

Verbal Imitation Program To Improve Language Production In Children Aged 4 - 6 Years Who Experience Speech Delay At Early Childhood "X" Bandung

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Abstract

The objective of this study is to find out how significant verbal imitation on improving language production in 4-6 years old speech delay children at Early Childhood "X" Bandung. This study used one group pretest-posttest design, with measuring tools used in this study is developmental milestones of Language Production by Olmstead (1971) and has been modified by the researcher. Expert judges tested the validity and reliability testing of the measuring tools. The samples of this study were 8 children who met the sample characteristics and were selected using purposive sampling techniques. The results of statistical test using Wilcoxon is $p = 0.019 < 0.05$ with $Z = -2.366$. It indicates differences in children's language production before and after the child undergoing a verbal imitation program. Theoretical suggestions for further research is to conduct a collaborative study that intervenes both parents and children simultaneously. Practically, parents and teachers should continue providing clear and consistent directions to children to correctly imitate the articulate sound of words. Child practitioners are suggested to consider verbal imitation program as an intervention in dealing with children who have a speech delay.

Keywords

language production; speech delay; verbal imitation

Abstrak

Tujuan penelitian ini untuk mengetahui seberapa signifikan *verbal imitation* dapat meningkatkan *language production* pada anak-anak berusia 4-6 tahun yang mengalami *speech delay* di PAUD (Early Childhood) "X" Bandung. Penelitian ini menggunakan *one group pretest-posttest design*, dengan alat ukur berupa *milestones* perkembangan *Language Production* dari Olmstead (1971) dan dimodifikasi oleh peneliti. Pengujian validitas dan reliabilitas alat ukur dilakukan dengan bantuan *expert judges*. Sampel pada penelitian ini berjumlah 8 anak yang sesuai kriteria sampel dan dipilih menggunakan teknik purposif. Hasil uji beda Wilcoxon menunjukkan nilai $p = 0.018 < 0.05$ dan Z sebesar -2.366 . Kesimpulannya, terdapat perbedaan *language production* sebelum dan setelah anak mengikuti program *verbal imitation*. Perbedaan tersebut ditunjukkan dengan adanya peningkatan pada *language production* anak setelah mengikuti program *verbal imitation*. Saran untuk peneliti selanjutnya, melakukan penelitian kolaborasi yang mengintervensi orang tua dan anak secara bersamaan. Saran bagi orang tua dan guru agar terus memberikan pengarahan yang jelas dan konsisten pada anak untuk meniru cara mengartikulasikan bunyi kata-kata dengan tepat. Praktisi anak dapat mempertimbangkan *verbal imitation* sebagai upaya menangani anak dengan *speech delay*.

Kata kunci

language production; speech delay; verbal imitation

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INTRODUCTION

Age 0-3 years is the time of the most rapid development in children. Aspects that develop the fastest are physical and cognitive (Santrock, 2011). In contrast to the age of 0-3 years, in children aged 4-6 years, the most rapid development occurs in the cognitive and language aspects (Santrock, 2011). Not all children can experience rapid development according to their age. Reported by the research results conducted by Dahlia and Jenny (2017), many children have problems with language development. One of the most common problems in language development is speech delay.

Speech delay or speech delay refers to a delay in developing or using language or speech production mechanisms (Kennison, 2015). Other experts state that speech delay refers to a condition where children experience deficiencies in language use, understanding, or production (Damico, Muller, & Ball, 2010). Speech delay has five categories: speech sounds, word meaning, syntax, morphology, and pragmatics. In the speech sounds category, children experience problems in the form of omission of consonants when pronouncing words, errors in pronouncing letters, similar pronunciations between one letter and another and replacing the sound of one letter with another, or in other words, the problem lies in articulation (Damico, Muller & Ball, 2010). Children who experience speech delay in the word meaning is category experience problems with the words they express and understand. In the syntax category, children's problems lie in the difficulty of obeying and understanding language rules, such as grammar (Damico, Muller, & Ball, 2010). Children with speech delay in the morphological category have difficulty understanding and using words that have affixes or the use of regular and irregular plurals.

In contrast, in the pragmatic category, children have difficulty understanding and using appropriate gestures, waiting for their turn to speak, or have difficulty using request sentences or questions correctly. (Damico, Muller, & Ball, 2010). Based on research conducted by Damico, Muller, and Ball (2010), most speech delay children fall into the category of speech sounds.

