



## VISUAL AND COGNITIVE MEDIA: THE LANGUAGE ACQUISITION OF CHILDREN WITH DYSLEXIA IN ACEH

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**Abstract.** *This paper aims at revealing the causal-effect relationship between picture and dyslexia's reading ability when acquiring the language and describing their behavior when picture is applied as a media in learning reading. Single subject used as a research design here by observing students' behavior when trying to obtain the language using a negative picture and testing them with an Oral reading test. Three Acehese children 7-9 years intermediate classes were chose as the sample. The result showed that dyslexia's ability was effected by picture significantly.*

**Keywords:** Visual and cognitive media, language acquisition, children with dyslexia,

### INTRODUCTION

A child with dyslexia will have difficulty in reading, writing, and various other aspects of the language that will make them imperfect when receiving and producing language. Difficulties in receiving and producing languages are experienced by many

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children today, who have difficulty in composing and communicating. According to a UN development program report 2005 on the list of countries based on literacy rates, Indonesia is still ranked 95 out of 175 countries, in addition to the results of a survey conducted by USAID America Ede data II, RTI International in collaboration with the Ministry of Education and Culture (KEMENDIKBUD), Ministry Religion (KEMENAG) and Myriad Research on the assessment of early grade student reading skills (EGRA) and the Portrait of School Management Effectiveness (SSME) in Indonesia from 2013-2014 stated that in grade 2 elementary school children were mostly able to read and understand what they were reading still very low, even some still could not read<sup>1</sup>.

Furthermore, based on preliminary studies carried out in the City of Langsa, a child with the initials D when reading often arises confusion when determining letters that are almost similar like p, b, d, and m, n, w. When reading, they often turn words like: the bicycle becomes as fast as it is, Ani is read as Ain and so on. This is experienced by some children in other districts in Aceh, with their symptoms, it can be said that they experience dyslexia which results in difficulties in acquiring language, namely reading.

Several ways can be given to deal with children with dyslexia so that (at least) reduce the symptoms of the disorder they experience, especially disorders of language acquisition. One of these children can be stimulated by cognitive abilities to read it using color images.

So the purpose of this research is to detect the progress of the reading ability of dyslexic children in Aceh who are stimulated by using visual-based media and to look for a description of the behavior of dyslexic children during the stimulation period using visual-based media.

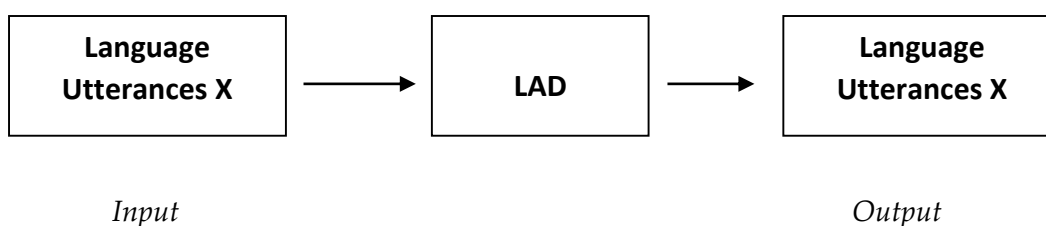
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<sup>1</sup>[http://kemendikbud.go.id/kemdik/pembukaan\\_pada\\_empat\\_kemetrian\\_luncurkan\\_kajian\\_kebijakan\\_pendidikan\\_di\\_indonesia](http://kemendikbud.go.id/kemdik/pembukaan_pada_empat_kemetrian_luncurkan_kajian_kebijakan_pendidikan_di_indonesia). Accessed at 10 August 2015)

## LITERATURE REVIEW

### Language Acquisition

Chomsky in Chaer explained that during the acquisition of the first language, a child experiences two processes, namely the competency process and performance process. The process of competency is the process of acquiring language that is unnoticed by someone who is going through a period of language acquisition, while the performance process is a process of acquiring language based on understanding ability and the ability to publish new sentences. Chomsky and Miller are still in Chaer arguing that every child has a language acquisition tool that he has brought from birth. The tool is called the Language Acquisition Device, abbreviated as LAD. The way LAD works can be described in the following scheme:



