artikel 11

by Dr. Rachma Hasibuan

Submission date: 09-Apr-2021 11:05AM (UTC+0700)
Submission ID: 1554278768
File name: USING_MULTISENSORY,,,,28554-Article_Text-64175-2-10-20190131.doc (67.5K)
Word count: 3814
Character count: 20214

Using Multisensory on the Ability to Recognize Letter Sounds and Forms of Children

Keywords:
multisensory; letter; sounds; forms

Abstract

This study is aimed to know (1) The effect of multisensory on the ability to recognize the letter sounds of children aged 4-5 years?, (2) The effect of multisensory on the ability to recognize letter forms of children aged 4-5 years?, (3) The relationship of ability to recognize letter sounds and forms of children aged 4-5 years?, (4) simultaneous interaction between the use of multisensory on the ability to recognize letter sounds and forms of children aged 4-5 years? This study uses Quasi Experimental Design, with Nonequivalent Control Group Design. This design is similar to the pretest - posttest control group design where, the experimental group or the control group is not randomly selected. The error sampling was 5% with 78 children. The results can be concluded as follows; the students' ability to recognize letter sounds in the control group and experimental group is significantly different, where the obtained T test after treatment is -3.204 with sig value (probability) of 0.003 referring to average score of control group of 35.18 and group experiment of 41.58. The children's ability to recognize letter forms in the control group and experimental group show that the obtained T test after treatment was of -0.042 with sig value (probability) of 0,000 referring to the average score of the control group of 45.891 and experimental group of 50.63 . The correlation between the ability to recognize letter sounds and forms in the control group is 0.905 and 0.826 in the experimental group, meaning that it has the strong correlation, where if children's ability to recognize letter sounds is good so ability to recognize letter forms is good as well. Therefore, it can be concluded that the direct use of multisensory makes children easier to learn

Introduction

The development of era has changed the face of education. It can be proven by the exis-tance of many experts whose ideas in changing teaching and learning process in an effective ways starting from childhood to higher education. Why do many expert make evaluation in educa-tion? The aim was to educate the life of nation and inherit the noble values of national culture to form a good human quality. Language is one of the cultures needs to be inherited to younger ge-neration. Most of descriptive linguists define that language is arbitery system of symbolic sounds, which is commonly supplemented by communi-ty members to interact and identify themselves. According to Castello (2015) language is a means to convey ideas from one thought to another that makes acquiring language as one of the most in-teresting aspects to observe.

Language was studied internally and exter-nally. Internally, means to learn the internal struc-ture of the language, ranging from phonological structure, morphology, syntax to discourse struc-ture. While, External studies relate to language relationships with factors or things that exist out-side the language, such as social, psychological, ethnic, artistic, and so on. According to Chaer (2009: 1) Language learning is one of the complex issues dealing with language problems and activi-ties. Language activities deal not mechanistic, but also mental acitivities. Thus, it relates to mental activity (brain). Bond, Tiker & Wasson (1979: 88) argues that, reading is activity to introduce sym-bols of written language to stimulate the process of remembering and to build an understanding through personal experience. According to Mer-cer (1989: 121) there are five stages of reading de-velopment in children, reading preparation, early reading, fast reading, extensive reading, and real reading. The early reading begins when the child is six years old (Abdurrahman, 2009: 201). Cos-mo, Oksuz, Baba, Ici & Akturk (2011) argue that in general the actual reading phase begins at the age of 6 to 7 but Suggate, Schaughency & Reese (2013) state that there is trend in various count-ries that shows educational institutions intervers in reading readiness skills of pre-school children. Nevertheless, there are children who have learned to read early and some just learn to read at the age of seven or eight years.

The stimulation is given to help the children's development can be done in several ways such using multisensory. Modality used is visual, and auditoris, kinesthetic, or abbreviated as VAK. Learning activities recognize sounds and letters using this multisensory include vi-sual (viewing), listening (auditory), and writing (kinesthetic). As research result conducted by Fisher's (2016) states that the use of multisensory can improve students' reading ability as a whole and also improve the decoding ability in spelling words. In contrast, Johnstone, Thurlow, Thomp-son, & Clapper (2008) multi-modal use can be a useful strategy to help students to meet the rea-ding standard in general education settings.

