

Beogradska defektološka škola –
Belgrade School of Special Education
and Rehabilitation
Vol. 26, No. 3 (2020), str. 21-37

UDK 159.923.2.075-056.263-053.5(669.199)
37.091.4MOHTECOPH
Originalni naučni rad – Empirical studies
Primljen – Received: 16.11.2020.
Prihvaćen – Accepted: 21.12.2020.

Impact of Montessori Didactic Method and Direct Instruction Method on Self-esteem of Pupils with Hearing Impairment in Lagos State

Olaotan Oladele KUKU^{1,*}, & Samuel Olufemi ADENIYI²

¹Federal College of Education (Technical), Akoka-Yaba, Lagos State, Nigeria

²University of Lagos, Akoka, Lagos State, Nigeria

This study investigated the impact of Montessori didactic method and direct instruction method on the self-esteem of pupils with hearing impairment in Lagos State, Nigeria. The employed pre- and post-tests quasi-experimental research design. A total of 29 pupils with hearing impairment were purposively selected and participated in the study with 9, 10, 10 participants in treatment and control groups through non-bias randomisation. Index of Self-Esteem (ISE) developed by Hudson (1982) was adapted and revalidated with the reliability of 0.77 and 0.76, respectively using concurrent validity and test-retest reliability. The treatment lasted nine weeks. The study revealed that self-esteem significantly differs among pupils with hearing impairment across the experimental groups. The Montessori didactic group had a higher mean score than the direct instruction method, but both were better when compared to the control group. In addition, the experimental group did not significantly differ due to gender. It was recommended that teachers of pupils with hearing impairment should use both Montessori Didactic and Direct Instructions to reduce children's social and emotional impairment and increase their social functioning.

Key words: Montessori didactic instruction, direct Instruction, hearing impairment, self-esteem

Introduction

Individual feeling towards self could affect his/her relationship with the environment. Such a feeling is referred to as self-esteem. Self-esteem is positive or negative attitudes towards individuals themselves or the degree of self-perception that indicates that individuals feel competent, safe and important (Açak & Kaya, 2016). The opinion of self and values ascribed to oneself represents foundational aspects of quality of life such as friendships, successes, academic careers, emotions and behaviours (Sahli & Belgin, 2006; Theunissen et al., 2014). However, lower levels of self-esteem are associated with loneliness, peer rejection, aggression, delinquency, and psychopathology (Orth et al., 2008; Theunissen et al., 2014). A child that has a hearing impairment or deafness faces difficulties in these aspects of life (Warner-Czyz et al., 2015).

Regardless of a degree, hearing impairment causes a reduced audibility performance in information gathering (Adegbiyi et al., 2018). Its occurrence may be uni and/or bilateral. Hearing impairment creates difficulty in perceiving speech and sound as well as learning ability to imitate spoken language according to a level of hearing impairment which can be mild (26-40 decibels hearing level [dB HL]), moderate (41-60 dB HL), severe (61-80 dB HL) and profound (81 dB HL or higher) (Banda et al., 2018). World Health Organisation (2018) reported that hearing loss is the fourth highest cause of disability with 466 million people with disabling hearing loss globally and the prospects of 630 million and 900 million people living with disabling hearing loss by the year 2030 and 2050, respectively. The organisation reported South Asian, Asia Pacific and Sub-Saharan African regions as the leading regions affected by disabling hearing loss. Besides, Nigeria was noted to have rising cases of hearing loss from 6.5 million in 2008 to 8.5 million in 2018. Odeh et al. (2017) presented that 13.9% of school-age children have a varying degree of hearing impairment. Such a trend represents a risk to the total well-being and future productivities of these children.