Ellis & Thai (2014) stated that children who experience speech delay in the speech sound category are characterized by more limited language production than children who do not experience delays (Ellis & Thai, 2008 in Eve & Spanoudis, 2014). Language itself is defined as a system of symbols and rules that allow humans to communicate (Harley, 2014). Other experts state language as a form of communication manifested in pronunciation, writing, or signs based on symbols agreed upon by a community system

(Santrock, 2011). The process of language production in psychology is known as language production (Harley, 2014).

Language production is defined as the sound that results from transforming the concept in thought into a sound that others can understand and follow the rules (Harley, 2014). By definition, language production occurs after the process of transforming concepts in thought into sound. The transformation process can be explained in three stages: conceptualization, formulation, and articulation. First, a person has a desire and decides what the child will say (conceptualization). After that, someone needs to translate the concept to be spoken into the form of language (formulation). The sound is produced in speech (articulation) (Harley, 2014). Language production is suitable for adults if all stages occur optimally (Garcia et al., 2014). Indicators of the success of language production in children are slightly different from adults.

Children have good language production following language development milestones (Ronski, 2010 in Garcia, Bagner, Pruden, Lopez, 2014). Children cannot pronounce words like adults say before one year based on language development milestones in psycholinguistics. Children at this age still have their "own language" to express their meaning, or what is commonly called babbling. One-year-old children begin to pronounce their first words, which usually consist of one or two syllables. The words he pronounces may not be clear, but they are meaningful, but some letters such as r, s, j, and t are still difficult for children to pronounce correctly. The process of language development in children aged two years looks fast, and the child's ability to formulate thoughts becomes complex. Children aged two years can also express the concepts in their minds. At the age of three, children increasingly express their thoughts and feelings using their vocabulary. The vocabulary that children have is increasing. Children aged three years show the development of language production abilities has reached its peak. In other words, children can sound all the letters correctly, although some children still have difficulty sounding compound consonants such as NG or NY (Mar'at, 2005 in Premature, 2016). Every child should ideally meet the demands of development at each stage of development according to milestones.

Facts on the ground show that there are still many children who have not been able to meet these milestones. The Statistical Division of the National Institute on Deafness and Other Communication Disorders (NIDCD) summarizes that in 2016. The prevalence of speech disorders in early childhood ranges from 11% ("Quick Statistics About Voice, Speech, Language," 2016). The data is in line with conditions in Indonesia, namely in 2017. It is estimated that 21% of children experience delays in language production (Dahlia, Jenni K. dr, 2017). According to Wooles, Swann, and Hoskison (2018), speech and language delay is a common problem handled by child development workers, close to 6%.

Data from Mc Laughlin (2011), Soebadi (2013), and Khorayah et al. (2016) show that children who experience speech delay in the speech sound category are on average at pre-school age. The Indonesian Pediatric Association states that speech delay is experienced by 5-8% of children at pre-school age in Indonesia (Soebadi, 2013). Research conducted by several students at Syiah Kuala Darussalam University also stated that speech delays are often found in children aged 4-6 years in Indonesia. (Khoiriyah, Ahmad, & Fitriani, 2016). The survey results align with the phenomenon in Early Childhood "X" Bandung.

In line with these data, interviews with Early Childhood Counselor "X" indicate the number of speech delay occurrences in the speech sounds category in children aged 4-6 years or children from Pre-Kindergarten to K2 tendency increase. Early Childhood "X" has 4-grade levels, namely toddler (children under three years old), Pre-Kindergarten (ages 3 to 4 years), K1 (ages 4 to 5 years), and K2 (ages five years and over). On average, children cannot pronounce words clearly at the toddler level, but this is still in line with milestones. Interview data also shows that at the Pre-Kindergarten level, 3 out of 45 children (7.5%) can respond to instructions appropriately but cannot speak clearly or can be said to experience speech delay in the category of speech sounds. Data at the K1 level shows that 4 out of 60 children (6.6%) can respond to instructions appropriately but cannot speak clearly. So it can be said that they have speech delays in the category of speech sounds. Data at the K2 level as many as 3 out of 70 children (4.28%) can respond to instructions appropriately but cannot speak clearly, so that it can be said to experience speech delay in the category of speech sounds.

The lack of clarity in the pronunciation of words when speaking to children over the age of 3 is a sign of speech delay (Kennison, 2013). Children who experience speech delay, especially in the category of speech sounds, often have difficulty controlling the speed of speech or are often late in learning to articulate some sounds compared to their peers. The focus of speech delay problems in the speech sounds category for children aged three years usually lies in articulation or sound production, not vocabulary knowledge (McLaughlin, 2011).