With this LAD, children acquire language very easily, because all language processing that is received and processed already has special tools. This is evident from the fact that although the input of the language is wrong, incomplete, and with a structure that is not grammatical, but still the children can master their mother tongue. In line with Chomsky's opinion, Eva Clark said that a child would not be able to get his mother tongue without a special mechanism of conscience.<sup>2</sup> Then the theory is called the conscience hypothesis. The basis of the existence of the LAD theory as the implication of the conscience is that all children will acquire their mother tongue as long as they are introduced to their mother tongue. Children who are intelligent or not intelligent will still acquire their mother tongue, even though the language received is incomplete, small in number and incompatible with grammatically, but he is still able to master the mother tongue, language is only mastered by humans, the process of

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<sup>2</sup> Abdul Chaer. *Psikolinguistik Kajian Teoritik*. ....pp. 169-170

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obtaining children everywhere is in accordance with their maturity, complex, complex and universal language structures can still be mastered by children in a short time.<sup>3</sup>

The stages of language development in children can be divided into several stages, namely; first, the stage of babble that is at this stage the child does not have the meaning of the sound that was issued. Sounds are in the form of certain vowels or consonants but do not refer to certain words or meanings. Second, the one-word stage, namely at this stage, the child begins to learn to use one word that has a meaning that represents the whole idea. One word represents the child's word or sentence for what he expressed. Third. The two-word stage is that at this time, most children have begun to reach the two-word combination stage. At this stage the child is able to combine 2 words but is not able to distinguish sex, objects, and others. Fourth. The telegraphic stage is that at this time the child can connect three, four sentences and even more. They have begun to be able to make sentence sentences, negative statements, compound sentences, and various sentence forms. At the age of 5-6 years, children's language resembles the language of adults. Most of the grammatical rules have been mastered and the patterns of language and speech length are increasingly varied. Children have been able to use language in various ways for various purposes, including joking or entertaining.

Along with the development of language, children also develop mastery over the system of language they learn. The language system consists of subsystems, namely: phonology, morphology, syntax, semantics, and pragmatics.<sup>4</sup> In the end the child will reach the stage of reading and writing that goes through the stages of listening and speaking first.

### **The Stages of Reading on Language Acquisition.**

In the process of acquiring language, the child will first hear the language around him, then he will say what he hears, when it is perfect, the next stage is the stage of

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<sup>3</sup> Rohmani Nur Indah dan Abdurrahman, *Psikolinguistik: Konsep dan Isu Umum* (Malang: UIN Malang Press, 2008), pp.69-70.

<sup>4</sup> Rohmani Nur Indah dan Abdurrahman, *Psikolinguistik: Konsep dan Isu Umum.....*, pp.98.

reading and writing. At the reading stage it is divided into the beginner stage and the advanced stage. Beginner reading is a stage that changes humans from being unable to read to being able to read. Two things need to be considered at the beginner stage; regularity of the shape and pattern of combined letters.<sup>5</sup> At this stage it has the prerequisite abilities that help the child's reading ability. This is a psychological ability that the child is able to distinguish between one object and another object. While the neurological ability of the child will be able to read after he has certain prerequisite abilities to be able to speak. The further stage emphasizes understanding the meaning of the material being read. While Sareb revealed that preliminary reading emphasizes students to enter and get to know reading material, not yet to the stage of deep understanding of reading material, let alone being demanded to master the material thoroughly and convey what they read.<sup>6</sup>

Reading for children aged 8 years is included in further reading or level of understanding. The scope that must be explored in reading problems includes: Accuracy of reading and understanding of the contents of the reading. The child is said to be right in reading if the word is read in accordance with what is written in the text. The aspect of reading accuracy can be seen from the following:

- a. Substitution, that is, replacing letters or words they read
- b. Insertion is, adding letters or words that are read
- c. Omisi, that is, removes letters or words they read
- d. Repetition is, Repeating words in the text that is read
- e. Reversal, namely, exchanging the position of words in a text
- f. Hesitate, that is, do termination when reading before continuing to the next reading.
- g. Reading the word word, that is, reading it word for word.<sup>7</sup>

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<sup>5</sup> Soenjono Dardjowidjodjo, *Psikolinguistik: Pengantar Pemahaman Bahasa Manusia*, Jakarta: Yayasan Obor Indonesia, 2008, pp. 300.