Hearing impairment affects individuals' lifestyles. Besides, in children, hearing impairment has both developmental and economic impacts. It causes significant delays in language development and academic achievement. According to Olusanya et al. (2014), hearing impairment has a disturbing influence on interpersonal communication, psychosocial well-being, quality of life and economic independence. Jaiyeola and Adeyemo (2018) and Oyewumi et al. (2013) noted that hearing loss posed a serious

challenge on the quality life of individuals with hearing impairment. Ologe et al. (2006) observed that hearing loss was considerably underrated and given little treatment, while Jayeola and Adeyemo (2018) noticed that it could alter students' progress in school and limit their ability to obtain and keep employment. This would pose a major challenge to the education of children with hearing impairment. In the school system, a Deaf and Hard of Hearing (DHH) child could be trained in an inclusive or exclusive school system (Jayeola & Adeyemo, 2018). The later will be the focus of this study due to the credence given by Osakwe (2010) that schools can use special techniques and diversified instructional methods to improve some psychological constraints of students or pupils with hearing impairment.

Although studies revealed that children with hearing impairment could experience a delay in reaching their full potentials due to insufficient stimulation and training in communication, hearing impairment does not affect the intelligence in children (Gudyanga et al., 2014). Mtuli (2015) observed that the vulnerability of learners with hearing impairment included social maladjustment, psychological problems, emotional disturbances, self-concept and low self-esteem, which can distort the personality and consequently make interpersonal relationships difficult. Because of this, researchers have advocated for methodologies that will address learners' differences and needs. Early educational intervention for disadvantaged individuals is key to promoting holistic societal development. For children with hearing impairment, intervention(s) that will bring about total integration in all aspects of life, especially the one that will bring improved academic and social development across intellectual differences, gender and economic disparities will support their psychological development.

Ideally, a programme of social and academic interventions should involve systematically planned and monitored teaching procedures, adapted equipment and materials, accessible settings, and other interventions. Generally, these interventions are designed to help learners with hearing impairment to achieve a higher level of personal self-sufficiency and success in school and community than would be available if the students were only given access to typical classroom education (Heward, 2006). Hence, the effectiveness of Montessori didactic and direct instructional methods have to be explored to determine whether they could positively impact the social integration of students with hearing impairment. So far, the approaches have been confirmed as effective in improving the social and academic achievement of students without hearing impairment in developed countries, such as Europe and America.

The Montessori instructional method was developed by Maria Montessori over 100 years ago to improve the active participation of students in academic and social constructs. Unique to Montessori Method of education is the dynamic triad of child, teacher and environment (Marshall, 2017). In this approach, teachers' roles are to guide the child through a prepared environment that is designed to support the child's intellectual, physical, emotional and social development through active exploration, choice and independent learning (Marshall, 2017; Randolph et al., 2014). Montessori learning strategy, learning materials are developed in an interactive way to support children's learning of sensorial concepts such as dimension, colour, shape and texture and social interaction of students because students have to interact with a learning environment and group of students involve in the learning environment. By so doing, social isolation that could have hitherto developed because of the perception and reaction of people around them could be improved. This aspect of learning by manipulation and engagement encourages exploration that motivates ability to think, reason, socialise and to be self-directional, later in life.

Studies have revealed the strengths and weaknesses of Montessori didactic instruction during the last 100 years. For instance, Lillard and Else-Quest (2016) evaluated Montessori education by comparing children of Montessori and non-Montessori education from different age groups on a range of cognitive, academic, social and behavioural measures. The result demonstrated a significant difference between Montessori and non-Montessori group in which the efficacies of the former method were detected in the areas of mathematics skills, phonological decoding ability and social skills. The improvement in the social skill of students is an indication that the psychological constructs have improved. Therefore, it could be assumed that engaging students in Montessori activities at the elementary level could improve their self-esteem.

Furthermore, the gender implication of Montessori didactic method has not been explored widely as only a few studies have acknowledged this variable. Nevertheless, studies by Dhiksha and Shiakumara (2017) on the effect of Montessori and traditional methods of education on emotional intelligence of children reported that Montessori female children have high self-regard and empathy toward others than male children. The result, however, is not generalizable and does not directly reflect cognitive benefits in male and female participants. This finding is a welcome development as both male and female students with hearing impairment can enjoy an

improvement in their social constructs having been exposed to Montessori instructional method for a certain period.

