowo, 2004) explains that if students in learning involve all their senses, then in the learning process they will quickly understand and understand what they are learning. Blackwood's (2009) theory, this theory says that teachers or preachers if in conveying information their learning activates the five senses, the information conveyed will be right on target, because it can increase attention and understanding.

Based on the introduction that has been described, the problem can be formulated as follows :

1. What kind of sensory integration model can overcome early reading difficulties.
2. How is the implementation of the sensory integration model in early reading learning.
3. How is the initial reading ability of students after experiencing learning through the sensory integration model.

While the objectives are as follows.

1. Describe a sensory integration model that can overcome early reading difficulties.
2. Describes the implementation of the sensory integration model in early reading learning.
3. The description of students' ability to read the beginning after being overcome through the sensory integration model.

The theoretical benefits of the sensory integration model resulting from the research can test learning theories in developing references in the field of reading learning models. While the practical benefits of students who have difficulty in learning to read early can be overcome through the sensory integration model.

Theoretical basis

The theories that underlie this research include Pagliano's (2012) theory that sensory integration (multisensory) in learning, if the teacher functions the five senses possessed by each student so that learning will be effective and efficient, it can even overcome students and adults who have difficulty in learning.

Lawrence Boines Theory (2010). Suggests that in providing learning services, it is better to actualize all the potential of students, therefore if the teacher encounters students who experience obstacles in one of their sensors, then the other sensors are still functioning.

Lawrence's (2008) theory also says involve the five senses of students in

their learning, because it will increase the literacy of their students.

Bruner's theory (2009) explains that human cognitive development consists of three stages, namely:

The first stage is enactive: the ability to think human begins through action

The second iconic stage: after the ability to think through actions (actions) think through visuals.

The third stage is symbolic: after the ability to think humans through words and symbols, to describe their experiences.

Vygotsky's theory (in Santrock, 2007)

The theory of cognitive development known as ZPD (Zone of Proximal Development) is defined as an immature function or ability that is still in the maturation process, therefore, to ripen it is stimulated through learning interactions between students and teachers, using spoken language. Therefore, Vygotsky believes that language plays a big role in cognitive development or thinking, so that learning to children through stories will be effective in encouraging the development of memory acuity (memory). The implementation of learning is carried out in stages called scaffolding, namely:

The first stage: human actions are still influenced or assisted by others.

The second stage; human actions are based on their own initiative

The third stage: actions will develop spontaneously.

The fourth stage: spontaneous actions will continue to be repeated until ready to apply it.

The Monroe method (in Tierney, RI. Readence, JE & Disher, EK. 1995) to make it easier for children to learn to read the beginning, reading texts should be made to contain the same vowels to sharpen audio (hearing) and make it easier to pronounce word sounds.

Gestalt theory (in Sukmadinata, 2009) Gestalt psychology emphasizes learning to read the beginning must be started as a whole and then to the parts.

Research methods

The research method used is descriptive research to collect information about the status of an existing symptom, namely the state of the symptoms according to what they were at the time the research was conducted (Arikunto, 2000; Patil & Patil, 2020). The research subjects were 6 students who experienced difficulties in early reading and would receive learning services using the sensory integration model, the research sites were at the UPI Laboratory Elementary School, Cibiru Campus and Cahaya Pelita Elementary School. Data collection techniques using pre-requisite instruments and pre-reading instruments were validated by experts in linguistics and experts in learning to read in low grades (Abidin and Ernalis, 2018; Panjwani et al., 2021).

Pre-Reading Requirements Instruments include:

Phoneme: used in a language and how the sounds are produced by the

human speech organ.

Morpheme: the smallest part of a word that has meaning.

Syntax: the rules of a language and how words are organized to make sentences.

Semantics: using words appropriately in the context of what is being said.

Beginning Reading Instrument

- a. Identify letters
- b. Reading syllables
- c. Read the word
- d. Read simple sentences

Research Results and Discussion

1. Designing Sensory Integration Model as follows.

First: making pictures refers to Bruner's (2009) theory at the enactive stage that human thinking begins with actions or deeds

Second: The picture is made into a story based on Vygotsky's (2007) theory through stories that will be effective in encouraging the development of memory acuity (memory).

Third: the story text is arranged (designed) with the same vowels according to the Monroe method (1995) so that students who are learning to read the beginning are easy to pronounce letter symbols and easy to remember, starting with the vowels a, I, o, u and e.

Fourth: the story text is written on HVS paper starting from the story text which all have a vowel, I vowel, u vowel, e and o.