<sup>6</sup> R. Masri Sareb Putra. *Menumbuhkan Minat Membaca Sejak Dini*. Jakarta: Index. 2008 pp. 4

<sup>7</sup> <http://file.UPI.edu/assesmen> (Accessed 10 August 2015)

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Therefore, it can be concluded that reading ability is an ability that emphasizes the introduction of letters and words in reading material by being able to avoid the aspect of replacing letters or words, adding letters or words, removing letters or words, repeating words, exchanging words, stopping before continuing another, and read by word.

### Dyslexia

Dyslexia comes from Greek, namely the word "dys" which means difficulty, and the word "lexis" which means language. So dyslexia is literally language difficulties. Dyslexic children not only experience difficulties in reading, but also in spelling, writing and some other aspects of language. Difficulty reading in dyslexic children is not comparable with the level of intelligence or motivation possessed for the ability to read fluently and accurately, because dyslexic children usually have normal intelligence levels even some of them are above normal. Dyslexia is a disorder with a neurobiological basis, and is characterized by difficulty recognizing words correctly / accurately, in spelling and in the ability to code symbols.<sup>8</sup>

In line with the above opinion, Subini suggested that dyslexia is actually not a disorder in the form of physical disability, such as because there is a problem with vision, but leads to how the brain processes and processes the information the child is reading. Dyslexia is one of the developmental disorders of brain function that occurs throughout the life span, and is considered an effect caused by disturbances in memory and central processing associations called primary reading. To be able to read automatically the child must go through normal education and intelligence without any sensory interference. Therefore, learning difficulties of this type do not depend on the level of intelligence.<sup>9</sup>

The characteristics of children with dyslexia are as follows:

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<sup>8</sup> <http://www.dyslexiaindonesia.org>, Accessed on 13 september 2015

<sup>9</sup> Nini Subini. *Psikologi Pembelajaran*, Yogyakarta: Mentari Pustaka. 2012.pp.67

- a. Inaccuracy in reading is like reading word for word slowly when compared to a child of his age, the intonation of the sound of ups and downs is irregular.
- b. Cannot pronounce the rhythm of words correctly and proportionally.
- c. Often reversed in recognizing letters and words, for example between "kuda" and "daku".
- d. Frequently repeat and guess words or phrases.
- e. Irregularities in words that are only slightly different, for example "buah" and "bau".
- f. Difficulty in understanding what is read, in the sense that the child does not understand the contents of the story / text that he reads.
- g. Difficulty in sorting letters in words.
- h. Difficulty voicing phonemes (units of sound) and combining them into a word.
- i. Difficult to spell correctly. Maybe even the child will spell one word in various words.
- j. Read one word correctly on one page, but it is wrong on the other page
- k. Often upside down in writing or saying a word. For example "*kucing duduk di atas kursi*" menjadi "*kursi duduk di atas kucing*".
- l. Ambiguous with short words, for example "ke". "dari", "and", "jadi".
- m. Forgot to put other dots and punctuation marks.
- n. While the forms of difficulty reading children who are dyslexic are as follows:
- o. Make additions in addition, for example "batu" to "baltu".
- p. Eliminating letters in syllables (omission), for example "cooking" becomes "period".
- q. Reversing letters, words, or numbers with inversion / mirroring, for example "dadu" becomes "Babu".
- r. Reversing the form of letters, words, or numbers in the reverse direction on the back (reversal) for example "papa" becomes "qaqa".
- s. Change letters or numbers, for example "lupa" to "luga", "3" to "8".<sup>10</sup>

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<sup>10</sup> Nini Subini. *Psikologi...*, pp.65

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## METHODOLOGY

This study applies a quantitative experimental approach using a single-subject type. This type of research is one type of experimental research that provides an intervention to one individual or several individuals.<sup>11</sup> In the process, this study was conducted periodically for approximately 15 meetings in 15 days.