On the other hand, the Direct Instruction method is a strategy typically focusing on accomplishing instructional targets by providing training of skills that are related closely to the targets. In Directs Instruction, lessons are well planned, systematic and organized around small learning increments and clearly defined and prescribed teaching task (National Institute for Direct Instruction, 2007). The most gain of this pedagogy is that it provides means of efficiently communicating a large amount of information within a short period to students (Cohen, 2008). This strategy was developed by Engelmann, Bereiter and Becker in late 1960s at the University of Illinois and was first administered as direct instruction system for teaching and remediating programmes in the area of reading, language and Mathematics (Magliaro et al., 2005). The Direct instruction strategy is rooted in behavioural theory of what BF Skinner referred to as radical or selectionist behaviourism as it involves behaviour selected by the consequences which follow them (Magliaro et al., 2005). Research evidence showed that Direct Instruction is more effective than other curricular programs as it imparted positively on students of all ability and social backgrounds. In a review of the efficacies on Direct Instruction by National Institute for Direct Instruction, it was found that students exposed to Direct Instruction also have greater self-esteem and self-confidence than students in other programs. Primarily, they were learning more material and understood that they could be successful students (National Institute for Direct Instruction, 2015). In the same way, Lindstay (2014) presented that Direct Instruction improved cognitive skills relative to the control groups and reported improvement in self-esteem scores of experimental groups compared to control groups contrary to the common assumption by many researchers that Direct Instruction did not influence psychological constructs. Direct Instruction has a great prospect in cognitive and psychological constructs of students with several recent research reports of the effectiveness of this instructional strategy on their participants.

Studies have also revealed gender implication as regards the direct instruction method. The study conducted by Oladayo and Oladayo (2012) investigated the effect of direct and indirect instructional strategies on students' achievement in Mathematics. The results revealed that gender implication of the direct instructional strategy with male students responding more positively to direct instruction than their female counterparts.

Obviously, both Montessori and direct instructional strategies have proved to be effective teaching methods on cognitive and psychological constructs of different categories of students who are not hearing impaired in both Nigeria and other countries around the globe. Hence, there is a need to explore their effectiveness in improving the self-esteem of pupils with hearing impairment to help them to develop positive self-esteem because cognitive performance also depends on positive psychological constructs. This study, therefore, examined the impact of Montessori Didactic and Direct Instruction Methods on the self-esteem of pupils with hearing impairment in Lagos state.

Research Hypotheses

The following hypotheses were tested at 0.05 level of significance

1. Self-esteem will not significantly differ among pupils with hearing impairment in inclusive schools taught with the Montessori didactic material, the direct instruction method of teaching and control group.
2. There is no significant difference in the self-esteem of pupils with hearing impairment in inclusive schools taught with Montessori didactic material, direct instruction method and the control group due to gender.

Methodology

Research Design

A quasi-experimental, pre-test/post-test research design was adopted for the study. Consequently, three groups were used for the experiment, which comprised of two treatment groups and one control group.

The study population

All primary schools in Lagos Metropolis in which pupils with hearing impairment were accommodated constituted the population of this study.

Sample and Sampling Technique

The sample size for this study was 29 primary school pupils consisting of 15 male and 14 female. The sample was selected using simple random and purposive sampling techniques. The sampling technique started with using simple random sampling, hat and draw method to select three Local Government Areas in Lagos State Metropolis. Consequently, a purposive sampling technique was used to select a special school in each of the three Local Governments earlier selected. The final stage of the sampling technique involved using simple random sampling technique, hat and draw method to select one intact class of primary two pupils from each of the three schools.

The three schools were randomly assigned to the experimental groups using simple random sampling, hat and draw method. School A was assigned to Montessori Didactic Material Group while School B and C were assigned to Direct Instruction and Control group respectively. The distribution of schools and participants to the respective experimental group is displayed in Table 1.