Fifth: the story text is made up of word cards in duplex paper per syllable, then the word cards are stored in a basket labeled a for story texts that use all vowels a, a basket labeled I whose story texts use all vowels I, so so on the baskets labeled u, o and e.

Sixth: labeling the names of fruits from duplex paper, because at the first stage mango was introduced, then to develop vocabulary so that it is relevant to fruit again it is hoped that it can sharpen memory.

Seventh: shown the types of fruits and attach the name labels of the fruits earlier.

Eighth: tasting the taste of the fruit by eating it.

Ninth: make sentences after eating the fruits, the sentences are written on HVS paper or on the blackboard.

Tenth: read the sentences made in the ninth step or step and spell them out.

2. Implementation of the Sensory Integration model in early reading learning.

Before implementing the initial reading learning using the sensory integration model, a pre-test was conducted using the pre-requisite reading instrument and the pre-reading instrument.

The result is as follows.

a. MF students

Reading Prerequisites	Ideal Score	Pre-Score Pre-Test	Beginning Reading Ability	Ideal Score	Pre-Score Pre-Test
Phoneme	13	7	Identify letters	54	30
Morpheme	20	10	Reading Syllables	20	5
Syntax	17	12	Reading words	65	8
Semantics	20	10	Reading Simple Sentences	24	0
Σ	70	39	Σ	163	43

b. FU Students

Reading Prerequisites	Ideal Score	Pre-Score Pre-Test	Beginning Reading Ability	Ideal Score	Pre-Score Pre-Test
Phoneme	13	9	Identify letters	54	38
Morpheme	20	12	Reading Syllables	20	8
Syntax	17	10	Reading words	65	6
Semantics	20	10	Reading Simple Sentences	24	4
Σ	70	41	Σ	163	56

c. AIK Students

Reading Prerequisites	Pre-Score Pre-Test	Beginning Reading Ability	Beginning Reading Ability	Pre-Score Pre-Test	Ideal Score
Phoneme	13	8	Identify letters	54	35
Morpheme	20	12	Reading Syllables	20	10
Syntax	17	10	Reading words	65	8
Semantics	20	10	Reading Simple Sentences	24	5
Σ	70	40	Σ	163	58

d. Siswa JR

Reading Prerequisites	Pre-Score Pre-Test	Beginning Reading Ability	Beginning Reading Ability	Pre-Score Pre-Test	Ideal Score
Phoneme	13	8	Identify letters	54	40
Morpheme	20	10	Reading Syllables	20	12
Syntax	17	12	Reading words	65	16
Semantics	20	17	Reading Simple Sentences	24	6
Σ	70	37	Σ	163	74

e. Siswa AL

Reading Prerequisites	Pre-Score Pre-Test	Beginning Reading Ability	Beginning Reading Ability	Pre-Score Pre-Test	Ideal Score
Phoneme	13	6	Identify letters	54	40
Morpheme	20	10	Reading Syllables	20	10
Syntax	12	10	Reading words	65	10
Semantics	20	10	Reading Simple Sentences	24	8
Σ	70	36	Σ	163	68

f. MD Students

Reading Prerequisites	Pre-Score Pre-Test	Beginning Reading Ability	Beginning Reading Ability	Pre-Score Pre-Test	Ideal Score
Phoneme	13	7	Identify letters	54	37
Morpheme	20	10	Reading Syllables	20	10
Syntax	17	10	Reading words	65	10
Semantics	20	7	Reading Simple Sentences	24	10
Σ	70	34	Σ	163	67

3. Implementation of Beginning Reading Using Sensory Integration Model

First: The students are shown pictures, students are invited to observe the pictures, then the pictures are made a story, the story is told to the students and the students listen to it.

Second: The story text is written on a blackboard or HVS paper, designed using the same vocals.

Example: picture 1 of the atmosphere of a palace with its king and guards, picture 2 of the atmosphere in a forest with lots of trees and animals that live in the forest.

Example of the story: Once upon a time there was a kingdom, whose king liked to hunt in the forest, one day the king was hunting in the forest feeling thirsty, but forgot not to bring drinking water, the king and his guards were confused about where to find a drink in the middle of the jungle, bodyguards remember that in the forest there are many trees, of which of course there are fruit trees, so the guards looked for fruit trees and found mango trees that were bearing fruit and the fruit was already ripe. By eating a ripe mango, perhaps it can cure the king's thirst, therefore pick a mango and offer a ripe mango to the king and the king eats the mango. So that the king's thirst can be overcome by eating a ripe mango. From this story, the mango fruit was originally shown and then it was practiced to eat mangoes like the king did.