After interviewing principals in some kin-dergartens at Taman subdistrict, sidoarjo district on current learning model, it was found that children learned how to recognize letter sounds and forms using textbook "Ayo Membaca" de-veloped by using quantum learning. In recogni-zing letter sounds formed in a syllable, that is by using *Cantolan system*, as way to link letter or a word with a given picture to make students easier to remember the words. Besides that story book through picture and reading together, called as classical method are also used in learning letters. While recognizing letter forms, writer used clas-sical methods based on some stages; such as wri-ting letters, syllables, and sentences. However, the data obtained in the field showed that learning methods to recognize letter sounds and forms have some technical problems that come from the material and educators.

The principal explained the weaknesses of the quantum learning method where children focused on seeing picture but not reading the syl-lables in the book, more familiar with syllables than alphabet, and the unavailability of classical learning tools. This condition required teachers to be more creative in keeping fun learning for children in the classroom. However, 60% of the number of children was not able to follow this method as expected because many of them got bored and lose concentration. Moreover, there was only little letters and picture with writing un-derneath put on the wall to stimulate children in terms of recognizing letter sounds and forms.

This multisensory is the development of a remedial reading program for children with learning difficulties. However, the use of this method can also be implemented for early child-hood education to provide stimulation for them to recognize the sounds and letters directly using five senses. Based on the background above, the following research questions prepared are more operational as follows:

1) Does multisensory effect the ability to recognize the letter sounds of children aged 4-5 years?, 2) Does multisensory effect the ability to recognize letter forms of children aged 4-5 yea-

rs?, 3) Does ability to recognize letter sounds have correlation on the ability to recognize letter forms of children aged 4-5 years?, 4) Is there simultaneous interaction between the use of multi-sensory on the ability to recognize letter sounds and forms of children aged 4-5 years?

method

This study was experimental reaseach, with Nonequivalent pretest-posttest Control Group Design. Butonly the design is not ran-domly selected (Creswell, 2009: 238). The groups in experimental research is devided into two sub-jects whose characteristics were similar or homogeneous: experimental group and control group. The experimental group was given multisenso-ry to recognize letter sounds and forms, but the control group was not but using other methods and strategies. The populations were 104 children aged 4-5 years in Aisyiyah Bustanul Athfal kindergarten 25 Wage and Dharma Wanita Persatuan Kindergarten, Wage. The sample were 78 children selected using error sampling of 5%.

Data analysis was divided into two: (1) Descriptive analysis, (2) Statistical analysis of inference with stages: (a) Test of requirement statistical inference (normality, validity, and reliability), (b) If fulfilled, the statistical inference test used parametric approach, and used non parametric approach (non distribution) if it was not fulfilled. Reliability testing is based on *Alpha Cronbach* (α).. If the value of *Alpha Cronbach* (α) is greater than 0.60, the research data is categorized good enough and reliable to be used as input to test the research hypothesis. The stages of data analysis are as follows :

1. Conducting a descriptive analysis from data obtained from both control group and experimental group
2. Testing the validity and reliability, if the data is valid and reliable, then analysis is con-ducted fro the next stage but if it is not valid and reliable data should be rechecked.
3. Normality testis done to determine whether the data is normally distributed or not. The normality test used is the Shapiro-Wilk statistical test.
4. Then, homogeneity test of variance by using Levene test.
5. Conducting hypothesis test by using T test, correlation test, and two-way annova test both in control group and experiment group.
6. Making discussion based on data analysis.
7. Drawing conclusions to answer the hypothesis of study.

RESULTs AND DISCUSSION

This discussion will describe the effect of multisensory use on the ability to recognize the letter sounds and forms of children aged 4-5 yea-rs. From the data that has been obtained through data from the school that was used as setting of the study and then statistical calculation was conducted including descriptive test and inference analysis test as described below:

1. Multisensory on students' ability to recognize letter sounds

The ability to recognize the letter sounds referred in this study is the ability of the children to pronounce the vowels / a /, / i /, / u /, / e /, / o / and consonants / b /, / d /, / k /, / l /, / m /, / p /, / s /, and / t /. The way to know their ability to recognize the letter sounds can be seen from their pretest and posttest score based on their ability to recognize and pronounce letters. If the children were able to recognize the letter sounds and pronounce sounds and intonations appropriately, they got 3 (three), if the children recognized the letter sound but can not pronoun-ce well then their score was 2 (two), and if they could not recognize letter sounds, their score was 1 (one). The highest score the children get when they are able to recognize and pronounce the letter perfectly is 51 (fifty one).

The descriptive analysis of control group can be explained as follows: there were 38 children to be studied in which the question card given without any special treatment before. The result showed that the mean value after treatment was 35.18 better than the average value before treatment of 34.47. The different result of mean value before and after treatment was very thin, that was only 0.71, meaning that the ability of children to recognize the letter sounds for the control group was very slow, and there was no significant change.This was reinforced by the result of standard deviation value and variance bet-ween before treatment and after treatment which was not significantly different. The control group to recognize the letter sounds was considerably stagnant or there was no significant change in the ability of children to recognize the sound of the letters.

