

The Effectiveness of Multisensory Stimulation Therapy in People with Specific Language Disorder

Iskandarsyah Siregar

Head of Center for Nusantara Socioculture Studies, Universitas Nasional, Jakarta, Indonesia
regaranggi@presidency.com

Abstract

People with language disorders are also ordinary people who still want to communicate and be understood by others. Of course, the conditions and shortcomings that they experience become a challenge for themselves and for others who interact with them. The conditions and weaknesses that they experience become a challenge for themselves and others who interact with them. Problems or speech disorders experienced by people with specific language disorders caused by brain damage are obstacles to children's social and personal adjustment. People with particular language disorders caused by brain damage who mispronounce words will feel embarrassed and begin to isolate themselves from other people. This study tries to explain the impact of the learning method based on Multisensory Stimulation therapy and then evaluates the results of the application of Multisensory Stimulation therapy in patients with Transcortical Aphasia. This research uses a crossbreed approach that uses qualitative and quantitative perspectives reciprocally. The type of research used is classroom accomplish research. This study concludes that the learning method based on Multisensory Stimulation therapy has a significant positive impact. However, the development of strategies, tactics, and learning models based on Multisensory Stimulation also needs to be developed, actualized, and coordinated according to the principles of effectiveness and efficiency.

Keywords

multisensory stimulation therapy; language disorder; effectiveness



I. Introduction

Communication is a basic need of living things, especially humans. Whatever the situation, the desire to convey the message will always strive maximum. Problems will arise when dealing with situations that are not ideal, whether from articulators, auditors, or acoustic media. To communicate and interact well, every human being must use good language. Every human being must have a good language and speech function. If the process of regulating language and speech, namely the brain and speech apparatus, is not good or not average. It will also interfere with the production of language and speech (Indriati, 2011, p. 22). Communication is the process of delivering messages by someone to other people to tell, change attitudes, opinions or behavior either directly orally or indirectly through the media. In this communication requires a reciprocal relationship between the delivery of messages and recipients namely communicators and communicants (Hasbullah, et al: 2018).

People with specific language disorders caused by brain damage have the same natural desires as other humans. They are also ordinary people who still want to communicate and be understood by others. Of course, the conditions and shortcomings that they experience become a challenge for themselves and for others who interact with them.

Problems or speech disorders experienced by people with specific language disorders caused by brain damage are obstacles to children's social and personal adjustment. People with particular language disorders caused by brain damage who mispronounce words will feel embarrassed and begin to isolate themselves from other people.

In general, people with speech disorders may find it difficult or shy to communicate with the people around them. As a result, they avoid asking questions, are reluctant to participate in discussions, or avoid sharing with anyone and begin to close themselves off.

This problem requires a speech therapy system that can help improve or even restore speech problems or disorders experienced by people with transcortical aphasia. One of the methods offered is Multisensory Stimulation therapy.

Multisensory Stimulation Therapy is a therapeutic method that optimizes the tactile, vestibular, and proprioceptive sensory systems. Although these three sensory systems are not very familiar compared to the other senses, they are critical because they help children's interpretation and response to the environment (Siregar, 2016, p. 33).

This study tries to explain the impact of the learning method based on Multisensory Stimulation therapy and then evaluates the results of the application of Multisensory Stimulation therapy in patients with Transcortical Aphasia. The children who were the object of the study had poor language skills, making it challenging to communicate with other people who did not master sign or spoken language. Lack of language skills such as soft articulation skills in the formation of consonants significantly affects the pronunciation of a word.

New research is worth undertaking if it touches on at least one of these two traits: urgency and interest (Siregar et al., 2021, p. 51). Indonesian linguists' research in specific language disorder neurolinguistics is limited, especially in education and learning. This field is very strategic and requires a linguist's role in making tests to diagnose particular language disorder sufferers from the point of view of the language. By researching and analyzing grammatically, it is hoped to develop a rule in treating people with Transcortical Aphasia.

This study has an orientation to provide objective exposure and evaluation of the impact of applying the learning method based on Multisensory Stimulation therapy on patients with transcortical aphasia. This research orientation is essential because this learning method is a new therapy with additions and subtractions in strategies, tactics, and learning models from conventional treatment. The hope that arises from the study results is the presence of an objective evaluation of the effectiveness of the implementation of Multisensory therapy. This study is dedicated to the well-being of people with specific language disorders caused by brain damage and the people with whom they interact.

II. Review of Literature

The condition of the human brain determines a person's language ability. If there is a disturbance or damage to the brain, it will undoubtedly affect speaking ability (Johan, 2018, p. 114). In general, there are four types of brain disorders in certain areas, namely: aphasia, agnosia, apraxia, and dysarthria.

Language disorders have several causes, which vary from person to person. According to Ahmadi (2015, p.145), language disorders are divided into two factors or causes. The first factor due to language disorders is medical, and the second is social environmental factors.

The brain as the center of body movement is vital and vulnerable to its existence. Because if there is damage to the brain, the body cannot work optimally. Brain injury

occurs due to abnormalities in blood vessels (Satyanegara, 2013). The patient has paralysis on the right side of the body. This condition is because muscle control in several parts of the body is damaged. This condition causes the muscles to work out of balance. Paralysis will affect the performance of vision and memory, even in digesting food.