Example of narrative text: a - da - ra - ja - da - ha - ga - ma - kan - mang - ga

Third: The story text is written on word cards made of duplex paper, first with a vowel a, then the vowels are replaced with I, o, u and e

Fourth: students are invited to arrange word cards according to the text written on the blackboard or HVS paper, starting to compose word cards using vowels a, I, o, u and e.

Fifth: the cards are stored in a basket that is labeled according to the vowel, for example the basket labeled a is filled with word cards, all of which text uses a vowel a, basket I contains word cards whose text uses a vowel I, and so on for the labels o, u and e.

Sixth: word card game by pairing take one word card from basket a paired with word cards taken from basket I, e, u and o, then read and spell it out, for example from basket a try to take a card that says a, then from basket I take a card that says di, try to pair a – in, then read and so on. After skilled students are able to pair word cards and read them fluently

Seventh: shown several kinds of fruits other than mangoes, which students already know and students often encounter on a daily basis, such as oranges, bananas, papayas, watermelons, sapodilla etc. Also labels with the names of the fruits. For example, oranges are labeled with the name of an orange, which is made of duplex paper.

Eighth: students are asked to mention the names of the fruits they show, the children are able to name them because they are familiar with the fruits in their daily lives, then put a label with the name of the fruit attached. For example, students are shown a banana and asked to name it, after saying it correctly, a label is attached to the name of the fruit mentioned by the student, and so on to name other fruits. After students are able to name the fruits, the next step is to attach the name labels of the fruits.

Ninth: students are invited to eat the fruits, after eating them students are asked to make sentences from the experience of eating fruits. Sentences made by students are written by the teacher on the blackboard/HVS paper.

Tenth: The teacher reads the sentences made by students that were written on HVS paper or blackboard, then spelled them, repeatedly until students can actually read them.

4. Carrying out the Test Post

a. MF Students

Reading Prerequisites	Ideal score	Post Test Score	Beginning Reading Ability	Ideal score	Post Test Score
Phoneme	13	11	Letter Identification	54	54
Morpheme	20	18	Reading Syllables	20	18
Syntax	17	16	Reading Words	65	63
Semantics	20	16	Reading Simple Sentences	24	24
Σ	70	61	Σ	163	159

After the initial reading learning was carried out using the integrated sensory

model, then a post test was carried out, using the same instrument. During the pre-test, namely the pre-requisite reading instrument and the initial reading instrument. The results are as follows.

a. FU Students

Reading Prerequisites	Ideal score	Post Test Score	Beginning Reading Ability	Ideal score	Post Test Score
Phoneme	13	12	Letter Identification	54	54
Morpheme	20	18	Reading Syllables	20	18
Syntax	17	17	Reading Words	65	64
Semantics	20	14	Reading Simple Sentences	24	24
Σ	70	61	Σ	163	160

a. AIK Students

Reading Prerequisites	Ideal score	Post Test Score	Beginning Reading Ability	Ideal score	Post Test Score
Phoneme	13	11	Letter Identification	54	54
Morpheme	20	16	Reading Syllables	20	16
Syntax	17	16	Reading Words	65	60
Semantics	20	14	Reading Simple Sentences	24	22
Σ	70	57	Σ	163	154

d. JR Students

Reading Prerequisites	Ideal score	Post Test Score	Beginning Reading Ability	Ideal score	Post Test Score
Phoneme	13	11	Letter Identification	54	54
Morpheme	20	10	Reading Syllables	20	18
Syntax	17	17	Reading Words	65	65
Semantics	20	16	Reading Simple Sentences	24	24
Σ	70	54	Σ	163	161

e. AL Students

Reading Prerequisites	Ideal score	Post Test Score	Beginning Reading Ability	Ideal score	Post Test Score
Phoneme	13	11	Letter Identification	54	54
Morpheme	20	16	Reading Syllables	20	18
Syntax	17	16	Reading Words	65	65
Semantics	20	16	Reading Simple Sentences	24	24
Σ	70	60	Σ	163	161

f. Siswa MD

Reading Prerequisites	Ideal score	Post Test Score	Beginning Reading Ability	Ideal score	Post Test Score
Phoneme	13	12	Letter Identification	54	54
Morpheme	20	18	Reading Syllables	20	18
Syntax	17	16	Reading Words	65	65
Semantics	20	14	Reading Simple Sentences	24	24
Σ	70	60	Σ	163	161

5. Discussion

Referring to the results of the pre-test and post-test to the six students who had received early reading learning using the sensory integration model, it showed an increase from pre-test to post-test results. As in the opinion of M. Surya (2015) learning to function all the senses then learning will be effective and produce the best learning. Likewise, according to other experts such as the theory of Paul Pagliano (2012), the theory of Lawrence Baines (2010) and the theory of Colin Rose (2004) that the functioning of all the sensors possessed by students, learning will be quickly understood by students. And according to the theory of Bruner, Vygotsky and Monroe, if learning applies a model or method adapted to the existence and needs of the students, optimal results will be obtained.