The data in this study will be taken from dyslexic children in Aceh. So all the children selected in Aceh became the population in this study. In determining the study sample, dyslexic children were identified by using certain criteria related to the character of dyslexic children. For this reason, the selection of a portion of the research subjects was chosen at their ages ranging from 8-12 years. In other words, non-probability with the type of purposive sampling was used as the determination of the sample in this study. The children who were sampled in this study were represented by dyslexic children who lived in the Langsa city area, because when determining the sample by detecting dyslexic children through special institutions that have the ability to detect children with dyslexia from 2 children only 1 child which leads to dyslexia.

Following is the process of determining the sample in this study, the initial process by conducting a sample search in two districts namely Aceh Tamiang Regency and Langsa Madya City, then found several children who were considered difficult in reading, based on the results of initial observations found that only one child in each district suspected of having difficulties as a result of dyslexia.

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<sup>11</sup> James H.Mcmillan, *Educational Research: Fundamental for the Consumer*, (USA: Pearson Education, 2008), h. 12



## FINDINGS AND DISCUSSION

In this case the pre-test results obtained by the three samples are 34 categorized at the low level. The following scores are obtained:

Indicator	Score of DK	Score of MSS	Score of FD
Changing the words or sentence	4	4	4
Adding the words or sentence	5	5	7
Repeating words	5	4	4
Substituting the words position	4	4	3
Doing the stopping	4	4	5
Omitting the words	4	3	3
Reading word to word	6	5	5

With the score achievement as followsut:

$$\text{Score} = (4+5+5+4+4+4+6)+2$$

$$\text{Score} = 32+2$$

$$\text{Score} = 34 \text{ (level rendah)}$$

Based on the achievement of the pre-test it was found that the DK score was only 34 at the low level, and then treatment would be carried out 15 times with the duration of each meeting 30 minutes.

During the baseline or the omission of samples for 5 meetings, it means that the sample remains in the reading period but without using pictures. The results obtained: Many add letters to certain words, for example, reading preferences become serious, free reading. The contest is read with *Sanyembara*, food is read by eating, Eliminating letters on certain words, for example everything is read all, first read first, heart read heart, and

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etc. Many guess words with other words that are considered correct, for example I will read, if read with you, who read with noon, etc., replace letters with the wrong letters, such as working read by working, lined read with parallel, etc.

### **Treatment**

At this stage the treatment is carried out using illustrated reading material to spread the motivation and desires of the sample in learning to read. In this stage the treatment is carried out in 5 meetings where the sample is invited to read the situation through pictures and then given a picture with writing. The series of steps can be described as follows: In this meeting the sample was asked to read a picture story book (not on the theme of the flood) and obtained the following facts:

1. Looks very interested in reading the book.
2. Reading has been rather smooth even though in some words it still seems difficult, for example in the word Syahreza read Sayahreza, but reading is not so slow.
3. Intonation and punctuation begin to be noticed.
4. There is no repetition of words or sentences.
5. Reading errors are only a few, not 15 words.
6. When asked to retell what has been read, DK is able to tell it correctly, according to the course of the story. This proves that they do master the contents of the reading that they have read.

### **Second Baseline**

The next stage of this research is to go back to basics, where the sample is again taught to read without using visual media images, the stages in this period can be explained as follows:

This meeting is the last meeting of the second baseline phase. At this stage DK was again asked to read and the results were almost the same as in the XIV meeting. This

shows that they have been more fluent in reading than before, so it was decided that the next meeting would be post-testt.

### Post Test

Post-test is a measurement milestone for the success of this study. This post test is done after the sample has received 15 sessions of treatment consisting of the initial baseline of 5 meetings, treatment for 5 meetings, and the second baseline for 5 meetings. The results achieved by the sample are as follows:

Indicator	Score of DK	Score of MSS	Score of FD
Changing the words with sentence	13	12	12
Adding the words with sentence	12	13	12
Repeating the word	12	13	12
Changing the word position	12	11	11
Doing the stopping	11	11	11
Omitting the word	13	12	12
Reading the word per word	13	12	12

With the score achievement as follows:

$$\text{Score} = (13+12+12+12+11+13+13)+2$$

$$\text{Score} = 86+2$$

$$\text{Score} = 88 \text{ (high level)}$$

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The development of reading sample

The data source from Langsa City ( DK )

