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Assessment of Grammar Knowledge of Preschool Children Using TROG Test: A Preliminary Research

Extended summary

Speech develops naturally in children. Most children master the basic structures of the mother tongue by the age of four, and achieve the level of cognitive and social development which is necessary for language acquisition. Significant knowledge about the acquisition of morphological and grammatical abilities, as well as other aspects of language development in the Serbianspeaking area, has been established in the research conducted over the past decades. There are conflicting opinions about what slows down the acquisition of language, including grammatical knowledge in some children. In order to adequately assess the acquisition of grammatical knowledge in children, it is necessary to apply appropriate measuring instruments in the assessment process. The research goal was to identify the characteristics of grammar comprehension abilities in preschool children and to investigate whether certain factors impact the level of acquisition of gram¬mar knowledge among these children. The research was conducted on a sample of 102 children (56 boys and 46 girls), age 4-6. For the purpose of this research, the children were grouped in four groups, with a five-month age interval among them. The Test for the Reception of Grammar (TROG) was used for assessing the acquisition of grammar knowledge.

The research results indicate that there are statistically significant differences in the level of acquisition of grammatical abilities relative to children's age (F (3.98)=5.48; p=0.002; η 2=0.14). By analysing the obtained data, we identified statistically significant differences in the achieve-

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ment on applied tasks between the youngest group of children and other groups, where older children had higher scores (p<0.05). The results show that an intense "jump" in the acquisition of grammatical abilities occurs in the age period between four and four and a half years. On the other hand, no statistically significant differences were identified be¬tween boys and girls in terms of achievement (t (100)=-0.968; p=0.335; d=0.22). Contrary to our expectations, no statistically significant differences were observed in the summary score on TROG test relative to mothers' level of education. The research results show that statistically significant dif¬ferences are present only in the level of achievement of the children whose mothers have high school or college education, to the advantage of mothers with college education (p=0.009). More signifi¬cant results were obtained in the same variable, where fathers' education is viewed as an impact (F (3.98)=2.90, p=0.039, η 2=0.081).

The influence of parents with complementary behavioral styles on children's development can be especially significant at a younger age in the acquisition of cognitive, language and social abilities, which are the foundation of the later development. The acquisition of complex grammatical constructions takes place intensively during the preschool period. Successful communication in this context requires the ability to produce different types of sentences. Assessment procedures that include play activities and interaction, allowing the child to manipulate stimuli during interaction with an adult, are a good tool for assessment in preschool children. Early detection of grammar skills deficits is very important. If children have deficits in understanding and producing different types of sentences, it is necessary to focus on the encouragement on the acquisition of these abilities already in preschool age. Properly structured tasks will provide children with an opportunity to get acquainted with the activities before they respond to the task. Explicit instructions will help children to focus on specific aspects of the task. When choosing appropriate terms in the grammar skills program, it is important to respect the principles of concreteness and frequency. This will prevent problems in the school which can affect the overall personality and behavior of the child.

Keywords: language abilities, grammar knowledge, preschool age, TROG.

References

- Adani, F. (2010). Rethinking the acquisition of relative clauses in Italian: towards a grammatically based account. *Journal of Child Language*, 38, 141–165. DOI: 10.1017/S0305000909990250
- Anđelković, D., Krstić, N., Savić, M., Tošković, O. i Buđevac, N. (2007). Dijagnostička procena razumevanja gramatike kod dece: Adaptacija TROGA za srpski jezik. *Psihologija*, 40 (1), 111-132. DOI: 10.2298/PSI0701111A
- Anderson, R. T. (1996). Assessing the grammar of Spanish-speaking children: A comparison of two procedures. *Language, Speech, and Hearing Services in Schools*, 27 (4), 333–344. DOI: 10.1044/0161-1461.2704.333
- Arndt, K. B. & Schuele, C. M. (2013). Multiclausal Utterances Aren t Just for Big Kids. Topics in Language Disorders, 33 (2), 125-139. DOI:10.1097/tld.0b013e31828f9ee8