Children who experience speech delay have an impact that will be felt in the long term. These impacts include children who experience speech delay, including the category of speech sounds, vulnerable to learning difficulties at elementary, junior high, high school, or college education levels. This is related to receiving, understanding, writing, or correctly interpreting information with certain sounds (Brownlie et al., 2015). This condition also increases the risk of children experiencing social anxiety. Research shows that children who experience speech delay with unclear characteristics when speaking have a greater chance of experiencing excessive fear when socializing (Brownlie et al., 2015).

Applied Behavior Analysis (ABA) technique is one approach that can be used to intervene in speech delay. ABA is a type of direct teaching. The ABA technique skills are learned by studying more straightforward and understandable targets and giving prompts and reinforcement according to the rules (Lovaas & Smith, 2003; Sarafino, 2012). In the ABA technique, there are verbal imitation programs. Verbal imitation is one type of behavioral intervention (behavioral), in which the child will be asked to imitate sounds and words (Lovaas & Smith, 2003; Satafino, 2012). Children will first be taught to pronounce and sound each letter correctly, then pronounce simple words correctly.

Imitation is considered the easiest and often successful way to increase language production in children (Pickering & Garrod, 2014). Several studies that have been conducted on verbal imitation show that this program can improve language skills in children. Over & Gattis Research (2009) showed that children remember and reproduce language by imitating adults (Over & Gattis, 2009). Research conducted in cases of severe speech disorders, namely in children with Down syndrome, verbal imitation programs has been proven successful in stimulating children's speaking abilities. It can be seen from the research of Bauer and Jones (2015), which stated that children with Down syndrome who experienced speech delays showed significant development in pronouncing the request

sentence after following the verbal imitation program (Bauer & Jones, 2015). In contrast to previous studies, Hodges et al. (2015) research shows that the verbal imitation program carried out in his research did not significantly increase the language production ability of the children who were his research respondents. Hodges et al. (2015) stated that the sample in a less extensive study might make the research results less significant (Hodges et al., 2015). The results of research on verbal imitation that are still inconsistent show the effectiveness of verbal imitation programs to increase language production and the phenomena in Early Childhood X.

It makes researchers interested in sharpening the answer to whether Verbal Imitation can be used to increase language production in children aged 4-6 years who experience speech delay at Early Childhood "X" Bandung.

METHOD

Research design

The research design used in this study was a one-group pretest-posttest design. Mark and Gamble (2009) define a one-group pretest-posttest design as a study in which the outcome variables of the participants are measured before and after treatment (Mertens, 2010).

The pretest and post-test conditions are conditions before being given a verbal imitation program and after being given a verbal imitation program. The results of the two measurements are compared to conclude the effect of giving verbal imitation to children aged 4-6 years who experience speech delay. This research design can be described in the research design chart.

Participants

The subjects to be studied are children who experience speech delays. The criteria that must be met are (1) Children attending Early Childhood "X" K1 or Pre-K levels; (2) Experiencing speech delay (At least having a language production result equivalent to a child aged three years or older. Measured by looking at the highest age at which the child can meet all the demands of milestones); (3) The child does not have physical problems (for example, hearing or speech problems) and has been declared healthy through a doctor's examination.

Data Analysis

The results of this study were analyzed quantitatively. The data processed were the language production test scores and the ABA technique evaluation scores in each session by comparing the post-test results. The language production scores before and after the program, which were in the form of interval data, were then compared using the Wilcoxon nonparametric difference test.

The researcher will also calculate the evaluation results of the therapy practitioner as data that explains the therapist's role. In this study, the researcher himself may support the explanation of the condition of language production and the level of mastery of the verbal imitation program.

RESULTS AND DISCUSSION

The research results are hypothesis testing through statistical tests and a discussion of whether verbal imitation can be used to improve language production in children aged 4-6 years who experience speech delay in Early Childhood "X" Bandung. Researchers have taken pretest data, carried out the program for ten sessions or ten meetings, and took data for post-test to 8 respondents, namely children aged 4-6 years who experienced speech delay at Early Childhood "X" Bandung.

Total respondents in this study amounted to 8 people. The data show that several 25% respondents are female, and 75% are male. A total of 62.5% of respondents fall into the category of age range 4-5 years, and several 37.5% of respondents fall into the age range 5-6 years. Regarding education, 37.5% of respondents are still at the Pre-K level, while 62.5% are at the K1 level of education. The data can be drawn to conclude that the comparison of the number of respondents for each category is not always balanced. It is because several prospective respondents do not meet the sample's characteristics, so in the end, the prospective respondents are canceled as research respondents.