Table 1

Distribution of pupils across gender, baseline assessment and experimental group

School	Baseline Assessment			Group	Experimental Group		
	Male	Female	Total		Male	Female	Total
School A	5	6	11	Montessori Didactic Material	4	5	9
School B	6	6	12	Direct Instruction	5	5	10
School C	7	5	12	Control Group	6	4	10
Total	18	17	35	Total	15	14	29

Table 1 shows 35 pupils (comprising 18 male and 17 female) were selected across the three schools for baseline assessment. School A had 11 pupils (comprising five male and six female), School B had 12 pupils (comprising six male and six female) while Group C had 12 pupils (comprising seven male and five female). During the baseline assessment, an Index of Self-Esteem test (ISE) was applied. Pupils who scored below 40% in the ISE qualified for the main study. As a result, nine pupils (comprising four male and five female) qualified for School A, which was the group randomly assigned to Montessori Didactic Material. Next, ten pupils (comprising five male and five female) qualified for School B, which was the group randomly assigned to Direct Instruction. Finally, ten pupils (comprising five male and five female) qualified for School C, which was the group randomly assigned to the Control Group.

Instrument

The instrument used to collect relevant data was the ISE developed by Hudson (1982). The ISE has 25 item-statements that measure the degree, severity or magnitude of problem an individual has with self-esteem. It has a 7-point rating scale with a minimum score of 25 and a maximum obtainable score of 100. An individual with a score below 40% is said to have low self-esteem. The ISE has a reliability coefficient of 0.79. The researchers adapted the ISE to fit the environmental dynamics of the area of study. The ISE was adapted in a primary school that was not selected for the main study. Ten copies of the ISE were administered to ten students (comprising five male and five female) to ascertain the concurrent validity, as well as the determining the stability of the instrument using the test-retest method of reliability. The adapted ISE has a reliability coefficient of 0.77 and 0.76 for validity and reliability, respectively.

Administration of Instrument/Data Collection

The field experiment took nine weeks. It was carried out in three phases, which were pretesting, treatment and post-testing phase.

The pretesting phase happened during the first week of the experiment. The researchers visited the selected schools to introduce themselves to the management and teaching staff and present them the purpose of their study. The researchers also familiarized and interacted with the pupils. Thereafter, the pre-test was conducted using the ISE. Pupils who scored below 40% in the pre-test were selected for the main study in the respective groups. In School A, nine pupils (consisting of four male and five female) qualified, while in School B, ten pupils (consisting of five male and five female) qualified for the main study. In School C, ten pupils (consisting of five male and five female) qualified for the main study.

The treatment phase, which took seven weeks, involved teaching and learning based on the assigned methods for the groups. School A method instruction was Montessori Didactic Method, School B and C methods of instruction were Direct Instruction and Control, respectively.

The final stage of administration and data gathering was a post-testing phase that lasted for one week. The phase involved re-administering the ISE to the respective groups. The participants' responses at this phase were gathered for data analysis.

Data Analysis

The data collected during the field research were collated and analysed using descriptive statistics, such as mean, standard deviation and mean differences. In addition, an inferential statistic was used to test the formulated hypotheses at 0.05 level of significance. The Analysis of Covariance (ANCOVA) and Least Square Differences multiple comparison tests were used.

Results Obtained

Hypothesis 1: Self-esteem will not significantly differ among pupils with hearing impairment in inclusive schools taught with the Montessori didactic material, the direct instruction method of teaching and control group.

To test hypothesis 1, descriptive statistics, Analysis of Covariance (ANCOVA) and pairwise comparisons results were presented in Tables 2, 3 and 4, respectively.

Table 2

Descriptive data on the effect of experimental condition on self-esteem

Experimental Group	N	Pre-Test		Post-Test		Mean Difference
		Std.		Std.		
		Mean	Deviation	Mean	Deviation	
Montessori Didactic Material	9	31.56	2.19	49.78	9.52	18.22
Direct Instruction	10	32.40	3.17	48.40	9.80	16.00
Control Group	10	31.90	3.78	39.80	5.51	7.90
Total	29	31.97	3.05	45.86	9.32	13.90

Table 2 shows that the mean self-esteem at pre-test was 31.56, 32.40 and 31.90 for Montessori Didactic Material, Direct Instruction and Control group, respectively. At post-test, the mean self-esteem rose to 49.78 for Montessori didactic material group, 48.40 for direct instruction and 39.80 for the control group. It could be observed that the mean difference of Montessori didactic material with 18.22 and the direct instruction group with 16.00 was above the total mean of 13.90. To determine the level of significance, the Analysis of Covariance (ANCOVA) was used and the result is presented in Table 3.