- Balija, M., Hržica, G. & Kuvač Kraljević, J. (2012) Odnosne rečenice bez pomaka i traga: proizvodnja odnosnih rečenica kod djece s posebnim jezičnim teškoćama. *Suvremena lingvistika*, 38 (74), 139-154.
- Bates, E. & Dick, F. (2002). Language, gesture and the developing brain. *Developmental Psychobiology*, 40 (3), 293–310. DOI: 10.1002/dev.10034
- Bates, E. & Goodman, J. C. (1999). On the emergence of grammar from the lexicon. In: MacWhinney, B. (Ed.). *The emergence of language* (29–80). Mahwah, NJ: Lawrence Erlbaum.
- Bates, E. & MacWhinney, B. (1987) Competition, variation and language learning. In: MacWhinney, B. & Bates, E. (Eds.). *Mechanisms of language acquisition* (157–194). Mahwah, NJ: Lawrence Erlbaum.
- Bates, E. (1976). Language and context: The acquisition of pragmatics. New York: Academic Press.
- Benavides-Varela, S. & Gervain, J. (2017). Learning word order at birth: A NIRS study. *Developmental Cognitive Neuroscience*, 25, 198–208. DOI: 10.1016/j.dcn.2017.03.003
- Bishop, D. V. M., Kuvač Kraljević, J., Hržica, G., Kovačević, M. & Kologranić Belić, L. (2014). *TROG Test razumijevanja gramatike (TROG-2:HR)*. Jastrebarsko: Naklada Slap.
- Bishop, D. V. M., Adams, C. V. & Norbury, C. F. (2006). Deisting genetic influences on grammar and phonological short-term memory deficite evidence from 6-year-old twins. *Genes, Brain and Behavior*, 5, 158-169. DOI: 10.1111/j.1601-183X.2005.00148.x
- Bishop, D. V. M. (1997). Uncommon Understanding: Development and Disorders of Language Comprehension in Children. Hove: Psychology Press.
- Bishop, D. (1989). *Test for Reception of Grammar (TROG)*. Second edition. Manchester: Department of Psychology, University of Manchester.
- Bornstein, M. H., Haynes, M. O. & Painter, K. M. (1998). Sources of child vocabulary competence: A multivariate model. *Journal of Child Language*, 25, 367–393. DOI: 10.1017/S0305000998003456
- Brinchmann, E. I., Braeken, J. & Halaas Lyster, S. A. (2018). Is there a direct relation between the devolopment of vocabulary and grammar? *Development and Science*, 22, 1-13. DOI: 10.1111/desc.12709
- Bronfenbrenner, U. (1979). Contexts of child rearing. *American Psychologist*, 34, 844-858. DOI: 10.1037/0003-066X.34.10.844
- Brown, R. (1973). A first language: the early stages. Cambridge, Mass: Harvard University Press.
- Bruner, J. (1981). The social context of language acquisition. *Language and Communication*, 1, 155–178. DOI: 10.1016/0271-5309(81)90010-0
- Cadime, I., Silva, C., Riberio, I. & Leopoldin, V. F. (2018). Early lexical development: Do day care attendance and maternal education matter? *First Language*, 38 (5), 1-17. DOI: 10.1177%2F0142723718778916
- Chomsky, N. (2006). Language and mind. Cambridge: Cambridge University Press.