While descriptive analysis of the experimental group can be explained as follows: There were 38 children studied here, who was given question cards with special treatment using multisensory with media such as reading software,

and writing on the flour. The average value before treatment was 35.34 that was still natural while average value after treatement using special multisensory treatment (such as visual, auditoris, and kinesthetic) to recognize letter sounds was 41.58, that was better than the average value before treatment. The difference result of average value before treatment and after treatment was 6.24, meaning that that the ability of children to recognize letter sounds for the experimental group was improved quite well. It can be interpreted that children when learning to obtain multisen-sory treatment would be more pleased because they had direct experience of their senses. This is in line with the findings of Magpuri-Lavell et al., (2014) which states that the benefits of mul-tisensory programs as interventions for language-related skills such as sounds, syllables, words, sentences, and written language.

2. Multisensory on students' ability to recognize letter forms

The ability to recognize letter forms in this study is that the children can copy the form of vowels / a /, / i /, / u /, / e /, / o / and consonant letter / b /, / d /, / k /, / l /, / m /, / p /, / s /, and / t /. The way to know children's ability to recognize letter forms can be seen from their score of pretest and posttest. Scoring is based on the children's ability to recognize letter forms and copy letter forms. If the children are able to recognize the forms and copy it based on the example and use the writing technique. they get 3 (three), if the children recognize letter forms but copy it without using writing technique, they get 2 (two), and if children are not able to recog-nize letter forms and copy it, they get 1 (one). The highest score is 66 (sixty six).

The descriptive analysis of control group can be explained as follows: There were 38 children where word card was shown and had to be copied by the children without given any special treatment. The result showed that ave-rage value after treatment was 45.89 better than the average value before treatment of 35.21. The different result of average value before and after treatment was 10.68, meaning that the ability of children to recognize letter forms for the control group was better compared with the ability of children to recognize the sounds of letters in the control group. This can be interpreted that the children were more responsive and easy to receive new information visually rather than using audio.

The descriptive analysis of experimen-tal group can be explained as follows:The 38 children were studied, where the word card was shown and had to be copied by them with special treatment using multisensory with media such as reading software, and writing on the flour. The average values of children aged 4-5 years before the treatment was 42.97 (not treated), while ave-rage value after special treatment (multisensory: visual, auditorics, and kinesthetic) was 50.63, so that average value after treatement was higher than before treatment. The different result of ave-rage value before treatment and after treatment was 7.33, meaning that the ability of children to recognize letter forms for the experimental group was improved quite well. Therefore, it can be interpreted that the children, when multisensory implemented, were more pleased because of gaining direct experience of the senses to graps the given material. Fisher's findings (2016) also mention multisensory techniques following student learning styles that lead to excitement by working together. In addition to copying the letters, it will add to the relationship between neurons and strengthen the neural network, this will form a complex pattern that allows the children to have the ability to receive information from outside and doing various activities (Tangada, 2003: 98).

3. Correlation Analysis of Sound and Letter Forms

The analysis using product moment correlation analysis was to test the strength of interrelationship between the ability to recognize the letter sounds and forms of the control group. This study will explain the correlation value between ability to recognize letter sound and forms. The results of correlation analysis showed that there was very strong relationship of child to recognize letter sounds and forms with correlation value of 0.905. The value can be interpreted that the relationship of children to recognize letter sounds and forms was very strong. If children had good ability to recognize letter sounds so that the abi-lity to recognize letter was also good. The value of significance (probability) was 0.000, meaning that very significant correlation of these two va-riables. Therefore, it can be concluded the ability to recognize the sound of the letters affects the ability of children in recognizing letters.

The analysis using product moment correlation analysis was to test the strength of interrelationship between the ability to recognize letter sounds and forms of the experimental group. This study explained that the correlation value between ability to recognize letter sounds and forms, and correlation analysis showed that the-re was a very strong relationship of children to recognize letter sounds and forms. The result sho-

wed that correlation value between the ability to recognize letter sounds and forms was 0.826, so that the value of children's ability to know sound and letter was very strong. If children had good ability to recognize letter sounds then the ability to recognize the letter forms was also good. The value of significance (probability) was 0.000, so that it was very significant correlation of these two variables. Therefore, it can be concluded the ability to recognize letter sounds effects the ability of children in recognizing letter forms.