Table 3

ANCOVA result for experimental condition on self-esteem

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1054.623	3	351.541	6.374	.002
Intercept	1.162	1	1.162	.021	.886
Covariate	484.730	1	484.730	8.789	.007
Group	574.795	2	287.398	5.211	.013
Error	1378.826	25	55.153		
Total	63430.000	29			
Corrected Total	2433.448	28			

Table 3 shows that an F-calculated value of 5.211, with p-value = 0.013, resulted as the effect of the experimental condition on the self-esteem of hearing-impaired students in inclusive schools in Lagos State. The F-calculated value of 5.211 was greater than 4.01 given degree of freedom 2 and 25 at 0.05 level of significance. This led to the null hypothesis being rejected. It was concluded that self-esteem significantly differed among pupils with hearing impairment in inclusive schools taught with the Montessori didactic material, the direct instruction method of teaching and control group. To determine the groups with teaching instruction that differ, a pairwise comparison analysis was conducted and the result is presented in Table 4.

Table 4

A Pairwise comparison for self-esteem on students with hearing impairment

(I) Experimental Group	(J) Experimental Group	Mean Difference (I-J)	Sig. ^b
Montessori Didactic Material	Direct Instruction	2.536	0.467
	Control Group	10.450*	0.005
Direct Instruction	Montessori Didactic Material	-2.536	0.467
	Control Group	7.914*	0.025
Control Group	Montessori Didactic Material	-10.450*	0.005
	Direct Instruction	-7.914*	0.025

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

Table 4 shows that the self-esteem of pupils with hearing impairment in inclusive schools in Lagos State schools taught with Montessori Didactic Material (p = 0.005) and Direct Instruction (p = 0.025) were significantly

better than their control group counterpart. However, the self-esteem of pupils taught with the Montessori Didactic Material was better than the counterpart taught with Direct Instruction.

Hypothesis 2: There is no significant difference in the self-esteem of pupils with hearing impairment in inclusive schools taught with Montessori didactic material, direct instruction method and the control group due to gender.

To test hypothesis 2, descriptive statistics and an Analysis of Covariance (ANCOVA) results are presented in Tables 5 and 6, respectively.

Table 5

Descriptive data on effect of experimental conditions and gender on self-esteem

Experimental Group	Gender	N	Pre-test		Post-test		Mean Difference
			Mean	Std. Deviation	Mean	Std. Deviation	
Montessori Didactic Material	Male	4	32.25	3.20	51.50	10.66	19.25
	Female	5	31.00	1.00	48.40	9.53	17.40
	Total	9	31.56	2.19	49.78	9.52	18.22
Direct Instruction	Male	5	32.40	3.97	53.20	11.12	20.80
	Female	5	32.40	2.61	43.60	5.90	11.20
	Total	10	32.40	3.17	48.40	9.80	16.00
Control Group	Male	6	33.00	4.24	42.50	2.88	9.50
	Female	4	30.25	2.63	35.75	6.40	5.50
	Total	10	31.90	3.78	39.80	5.51	7.90
Total	Male	15	32.60	3.64	48.47	9.41	15.87
	Female	14	31.29	2.20	43.07	8.70	11.79
	Total	29	31.97	3.05	45.86	9.32	13.90

Table 5 shows that at pre-test, the mean self-esteem for male participants were 32.25, 32.40 and 33.00 for Montessori Didactic Material, Direct Instruction and Control group, respectively. The female participants had mean self-esteem of 31.00 for Montessori Didactic Material, 32.40 for Direct Instruction and 30.25 for Control group.

The mean self-esteem at post-test for male participants was 51.50 for Montessori Didactic Material, 53.20 for Direct Instruction and 42.50 for Control Group. The female participants had 48.40, 43.60 and 35.75 for Montessori Didactic Material, Direct Instruction and Control group, respectively.

The mean differences in self-esteem for male participants show that Montessori Didactic Material (19.25) and Direct Instruction method (20.80)

were above the male 15.87. However, the male participants in Montessori Didactic Material had better self-esteem than the Direct Instruction group. Similarly, the mean differences in self-esteem for female participants show that only Montessori Didactic Material (17.40) was above the female 13.90. To ascertain the level of significance the Analysis of Covariance (ANCOVA) was used and the results are presented in Table 6.