- Diesel, H. & Tomasello, M. (2001). The acquisition of finite complement clauses in English: A usage based approach to the development of grammatical constructions. *Cognitive Linguistics*, 12, 97–141. DOI: 10.1515/cogl.12.2.97
- Eisenberg, S. L. (2013). Grammar intervention: Content and procedures for facilitating children's language development. *Topics in Language Disorders*, 33 (2), 165-178. DOI: 10.1097/TLD.0b013e31828ef28e
- Eriksson, M., Marschik, P., Tulviste, T., Almgren, M., Dereria, M. P., Wehberg, S., Marjanović-Umek, LJ., Gryraud, F., Kovačević, M. & Gallegro, C. (2012). Differences between girls and boys in emerging language skills: Evidence from language communities. *Britsh Journal of Developmental Psychology*, 30, 326–343. DOI: 10.1111/j.2044-835X.2011.02042.x
- Fish, M. & Pinkerman, B. (2003). Language skills in low-SES rural Appalachian children: Normative development and individual differences, infancy to preschool. *Journal of Applied Developmental Psychology*, 23, 539-565. DOI: 10.1016/S0193-3973(02)00141-7
- Friedmann, N. & Novogrodsky, R. (2004). The acquisition of relative clause comprehension in Hebrew: A study of SLI and normal development. *Journal of Child Language*, 31 (3), 661-681. DOI: 10.1017/s0305000904006269
- Frizelle, P. & Fletcher, P. (2014). Relative clause constructions in children with specific language impairment. *International Journal of Language & Communication Disorders*, 49 (2), 255–264. DOI: 10.1111/1460-6984.12070
- Golubović, S. (2016). *Razvojni jezički poremećaji*. Treće, izmenjeno i dopunjeno izdanje. Beograd: Društvo defektologa Srbije, Tonplus.
- Golubović, S. (2016b). *Fonološki poremećaji*. Treće, izmenjeno i dopunjeno izdanje. Beograd: Društvo defektologa Srbije, Tonplus.
- Hammer, C. S. & Weiss, A. L. (1999). Guiding language development: How African American mothers and their infants structure play interactions. *Journal of Speech, Language, and Hearing Research*, 42, 1219–1233. DOI: 10.1044/jslhr.4205.1219
- Hamburger, H. & Crain, S. (1982). Relative acquisition. In: Kuczaj, S. (Ed.). *Language development, vol. 1: syntax and semantics* (245–274). Hillsdale, NJ: Erlbaum.
- Hakansson, G. & Hansson, K. (2000). Comprehension and production of relative clauses: A comparison between Swedish impaired and unimpaired children. *Journal of Child Language*, 27, 313–333. DOI: 10.1017/S0305000900004128
- Hart, B. & Risley, T. (1995). *Meaningful differences in the everyday experience of young American children*. Baltimore: Brookes.
- Hoff, E., Quinn, J. M. & Giguere, D. (2017). What explain the correlation between growth in vocabulary and grammar? New evidence from latent change score analyses from simultaneous bilingual development. *Developmental Science*, 21 (2). Retrieved July 28, 2019. from: www.europepmc.org/article/PMC/5568516
- Hoff, E. (2009). Language Development at an Early Ages Learning Mechanisms and Outcomes from Birth to Five Years. *Language Development and Literacy*. Retrieved June 12, 2019. from: www.child-encyclopedia.com

- Hoff, E. (2003). The specificity of environmental influence: Socioeconomic status affects early vocabulary development via maternal speech. *Child Development*, 74, 1368-1378. DOI: 10.1111/1467-8624.00612
- Hoff-Ginsburg, E. (1998). The relation of birth order and socioeconomic status to children's language experience and language development. *Applied Psycholinguistics*, 19, 603–629. DOI: 10.1017/S0142716400010389
- Hržica, G., Knežević, D. & Roch, M. (2017). The role of socioeconomic status in the narrative abilities of preschool children acquiring Croatian. In: 9th International Conference of the Faculty of Education and Rehabilitation Sciences of the University of Zagreb (17–19. May). University of Zagreb: Faculty of Education and Rehabilitation Sciences. Retrieved July 16, 2019. from: www.bib.irb.hr/881998?rad=881998
- Hyde, J. S. & Linn, M. C. (1988). Gender differences in verbal ability: a metaanalysis. *Psychological Bulletin*, 104 (1), 53-69.
- Jocić, M. (2006). Jezik, komunikacija, razvoj. Novi Sad: Dnevnik.
- Jocić, M. (1980/1981). Jedan aspekt usvajanja padežnog sistema na ranom uzrastu: padeži za obeležavanje prostornih odnosa. *Godišnjak SDPLJ*, 4–5.
- Kidd, E. & Bavin, E. L. (2002). English-Speaking Children's Comprehension of Relative Clauses: Evidence for General-Cognitive and Language-Specific Constraints on Development. *Journal of Psycholinguistic Research*, 31, 599-617. DOI: 10.1023%2FA%3A1021265021141
- Klima, E. & Bellugi, U. (1966). Syntactic regularities in the speech of children. In: Lyons, J. & Wales, R. J. (Eds.). *Psycholinguistics papers* (183–208). Edinburgh: Edinburgh University.
- Koenigsknecht, A. R. & Friedman, F. (1976). Syntax Development in Boys and Girls. *Child Development*, 47 (4), 1109-1115.
- Lee, L. L. (1966). Developmental sentence types: A method for comparing normal and deviant syntactic development. *Journal of speech and hearing disorders*, XXXI (4), 311–329. DOI: 10.1044/jshd.3104.311
- Lemetyinen, H. (2012). Language acquisition. *Simply Psychology*. Retrieved July 13, 2019. from: www.simplypsychology.org/language.html
- Levy, J. & Heller, W. (1992). Gender differences in human neuropsychological function. In: Gerall, A. A., Moltz, H. & Ingeborg, L. W. (Eds.). *Sexual differentiation* (245–274). Springer, Boston, MA.
- Locke, J. L. (2001). First communion: The emergence of vocal relationships. *Social Development*, 10, 294–308. DOI: 10.1111/1467-9507.00167
- Lorenc, C., Berendes, K. & Weinert, S. (2017). Measuring receptive grammar in kindergarten and elementary school children in the German national educational panel study. *Neps Survey Paper*, 24, 1–19. Retrieved December 10, 2019. from: www.neps-data.de/Portals/0/Survey%20 Papers/SP_XXIV.pdf
- Miller, W. & Ervin, S. (1964). The Development of Grammar in Child Language. *Monographs of the Society for Research in Child Development*, 29 (1), 9–34.