4. Interaction of Multisensory Usage on Letter Sounds and forms

The analysis using two-way Annova test was to test whether there was simultaneous interaction between the letter sounds and forms in the control group and experimental group before the learning process. In this study, F value was obtained in the control group and the experimental group in recognizing the letter sounds. The method in this study used word game (in the same time) to know the ability of children to recognize the letter sounds in the control group and experimental group. The analysis was conducted using two-way annova test where F value obtained before treatment was 0.453 with sig value of 0.653 (probability). This result means that the level of ability of children to recognize letter sounds was not significantly different between the control group and the experimental group. The average value of control group was 34.47 and the experimental group was 34.35 before treatment. The average value of the two samples was statistically declared no significant different. thus, the value before the treatment of the two samples of the control group and experimental group were not significantly different. It meant that the children in the control group and the experimental group before implementing special treatment (in the form of multisensory) in the experimental group, had the same ability to recognize the sounds as to recognize letters.

The analysis conducted using two-way annova test was to test in control group and experiment group whether there was simultaneous interaction in multisensory to recognize letter sounds and forms after treatment. F value in the control and experimental group in the context of children's ability to recognize letter sounds. The method applied is that the children are given word game (in the same time) to know the ability of children to recognize the letter sounds in the control group and experimental group. The result of analysis using two-way test showed result of value of F for after treatment equal to -3,204 with value of sig (probability) 0,003. This means that after the learning process, the level of ability of children to recognize the letter sounds was significantly different between the control group and the experimental group.

The average value of children after treatment was 35.18 in control group and was 41.58 for the experimental group. The average value of the two samples was statistically significant dif-ferent, thus the value of experimental group af-ter using multisensory treatment was better than the control group, where children got more spirit to follow the learning process in the classroom. Thus, it can be concluded that the learning pro-cess with a multisensory approach provide a di-rect stimulation for children's senses in improving the ability of children to recognize letter sounds and forms when compared with natural learning methods without multisensory. Two-way an-nova test analysis was to test whether there was simultaneous interaction before treatment in the control group and experimental group. F value was obtained from control group and experimen-tal group on children's ability to know the letter forms. The method implemented was by giving initial word game (in the same time) to know the ability of the children in recognizing the let-ter forms in the control group and experimental group. The analysis by using Two-way annova test obtained the result of F value before treat-ment was -6,318 with sig value of 0.000 (proba-bility), meaning that level of children'sability to recognize letter forms was significantly different between control group and experiment group.

The children's average value before the treatment in control group was 35.21 and the experimental group was 42.97.The average value of the two samples were statistically and significantly different, thus for the value before the treatment of both the sample of the control group and group experiments interacted simultaneously. The result of analysis using Two-way annova test was to test whether there was stimultaneous interaction in control and experiment group. F value was obtained in control group and experiment group in child context recognize letter forms. The method implemented was by giving word game after treatment (in the same time) to know the ability of children in recognizing letter forms in the control group and experimental group. Two-way annova test analysis obtained was -0,042 with value sig of 0.000 (probability). This result meant that, the level of ability of children to recognize the letter forms was significantly different between control group and experimental group after the learning process.

In conclusion,the average score of children's ability after treatment of control group was 45.891 and was 50.63 in the experimental group. The average value of the two samples was statistically and significantly different. Thus, the experimental group was given special treatment in the form of multisensory so that children follo-wed the learning activities in the classroom easi-ly. Therefore, ability of children to recognize the letter forms can increase as expected. This result can be interpreted that the average value of the experimental group was statistically better than the control group, and multisensory methods in-teracted simultaneously on improving the ability of children to recognize letter forms. This study is in line with Thurlow, Thompson, & Clapper (2008) state that using multi-modal can be a use-ful strategy to help students meet the standard of reading in general education settings. Strengt-hened by Fisher (2016) states multisensory imp-rovements in the development of literacy can be seen in countless areas.

Conclusion

Based on analysis, it can be concluded as follows:

1. The use of Multisensory has a signifi-cant effect on the ability of children to recognize the letter sounds at the age of 4-5 years.
2. The use of Multisensory has a signifi-cant effect on the ability of children to recognize letter forms in children aged 4-5 years.
3. The ability to recognize the sounds of letters that are very strongly related to the abi-lity of children to recognize the letter forms in children aged 4-5 years.
4. The use of Multisensory interacts simul-taneously with the ability to recognize the letter sounds and forms in children aged 4-5 years.

artikel 11

ORIGINALITY REPORT

19%	18%	2%	1%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

17%

★ garuda.ristekbrin.go.id

Internet Source

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		