

# Teaching Reading to a Non-Verbal Child with Autism

## *A Pilot Study*

Yoga B. Santoso<sup>1,2</sup>, Syihabuddin Syihabuddin<sup>1</sup>, Djadja Rahardja<sup>1</sup>, Ernie C. Siregar<sup>1</sup>, H. Herlina<sup>1</sup>, Riskma N. R. Akhlan<sup>1</sup>, Rahmatrisilvia Rahmatrisilvia<sup>1</sup>, Arief Taboer<sup>1</sup>, Ranti Novianti<sup>1,2</sup> and A. Rahim Kurniawan<sup>1</sup>

<sup>1</sup>Universitas Pendidikan Indonesia, Jl. Setiabudi No. 299, Bandung, Indonesia

<sup>2</sup>Special Education, Universitas Islam Nusantara, Jl. Sukarno-Hatta No. 530, Bandung, Indonesia  
yogabudhisantoso@student.upi.edu

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Abstract: The conventional thinking believes that children should learn how to speak before they can read. In fact, about 20-50% of autistic children cannot speak. This pilot study aimed to teach reading to a non-verbal child with autism by utilizing of his readily available visual memory skills. This is an experimental study of a non-verbal child with autism. The child was taught how to read through a sight word reading approach using a picture-to-text matching instruction for two hours in a day in 30 days. This study revealed that the child managed to understand 30 written words to which he was taught. This shows that a non-verbal child with autism can still read regardless of his inability to speak. Sight word reading approach enables a non-verbal child with autism to learn to read because it does not require a decoding ability. It is expected that a further study can be carried out with more subjects so as to figure out the effectiveness of the application of sight word reading approach to teaching reading to non-verbal children with autism.

## 1 INTRODUCTION

Reading is one of the crucial functional skills at a child's early stage of learning (Crowley et al., 2013; Moore and Sudduth, 2014; Calberry, 2014). According to Zascavage and Kefee (2004), reading is one of the bases for social interaction and can guarantee one's quality of life. Therefore, learning how to read is very crucial for children, including those with non-verbal autism. In this respect, Hua et al (2012) stated that reading is one of critical learning objectives for all students regardless of how severe their disabilities are.

Gough and Tunmer theory says reading ability is dependent on two skills: decoding (the ability to read words) and language comprehension (Oakhill et al., 2015; Ricketts et al., 2012). Children who have issues with language, speech, and communication have a high probability to fail to able to read (Heller et al., 2002; Nation et al., 2006; Flores and Ganz, 2009; Larsson et al., 2009), while characteristics of autistic children is having linguistic and communication difficulties. Norbury and Nation (2011) note that approximately 20% of children with autism failed to

acquire spoken language, speech fluency, and language syntax. Whitman (2000), says about 50% of autistic children are not equipped with the ability to speak. Unquestionably, the low speaking ability becomes a great barrier for children with autism (even some of them cannot speak) unable to read.

Bijl et al. (2004) write children with moderate and severe mental disability can learn reading through sight word. It is memorizing as a whole by sight so that they can automatically recognize words in print without having to use any strategies to decode. Ehri (2005) explain that sight word reading is reading using memory. He further explains that the development of reading skill requires the accumulation of words that are abundantly stored in the sight word memory. Browder and Xin's (1998) meta-analytic study on the effectiveness of sight word in teaching functional reading to children with moderate and severe disability revealed that 48 studies that were examined reported high effectiveness of sight word. Crowley, Laughlin, and Kahn (2013) have also investigated the application of sight word to teaching reading to two children with autism, and the result was very positive. However, their study did not specifically address the non-verbal

autistic children. Based on research and studies on sight word reading requires only memory and no decoding capabilities required, it is possible for non-verbal autism children to keep reading even if they cannot talk. According to the research and study of sight word that only used working memories and not used decoding ability, this means children with nonverbal autism still can read even they cannot talk.

This study was aimed at teaching reading to a non-verbal child with autism through a sight word reading approach in a structured learning instruction considering that an autistic child has a good visual memory (Matson and Peter, 2011) and that structured learning has been proven effective in teaching children with autism.

## 2 METHODS

Experiment study were used in this research are Single-Subject Experiment with A/B Design, with participants selected directly or Quasi Experiment (Creswell, 2008). The ability of reading will be tested before and after intervention

The subject of this pilot study was a non-verbal autistic male child aged 6 years 10 months at one of therapy centers in Bandung. He was diagnosed with autism at age 2 years 8 months by a child development specialist. The result of the WPPSI test showed that his score of Full IQ was 61, Performance IQ 84, and Verbal IQ 47, unable to speak and communicate verbally, skilled in matching objects with the identical images and matching letters. In this study. The subject taught by 2 teachers, learned for two hours in a day, five days a week, in a month, conducted over 30 sessions. He learns a predetermined special individualized program at the centers.

The teaching approach selected in this study was sight word reading using a picture-to-text matching instruction that was employed by Fossett and Miranda (2005). The instruction used the Discrete Trial Training (DTT) principles; that is, a method for teaching new skills by giving specific stimulus and consequences for every resulted response, either the correct or the wrong response, or even for when the child did not give any response (Matson, and Sturmey, 2011). Nouns and verbs are the bases for every language system (Goh et al., 2013).