Statistical Test Results

Table 1. Language Production Difference Test Results (Significance)

Z value	Different Test Results	Alpha coefficient ()	Conclusion
-2.366	0.018	0.05	H0 rejected

The results of Wilcoxon's nonparametric statistical test in Table 1. show the acquisition of a significant value between conditions before and after being given a verbal imitation program of 0.018. The significance value is smaller than the alpha coefficient, 0.05. Conclusion H0 is rejected, and H1 is accepted. It means a significant difference in language production before giving the verbal imitation program and after giving it to children aged 4-6 years at Early Childhood "X" Bandung who experienced speech delay.

Table 2. Language Production Measurement Results

Information	Total (N)	Percentage	Mean Rank
Decrease	0	0%	0.00
Increase	7	87.5%	28.00
Permanent	1	12.5%	

Decrease $\rightarrow$ LP2 < LP 1

Increase $\rightarrow$ LP2 > LP1

Permanent $\rightarrow$ LP2 = LP1

Table 2 contains the results of statistical calculations using the Wilcoxon test, where the average language production after participating in the verbal imitation program (See Table 2, referred to as LP2). It compared with the average language production score before participating in the verbal imitation program (See Table 2, referred to as LP1). The data listed in Table 2, the calculation results show that there is not a single negative rank, namely respondents who show a decrease in language production after participating in the verbal imitation program compared to language production after participating in the verbal

imitation program. Seven respondents showed positive ranks, namely experiencing an increase in language production after participating in the verbal imitation program compared to language production before participating in the verbal imitation program. Several respondents can be said to have neither increased nor decreased in language production after or before participating in the verbal imitation program. It can be said that there is a change in language production, namely an increase in language production in children aged 4-6 years who experience speech delay at Early Childhood "X" Bandung, before and after participating in the verbal imitation program.

CONCLUSION

Based on the data processing results regarding before and after participating in the verbal imitation program, it can be concluded that: (1) the verbal imitation program improves language production in children aged 4-6 years who experience speech delay, at Early Childhood "X" Bandung. Gradually children are trained to articulate vowels, consonants, and words correctly so that in the end, children can produce language correctly. (2) Most of the respondents who showed an increase in language production also showed a change in the mastery of verbal imitation material. Based on the observations, these respondents were quite cooperative and willing to follow the researcher's instructions.

REFERENCES

- Bauer, S. M., & Jones, E. A. (2015). Requesting and Verbal Imitation Intervention for Infants with Down syndrome: Generalization, Intelligibility, and Problem Solving. *Journal of Developmental and Physical Disabilities*, 27(1), 37–66. doi: 10.1007/s10882-014-9400-6 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Brownlie, E. B., Bao, L., & Beitchman, J. (2015). Childhood Language Disorder and Social Anxiety in Early Adulthood. *Journal of Abnormal Child Psychology*, 44(6), 1061–1070. doi: 10.1007/s10802-015-0097-5 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Dahlia, Jenni K. dr, S. (2017). *IDAI - Dampak Jangka Panjang Keterlambatan atau Gangguan Bicara-Bahasa, Hal yang perlu diketahui orangtua*. [Google Search] [Google Scholar] [Google Books]
- Damico, J. S., Muller, N., & Ball, M. J. (2010). *The Handbook of Language and Speech Disorders*. West Sussex, United Kingdom: Willey Blackwell. [Google Search] [Google Scholar] [Google Books]
- Garcia, D., Bagner, D. M., Pruden, S. M., & Lopez, K. N. (2014). *Language*. [Google Search] [Google Scholar] [Google Books]
- Harley, T. A. (2013). The Psychology of Language. *The Psychology of Language*. doi: 10.4324/9781315859019 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Hawa, V. V., & Spanoudis, G. (2014). Toddlers with delayed expressive language: An overview of the characteristics, risk factors and language outcomes. *Research in Developmental Disabilities*, 35(2), 400–407. doi: 10.1016/j.ridd.2013.10.027 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Hodges, R., Munro, N., Baker, E., McGREGOR, K., Docking, K., & Arciuli, J. (2016). The role of elicited verbal imitation in toddlers' word learning. *Journal of Child Language*, 43(2), 457–471. doi: 10.1017/s0305000915000240 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Kennison, S. M. (2014). Introduction to Language Development. In *Introduction to Language Development*. SAGE Publications, Inc. doi: 10.4135/9781506374499 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Khoiriyah, Ahmad, A., & Fitriani, D. (2016). Model Pengembangan Kecakapan Berbahasa Anak yang Terlambat Berbicara (Speech Delay). *Jurnal Ilmiah Mahasiswa Pendidikan Anak Usia Dini*, (39870423), 946–952. <https://doi.org/10.13989/j.cnki.0517-6611.2015.10.011>. [Google Search] [Google Scholar] [Google Books]
- Kusanna, L. (2014, July 4). *Saat si Kecil Terlambat Bicara*. Kompas. Retrieved from <https://lifestyle.kompas.com/read/2014/07/04/171734623/Saat.Si.Kecil.Terlambat.Bicara>. [Google Search] [Google Scholar] [Google Books]
- Mertens, D. M. (2010). *Research and Evaluation in Education and Psychology : Integrating Diversity with Quantitative, Qualitative and Mixed Methods (3rd ed.)*. Los Angeles: Sage , Publications. [Google Search] [Google Scholar] [Google Books]