- Monteiro-Luperi, T. I. & Befi-Lopes, D. M. (2014). Performance of preschool children with normal language development in past tense task. *CoDAS*, 26 (1), 46–52. DOI: 10.1590/s2317-17822014000100007
- Nikolić, M. M. & Milenković, S. M. (2019). Predlog programa za podsticanje razvoja predveština čitanja u predškolskoj ustanovi. *Inovacije u nastavi*, XXXII (1), 125–138. DOI: 10.5937/inovacije1901125N
- Nikolopoulos, T. P., Dyar, D., Archbold, S. & O'Donoghue, G. D. M. (2004). Development of spoken language grammar following cochlear implantation in prelingually deaf children. *Archives of Otolaryngology-Head and Neck Surgery*, 130, 629–633. DOI: 10.1017/S0142716412000562
- Ninio, A. (2006). *Language and the learning curve: a new theory of syntactic development*. Oxford: Oxford University Press.
- Ninio, A. (1999). Pathbreaking verbs in syntactic development and the question of prototypical transitivity. *Journal of child language*, 26 (3), 619–653. DOI:10.1017/S0305000999003931
- Nippold, M. A., Hesketh, L. J., Duthie, J. K. & Mansfield, T. C. (2005). Conversational versus expository discourse: a study of syntactic development in children, adolescents, and adults. *Journal of Speech, Language and Hearing Research*, 48, 1048–1064. DOI: 10.1044/1092-4388(2005/073)
- Radić-Tatar, I. (2013). Ovladanost vrstama rečenica na kraju predškolske dobi. *LAHOR*, 16, 165–188.
- Roeper, T. (2011). The acquisition of recursion: How formalism articulates the child's path. *Biolinguisties*, 5 (1-2), 57-86.
- Savić, S. (1975). Aspects of adult-child communication: the problem of question acquisition. *Journal of child language*, 2 (2), 251–260. DOI: 10.1017/S0305000900001070
- Savić, S. & Mikeš, M. (1974). Noun phrase expansion in child language. *Journal of Child Language*, 1 (1), 107–110. DOI: 10.1017/S030500090000012X
- Savić, S. (1972). Usvajanje lične zamenice prvog lica jednine u decjem govoru. *Psihologija*, 5 (1-2), 59-67.
- Silva, C., Cardime, I., Ribeiro, I., Santos, S., Lucia, A. L. & Viana, F. L. (2017). Parents reports of lexical and grammatical aspects of toddlers language in European Portuguese: Developmental trends age and gender differences. *First Language*, 37 (3), 267–284. DOI: 10.1177/0142723716689274
- Stanojčić, Ž. & Popović, LJ. (1992). *Gramatika srpskog jezika*. Beograd: Zavod za udžbenike i nastavna sredstva.
- Stevanović, M. (1981). Savremeni srpskohrvatski jezik 1. Beograd: Naučna knjiga.
- Tomasello, M. (1992). The social bases of language acquisition. *Social Development*, 1, 67-87. DOI: 10.1111/j.1467-9507.1992.tb00135.x
- Tse, S. K., Chan, C., Li, H. & Kwong, S. M. (2002). Sex differences in syntactic development: Evidence from Cantonese-speaking preschoolers in Hong Kong. *International Journal of Behavioral Development*, 26 (6), 509–517. DOI: 10.1080/01650250143000463
- Vasić, S. (1980). Veština govorenja. BIGZ: Beograd.