The words that were taught in the lesson were include names of children, parents, and siblings and the names of objects, animals, and fruits, also daily routine verbs. The words were classified into five groups called blocks. Thus there were six blocks of the words taught to the child. The words are taught one by one.

Research conducted to obtain preliminary data on phase I called Baseline, in this phase: The child was instructed to match word cards with the related pictures of nouns or verbs being taught in each block. Correct responses were calculated and stated in percentage. The data were collected from three different sessions.

Intervention on phase II: The child was instructed to match words with the related pictures of nouns and verbs one by one using Discrete Trial Teaching (DTT) technique, and every response was recorded. The child was said to acquire all words if he could match the five words in each block with the relevant pictures even if they were randomized. The child was said to pass if his responses are all correct in the three sessions in a consecutive manner.

## 3 RESULTS

At the baseline phase I the child were given 5 words to be match into picture-to-text matching with all the blocks were given. The result of the reading teaching can be seen in Figure 1. In the three meetings (session) in the baseline phase, the child did not manage to give correct response (0%) to the blocks of pictures of family members, surrounding objects, animals and verbs in Block I. However, he managed to match one out of five pictures (20%) in the fruit block and verbs in verbs in Block II in the third session in the baseline phase. After intervention on phase II, the child capable to put five words match with the picture text matching. The capability of reading was shown by correctly put the picture to text matching at a different intervention session.

Child can read the word of verb at block II in Session 18, in the fruit block in Session 21, surrounding object block in Session 24, in the family member and in the animal block in Session 27, and verbs in Block I in Session 30. The total words acquired by the child from 30 sessions of learning were 30 words (20 nouns and 10 verbs).

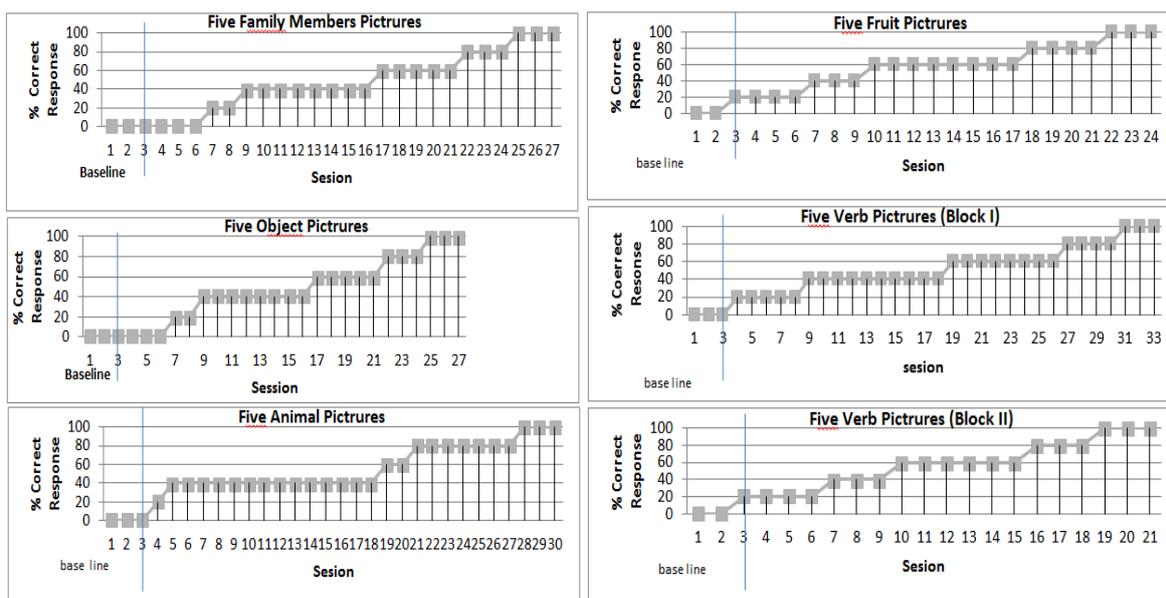


Figure 1: Percentage of correct responses to every word block in each session.

## 4 DISCUSSION

The results of the study showed that a non-verbal child with autism could still possibly be taught how to read. This was indicated by his ability to match words with the relevant words. The result is also in agreement with a report of the previous study that three out of five children participating in the study showed significant improvement in their reading ability, and the other two show no to little improvement (Goh et al., 2013). Results of intervention of children able to read seen from the ability of children to pair the word card on the picture card, compared with the use of flash cards in reading sight word in children autism verbal (Crowley, McLaughlin and Kahn 2012), research with sight word reading also gives 100% results for non-verbal autism children in reading ability and in this study the number of words taught and controlled by more children, 30 word cards from 30 words taught.

This study; however, cannot be generalized since it was specifically design for only one child. The further study is expected to involve more participants so as to figure out which child can improve his reading ability and which is not. That said, the determinant factors could then be analyzed.

## 5 CONCLUSIONS

The results of the study showed that the child managed to understand the written form of the words to which he was taught. He managed to correctly match the words to the relevant pictures even when they were randomly arranged. A significant improvement can be seen if the result of the baseline is compared with that of the intervention. This indicates that sight word reading approach can improve the reading ability of a non-verbal child with autism participating in this study because it does not require decoding skill.

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