- Mok, P., Pickles, A., Durkin, K., & Conti-Ramsden, G. (2014). Longitudinal trajectories of peer relations in children with specific language impairment. *Journal of Child Psychology and Psychiatry*, 55(5), 516–527. doi: 10.1111/jcpp.12190 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Moreno, M. A. (2015). Speech and Language Delays in Young Children. *JAMA Pediatrics*, 169(8), 796. doi: 10.1001/jamapediatrics.2014.2146 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Over, H., & Gattis, M. (2010). Verbal imitation is based on intention understanding. *Cognitive Development*, 25(1), 46–55. doi: 10.1016/j.cogdev.2009.06.004 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Owens Jr, R. E. (2012). *Language Development : An Introduction*. Lloydia Cincinnati (Vol. In Press,). New Jersey: Inc, Pearson Education. [Google Search] [Google Scholar] [Google Books]
- Pickering, M. J., & Garrod, S. (2013). An integrated theory of language production and comprehension. *Behavioral and Brain Sciences*, 36(4), 329–347. doi: 10.1017/s0140525x12001495 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Pradini, S. (n.d.). *Penyusunan Alat Ukur Kemampuan Bahasa Pada Anak Usia Prasekolah*. Universitas Padjajaran. [Google Search] [Google Scholar] [Google Books]
- Producton in Children with and at Risk for Delay : Mediating Role of Parenting Skills. *Journal of Child and Adolescence Psychology*. [Google Search] [Google Scholar] [Google Books]
- Quick Statistics About Voice, Speech, Language. (2016). Retrieved from <http://www.idai.or.id/artikel/klinik/keluhan-anak/keterlambatan-bicara>. [Google Search] [Google Scholar] [Google Books]
- Santrock, J. W. (2011). Child Development 13th Edition. *Animal Genetics* (Vol. 39). [Google Search] [Google Scholar] [Google Books]
- Sarafino, E. P. (2012). *Applied Behavior Analysis*. United States of America: Courier Westford. [Google Search] [Google Scholar] [Google Books]
- Smith, T., & Eikeseth, S. (2010). O. Ivar Lovaas: Pioneer of Applied Behavior Analysis and Intervention for Children with Autism. *Journal of Autism and Developmental Disorders*, 41(3), 375–378. doi: 10.1007/s10803-010-1162-0 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Soebadi, A. (2013). Keterlambatan Bicara. Idai. Retrieved from <http://www.idai.or.id/artikel/klinik/keluhan-anak/keterlambatan-bicara>. [Google Search] [Google Scholar] [Google Books]
- Summary for Policymakers. (2012). *Climate Change 2013 - The Physical Science Basis*, 1, 1–30. doi: 10.1017/cbo9781107415324.004 [Google Search] [Google Scholar] [Google Books] [Publisher website]
- Woolles, N., Swann, J., & Hoskison, E. (2017). Speech and language delay in children: a case to learn from. *British Journal of General Practice*, 68(666), 47–48. doi:

10.3399/bjgp17x694373 [\[Google Search\]](#) [\[Google Scholar\]](#) [\[Google Books\]](#) [\[Publisher website\]](#)

Yoder, P. J., Woynaroski, T., Fey, M. E., Warren, S. F., & Gardner E. (2015). Why Dose Frequency Affects Spoken Vocabulary in Preschoolers With Down Syndrome. *American Journal on Intellectual and Developmental Disabilities*, 120(4), 302–314. doi: 10.1352/1944-7558-120.4.302 [\[Google Search\]](#) [\[Google Scholar\]](#) [\[Google Books\]](#) [\[Publisher website\]](#)