Table 6

ANCOVA result for experimental condition and gender on self-esteem

Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1312.897	6	218.816	4.296	.005
Intercept	6.363	1	6.363	.125	.727
Covariate	381.899	1	381.899	7.498	.012
Group	601.579	2	300.790	5.905	.009
Gender	154.535	1	154.535	3.034	.096
Group * Gender	85.549	2	42.774	.840	.445
Error	1120.551	22	50.934		
Total	63430.000	29			
Corrected Total	2433.448	28			

Table 6 shows that an F-calculated value of 0.840, with p-value = 0.445, resulted as the effect of the experimental condition on the self-esteem of hearing-impaired pupils in inclusive schools in Lagos State due to gender. The F-calculated value of 0.840 was less than 4.01 given degree of freedom 2 and 21 at 0.05 level of significance. As a result, the null hypothesis was retained. It was concluded that self-esteem of students does not significantly differ among students with hearing impairment in inclusive schools taught with Montessori didactic material, direct instruction method and the control group due to gender.

Discussion of Findings

This study revealed that self-esteem differed among pupils with hearing impairment across the experimental groups. The Montessori didactic material had the greatest mean impact when compared with the direct instruction method of teaching. However, both methods were effective in teaching children with hearing impairment when compared with the control

group. Pwokah (2016) made a similar observation during the study of the perception of learners on teaching-learning processes and the academic performance of children with hearing impairment in Uasin Gishu County in Kenya. The researcher observed a positive relationship between learners' perception of teachers' use of instructional time as well as materials and academic performance. Besides, Dhiksha and Shivakumara (2017) observed that pupils taught by the Montessori method of instruction showed emotional intelligence superiority than their peers taught with a traditional method of instruction. This was observed during their study of the effect of Montessori and traditional methods of education on emotional intelligence of children in Karnataka, India.

Further, this study revealed that gender was not a significant factor when adopting Montessori Didactic material, Direct instruction and traditional methods of teaching. This might be explained by gender insensitivity when teaching children with hearing impairment. Oyewumi et al. (2013) confirmed this finding during their study of personality factors as correlates of perceived quality of life among adolescents with hearing impairment in Lagos State. The researchers noted that, whether boy or girl, the same feeling exist when related to the quality of life among adolescents with hearing impairment. Besides, Warner-Czyz et al. (2015) observed no gender influence of self-esteem during their study of self-esteem in children and adolescents with hearing loss. However, the finding by Dhiksha and Shivakumara (2017) showed that female children exhibited higher self-regard and empathy than male children when taught emotional intelligence through the Montessori Method of instruction.

Conclusion

This study investigated the impact of Montessori didactic method and direct instruction method on the self-esteem of pupils with hearing impairment in Lagos State. The results revealed that the two instructional strategies were effective on the self-esteem of pupils with hearing impairment exposed to both Montessori and Direction instructional methods compared with the control group. However, Montessori Didactic instruction has a greater mean score. This finding implies that Montessori Didactic was a more effective instructional strategy in improving the self-esteem of pupils with hearing impairment. The study further revealed that gender is not a

significant factor when adopting Montessori Didactic, Direct instruction and Conventional methods of teaching. Nevertheless, the two instructional methods were academically useful in improving both cognitive and psychological constructs of students.

Recommendations

It is recommended that teachers of pupils with hearing impairment should use both Montessori Didactic and Direct Instructions to reduce children's social and emotional impairment and increase their social functioning. More importantly, emphasis should be on the use of Montessori Didactic instruction because of its learners' friendly approach.