6. The learning outcomes obtained by the six students are as follows.

a. MF students

Pre-Requirements for Reading Pre Test Scores = 39, Pre Test Scores = 61
 Pre-Test Score $\frac{39}{70} \times 10 = 5,5$, Post Test Score $\frac{61}{70} \times 10 = 8,7$
 Reading Ability Beginning Pre-Test Score = 43, Post Test Score = 159
 Pre-Test Score $\frac{43}{163} \times 10 = 2,6$. Post Test Score $\frac{159}{163} \times 10 = 9,75$

b. FU students

Pre Requirements for Reading Pre Test Scores = 41 Pre-Test Score = 61
 Pre-Test Score $\frac{41}{70} \times 10 = 5,8$ Post Test Score $\frac{61}{70} \times 10 = 8,7$
 Reading Ability Beginning Pre-Test Score = 56. Post Test Score 160
 Pre-Test Score $\frac{56}{163} \times 10 = 3,4$. Post Test Score $\frac{160}{163} \times 10 = 9,8$

c. AIK students

Pre Requirements for Reading Pre Test Scores = 40. Pre-Test Score = 57
 Pre-Test Score $\frac{40}{70} \times 10 = 5,7$. Post Test Score $\frac{57}{70} \times 10 = 8,1$
 Reading Ability Beginning Pre-Test Score = 58. Post Test Score = 152
 Pre-Test Score $\frac{58}{163} \times 10 = 3,6$. Pre-Test Score $\frac{152}{163} \times 10 = 9,3$

d. JR students

Pre Requirements for Reading Pre Test Scores = 37. Pre-Test Score = 54

Pre-Test Score $\frac{37}{70} \times 10 = 5,3$. Post Test Score $\frac{54}{70} \times 10 = 7,7$
Reading Ability Beginning Pre-Test Score = 74. Post Test Score = 161
Pre-Test Score $\frac{74}{163} \times 10 = 4,5$. Post Test Score $\frac{161}{163} \times 10 = 9,8$

e. Siswa AI.

Pre Requirements for Reading Pre Test Scores = 36. Post Test Score = 60
Pre-Test Score $\frac{36}{70} \times 10 = 5,1$ Post Test Score $\frac{60}{70} \times 10 = 8,5$
Reading Ability Beginning Pre-Test Score = 68. Post Test Score = 161
Pre-Test Score $\frac{68}{163} \times 10 = 4,2$. Post Test Score $\frac{161}{163} \times 10 = 9,8$

f. Siswa MD

Pre Requirements for Reading Pre Test Scores 34. Post Test Score = 60
Pre-Test Score $\frac{34}{70} \times 10 = 4,8$ Post Test Score $\frac{60}{70} \times 10 = 8,5$
Reading Ability Beginning Pre-Test Score = 67. Post Test Score = 161
Pre-Test Score $\frac{67}{163} \times 10 = 4,1$. Post Test Score $\frac{161}{163} \times 10 = 9,8$

Conclusion

Sensory integration can facilitate, develop and improve early reading skills, namely in learning the functioning of the sensory (senses) owned by each student. Such as the sense of sight through observing images, the sense of hearing, listening to stories from the images shown, the sense of taste telling the story text, the sense of touch / kinesthetic pairing word cards made of duplex paper that reads syllables into words. As well as attaching the name label of the object he showed in this case the object in the form of types of fruits. The sense of taste after observing and touching objects in the form of fruits and then eating them, so that students gain experience from learning gained through integration or sensory integration. Therefore, in the learning process, it begins through visual sensors, auditory sensors, touch/kinesthetic sensors, pronunciation and taste. So that the results of the initial reading learning process have increased. Initially, the six students only knew a few letters of the alphabet and were able to pronounce syllables, the six students were able to identify the letters of the alphabet, pronounce syllables, read words and be able to read simple sentences that patterned S – P – O (Subject – Predicate – Object) for example: I eat oranges.

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