Indicator	Pre-Test	Baseline I					Treatment					Baseline II					Post-Test
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Changing he word or sentence	4	5	5	5	5	6	8	9	9	10	12	12	12	12	12	13	13
Adding the word or sentence	5	5	5	5	5	5	6	7	8	9	10	10	11	11	12	12	12
Repeating the word	5	5	5	5	6	6	8	8	8	9	10	10	11	12	12	12	12
Substituting the word	4	4	4	4	5	5	6	7	8	9	10	10	10	11	12	12	12
Doing the stopping	4	4	4	5	5	5	7	7	7	8	8	9	9	9	10	10	11
Omitting the word	4	4	5	5	5	6	8	9	9	10	12	12	12	12	12	12	13
Reading word per word	6	6	6	6	7	8	9	10	11	11	12	12	12	12	12	13	13
<b>Total</b>	<b>34</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>40</b>	<b>43</b>	<b>54</b>	<b>59</b>	<b>62</b>	<b>68</b>	<b>76</b>	<b>77</b>	<b>79</b>	<b>81</b>	<b>84</b>	<b>86</b>	<b>88</b>

The data source from the district of Aceh Tamiang ( MSS )

Indikator	Pre-Test	Baseline I					Treatment					Baseline II					Post-Test
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Changing the word or sentence	4	4	5	6	6	6	8	8	9	10	12	12	12	12	12	12	12
Adding the word or sentence	5	5	5	6	5	5	6	7	8	9	10	10	11	11	11	12	12
Repeating the word	4	4	4	5	5	8	8	8	8	9	9	11	11	12	12	13	13
Substituting the word position	4	4	4	4	5	5	7	7	8	8	9	10	10	11	11	11	11
Doing the stoping	4	4	4	5	5	5	6	7	7	8	8	9	9	9	10	10	11
Omitting the word	3	4	5	5	6	6	8	9	9	10	11	12	12	12	12	12	12
Reading word per word	5	6	6	7	7	7	9	10	10	11	11	11	11	11	12	12	12
<b>Total</b>	<b>31</b>	<b>33</b>	<b>35</b>	<b>40</b>	<b>41</b>	<b>44</b>	<b>54</b>	<b>58</b>	<b>61</b>	<b>67</b>	<b>72</b>	<b>77</b>	<b>78</b>	<b>80</b>	<b>82</b>	<b>84</b>	<b>85</b>

The source of data from Aceh Timur ( FD )

Indikator	Pre-Test	Baseline I					Treatment					Baseline II					Post-Test
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Changing the word or sentence	4	5	5	5	6	6	8	8	9	10	12	12	12	12	12	12	12
Adding the word or sentence	7	6	5	5	5	5	6	7	7	9	10	10	11	11	11	12	12
Repeating the word	4	5	5	5	5	6	8	8	8	9	10	10	11	12	12	12	12
Substituting the word position	3	4	4	4	5	5	6	7	8	9	10	10	10	11	11	11	11
Doing the stopping	5	4	4	5	5	5	6	7	7	8	8	9	9	9	10	10	11
Omitting the word	3	4	5	5	5	6	8	9	9	10	11	12	12	12	12	12	12
R	5	6	6	7	6	7	9	10	10	11	11	11	11	11	12	12	12
<b>Total</b>	<b>33</b>	<b>36</b>	<b>36</b>	<b>38</b>	<b>39</b>	<b>42</b>	<b>53</b>	<b>58</b>	<b>60</b>	<b>68</b>	<b>74</b>	<b>76</b>	<b>78</b>	<b>80</b>	<b>82</b>	<b>83</b>	<b>84</b>

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## CONCLUSION

There is progress in reading in dyslexic children with stimulation using images. And the description of the behavior shown by dyslexic children when stimulated by images is the emergence of a sense of motivation, increased self-confidence.

Language acquisition in children is a very important phase and must be passed by them. So if the language acquisition stage is disturbed they will experience serious problems in their lives. Like dyslexic children who are not able to read perfectly, the process of obtaining language is automatically impaired. So it is advisable to parties who come in direct contact with children with dyslexia to give more attention to them, by trying to cure or at least reduce the interference by using media that interests them. Like using visual media images to attract their interest and motivation in reading so that their reading skills become perfect.

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