References

- Açak, M., & Kaya, O. (2016). A review of self-esteem of the hearing impaired football players. *Universal Journal of Educational Research*, 4(3), 524-530. <https://doi.org/10.13189/ujer.2016.040308>
- Adegbiji, W. A., Olajide, G. T., Olatoke, F., Olajuyin, A. O., Olubi, O., Ali, A., Eletta, P. A., & Aluko, A. A. (2018). Preschool children hearing impairment: Prevalence, diagnosis and management in a developing country. *International Tinnitus Journal*, 22(1), 60-65. <https://doi.org/10.5935/0946-5448.20180010>.
- Banda, F. M., Powis, K. M., Mokoka, A. B., Mmapetla, M., Westmoreland, K. D., David, T., & Steenhoff, A. P. (2018). Hearing impairment among children referred to a public audiology clinic in Gaborone, Botswana. *Global Pediatric Health*, 5(1), 1-8. <https://doi.org/10.1177/2333794X18770>.
- Dhiksha, J., & Shivakumara, K. (2017). The effect of Montessori and traditional methods of education on emotional intelligence of children. *European Journal of Education Studies*, 3(4), 367-382. <https://doi.org/10.5281/zenodo.399050>.
- Gudyanga, E., Wadesango, N., Eliphanos, H., & Gudyanga, A. (2014). Challenges faced by students with hearing impairment in bulawayo urban regular schools. *Mediterranean Journal of Social Sciences*, 5(9), 445-451. <https://doi.org/10.5901/mjss.2014.v5n9p445>.

- Jaiyeola, M. T., & Adeyemo, A. A. (2018). Quality of life of deaf and hard of hearing students in Ibadan metropolis, Nigeria. *PLoS ONE*, 13(1), 1-11. <https://doi.org/10.1371/journal.pone.0190130>
- Lillard, A., & Else-Quest, N. (2016). The early years: Evaluating Montessori education. *Science*, 313(5795), 1893-1894.
- Lindsay, J. (2014). *Direct instruction: Proven success in teaching - A resource for parents and educators*. Retrieved from <https://www.jefflindsay.com/EducData.shtml>
- Marshall, C. (2017). Montessori education: A review of the evidence base. *Science of Learning*, 2(1), 11. <https://doi.org/10.1038/s41539-017-0012-7>.
- Mekonnen, M., Hannu, S., Elina, L., & Matti, K. (2016). The self-concept of deaf/hard-of-hearing and hearing students. *Journal of Deaf Studies and Deaf Education*, 21(4), 345–351. <https://doi.org/10.1093/deafed/enw041>
- Mtuli, T. C. (2015). *Assessing the challenges of teaching and learning of hearing impaired students enrolled in regular primary and secondary schools in Tanzania*. [Master Dissertation, Open University of Tanzania].
- National Institute for Direct Instruction (2007). *What is direct instruction?* Retrieved from <http://www.nifdi.org/>
- National Institute for Direct Instruction (2015). *Reviews of direct instruction*. Retrieved from <https://www.nifdi.org/research/reviews-of-di>
- Odeh, J. E., Onotai, L. O., & Anochie, I. (2017). A critical appraisal of hearing impairment among primary school children in Port Harcourt, Nigeria. *International Journal of Tropical Disease & Health*, 21(4), 1-17. <https://doi.org/10.9734/IJTDH/2017/31019>.
- Ologe, F. E., Akande, T. M., & Olajide, T. G. (2006). Occupational noise exposure and sensorineural hearing loss among workers of a steel rolling mill. *European Archives of Oto-Rhino-Laryngology and Head & Neck*, 263(7), 618-621. <https://doi.org/10.1007/s00405-006-0043-9>.
- Olusanya, B. O., Neumann, K. J., & Saunders, J. E. (2014). The global burden of disabling hearing impairment: a call to action. *Bulletin of the World Health Organization*, 92(5), 367–373. <https://doi.org/10.2471/BLT.13.128728>.
- Omotayo, T. O. (2011). Self-concept and academic performance of hearing impaired students in Ondo state secondary schools. *The Nigerian Journal of Research and Production*, 19(1), 1-11.

- Orth, U., Robins, R. W., & Roberts, B. W. (2008). Low self-esteem prospectively predicts depression in adolescence and young adulthood. *Journal of Personality and Social Psychology*, 95, 695–708.
- Osakwe, R. N. (2010). Education for people with special needs in Nigeria: Challenges and way forward. In M. I. Atinmo, J. B. Babalola, O. A. Moronkola, & A. I. Atanda (Eds.). *Education for Sustainable Development*. Ibadan: University of Ibadan. pp. 33–43.
- Oyewumi, A., Akangbe, T., & Adigun, O. (2013). Personality factors as correlates of perceived quality of life among adolescents with hearing impairment in selected secondary schools in Lagos State, Nigeria. *Journal of Education and Practice*, 4(9), 162–168.
- Pwokah, E. N. (2016). *Perceptions of learners on teaching-learning processes and their academic performance in selected primary schools for the hearing impaired in Uasin Gishu County, Kenya*. [Master Thesis, School of Education, Kenyatta University].
- Randolph, J. J., Rosenstein, D. L. W., & Michaels, S. (2014). *Montessori education for improving academic and behavioural outcomes among elementary students*. The Campbell Collaboration.
- Sahli, S., & Belgin, E. (2006). Comparison of self-esteem level of adolescents with cochlear implant and normal hearing. *International Journal of Pediatric Otorhinolaryngology*, 70(9), 1601–1608.
- Theunissen, S. C. P. M., Netten, A. P., Rieffe, C., Briaire, J. J., Soede, W., Kouwenberg, M., & Frijns, J. H. M. (2014). Self-esteem in hearing-impaired children: The influence of communication, education, and audiological characteristics. *PLoS ONE* 9(4), 1–8. <https://doi.org/10.1371/journal.pone.0094521>
- Warner-Czyz, A. D., Loy, B. A., Evans, C., Wetsel, A., & Tobey, E. A. (2015). Self-esteem in children and adolescents with hearing loss. *Trends in Hearing*, 19, 1–12. <https://doi.org/10.1177/2331216515572615>.
- World Health Organisation (2018). *Hearing loss on the rise*. Retrieved from <http://www.who.int/deafness/world-hearing-day/World-Hearing-Day-Infographic-EN.pdf>

UTICAJ MONTESSORI DIDAKTIČKOG METODA I METODA DIREKTNOG PODUČAVANJA NA SAMOPOŠTOVANJE UČENIKA SA OŠTEĆENJEM SLUHA U DRŽAVI LAGOS

Olaotan Oladele Kuku¹, & Samuel Olufemi Adeniyi²

¹*Federal College of Education (Technical), Akoka-Yaba, Lagos State, Nigeria*

²*University of Lagos, Akoka, Lagos State, Nigeria*

Sažetak

U ovoj studiji ispitivan je uticaj Montessori didaktičkog metoda i metoda direktnog podučavanja na samopoštovanje učenika sa oštećenjem sluha u državi Lagos u Nigeriji. Primijenjen je kvazi ekperimentalni istraživački dizajn sa procenama pre i posle primene ovih metoda. U uzorak je namenski odabrano 29 učenika sa oštećenjem sluha. Oni su zatim nasumično i nepristrasno podeljeni u grupe od devet, 10 i 10 ispitanika u dve eksperimentalne i jednu kontrolnu grupu. Instrument korišćen u ovom istraživanju je Hadsonov Indeks samopoštovanja (ISE) (Hudson, 1982), koji je prilagođen za potrebe ove studije, a njegov koeficijent pouzdanosti i valjanosti u ovom istraživanju je iznosio 0,77 na početnom, odnosno 0,76 na ponovljenom testiranju. Tretman je trajao devet nedelja. Studija je pokazala da se samopoštovanje značajno razlikovalo među učenicima sa oštećenjem sluha u eksperimentalnim grupama. Grupa u kojoj je primenjivan Montessori didaktički metod imala je višu srednju vrednost samopoštovanja od grupe u kojoj je primenjivan metod direktnog podučavanja, ali su obe grupe bile bolje u poređenju sa kontrolnom. Dodatno, u eksperimentalnoj grupi nije bilo značajnih razlika u odnosu na pol. Preporuka je da nastavnici učenika sa oštećenjem sluha koriste i Montessori didaktički metod i metod direktnog podučavanja kako bi smanjili socijalne i emocionalne teškoće kod učenika i povećali nivo njihovog socijalnog funkcionisanja.

Ključne reči: podučavanje Montessori metodom, direktno podučavanje, oštećenje sluha, samopoštovanje