Impaired nerve function will be damaged when blood flow to the brain decreases and oxygen in the brain is more diminutive. If this happens, the role of brain tissue has not died, but there is a disturbance in its function. If the interruption of blood flow continues, nerve tissue death will occur. In hemorrhagic stroke found increased pressure on the skull due to the addition of blood. High pressure in the dome can be fatal. Some of the causes that attack the brain include:

2.1 Stroke

Stroke is usually defined as a disease that makes a person paralyzed. A stroke is an attack on the brain. This condition happens due to a lack of oxygen, and anyone can have a stroke. Usually, many adults have a stroke. However, this can also happen to young people. A stroke is a sudden damage to nerve function due to not smooth blood circulation to the brain. This condition occurs when a blood vessel in the brain becomes blocked or bursts. The brain must get enough oxygen. Otherwise, it will inhibit, and the brain will be deprived of oxygen which causes nerve cell death (Pinzon, 2010, p. 1).

2.2 Head Bump

For someone who accidentally gets into an accident, the part that is most prone to injury is the head. Although the skull protects the brain and the outside of the skull, skin, and hair cover it, possible damages to the head and brain can occur; the injury can be minor or fatal afterward. After a minor injury, there will be marked loss of neurological function and no structural damage.

According to Batticaca (2008: 98), when a person has a severe head injury, the brain is bruised, and the affected area bleeds. A seriously injured person is unconscious, has a weak pulse, shortness of breath, pale skin, and blood pressure and temperature below normal.

2.3 Infection

Infections that can cause a person to experience a specific language disorder are bacterial meningitis caused by infection of the meninges. According to Ginsberg (2005, p. 122), there are three organisms in the epidemic: *Neisseria meningitides*. The second is *Haemophilus influenzae*, which often affects children and even adults, and the third is *Streptococcus pneumoniae*, which occurs in the elderly and is associated with alcohol. This infection spreads to the meninges from adjacent structures (ears) or the lungs via the bloodstream.

Brain degeneration occurs due to losing one or more brain components, such as metabolic, toxic, and hereditary diseases. A form of brain atrophy, i.e., generalized brain atrophy, occurs with aging or Alzheimer's disease, viral infections, and poisoning.

2.4 Tumor

Brain tumor grades are divided into grades one to four. This classification is based on the nature of the tumor, such as the speed of spread. Brain tumors that are benign and non-malignant are ranked one and two, then tumors that can become cancer are ranked third and fourth. According to Satyanegara (2013, p. 263), the first type of tumor is a glioma in the connective tissue between nerve cells and spinal nerve fibers. Second, meningiomas,

these tumors are in the membrane that protects the brain and spinal cord. Third, hemangioma, a tumor located in the blood vessels of the brain, this tumor can cause partial paralysis and convulsions, which is very susceptible to aphasia. *Fourth acoustic neuroma* is a tumor located on the auditory nerve that helps control the balance of a person's body. Fifth is the pituitary adenoma, a small gland located in the brain's lower area. This tumor is benign but affects the effects of hormones throughout the body.

Specific language disorder caused by brain damages is a case of damage to the various lobes of the brain that isolates several neural pathways and structures associated with language. The function of this area is preserved, which explains the identity of this specific language disorder symptom.

Specific language disorders caused by brain damage have a wide variety of symptoms. This variable depends on the qualification we mean (sensory, motor, or mixed). However, all three classes of specific language disorders caused by brain damage have in common the maintenance properties of the ability to repeat words or phrases that others have spoken.

This feature distinguishes specific language disorders caused by brain damage from other variants of the disorder, notably Broca's specific language disorder or disorder of motor, Wernicke's specific language disorder or sensory, conductive, and global or total. Beyond this, the usual signs of particular language disorders caused by brain damage are similar to the others.

Multisensory Stimulation Therapy is a therapeutic method that optimizes the tactile, vestibular, and proprioceptive sense systems to rehabilitate chemical systems and human biological organs (Siregar, 2016, p. 25). This type of therapy acts as a vital sense stimulator in humans is highly tactile, vestibular, and proprioceptive. Although these three sensory systems are not very familiar compared to the other senses, they are significant because they help children's interpretation and response to the environment (Siregar, 2016, p. 33).

III. Research Method

A researcher should find the most effective and efficient method to achieve the research objectives (Siregar, 2021, p. 7). This research uses a crossbreed approach that uses qualitative and quantitative perspectives reciprocally. The type of research used is classroom accomplish research. According to Kunandar (2008, p. 45), classroom executes research intends to improve the quality of classroom acquisition practices. This opinion is supported by Kasihan kasbah, which states that classroom action research is "action research in the field of pedagogy carried out in the classroom area intending to elevate and or raise the quality of achievement (Luthfi Diah AW 2015, p. 36)."

Meanwhile, according to Herawati Susilo et al. (2009, p. 1), classroom action research is also outlined as the action of controlled, recycled, and self-reflective probe carried out by teachers/prospective teachers to make improvements to the system, way of working, recount, sufficiency, or learning situation. In observation and analysis, each data is presented by recording objective documentation and then analyzed with a comprehensive perspective according to research needs. This technic is an effective and efficient step to achieve the research objectives. The design used in this study is the design developed by Kemmis and McTaggart (Suharsimi Arikunto, 2010, p. 131). This design is in the form of a cycle. In each process, there are four stages or steps. These stages include planning (provision), action (playacting), advertence (observing), and rumination (reflecting).

This study observed, recorded, and evaluated five patients as resource persons or research objects. Random selection of resource persons or research objects is also carried out according to the patient's wishes, family, and care institution. Researchers have also met the requirements of mandatory research ethics involving humans as research objects.

This study uses a test of learning outcomes as a measuring tool. The researcher constructed the learning outcomes test used in this study by considering the reference aspects of the study that was carried out first. The learning outcomes test is made to measure the ability of the resource person or the object of research before and after the action. The construction of this test consists of 20 action test questions.

The assessment is based on the achievement indicators in the scoring system as follows:

- a. Score 5: if the object can respond to the test clearly and corrects the sound.
- b. Score 4: if students can respond to the test through repetition and clear sound.
- c. Score 3: if students can respond to the test by subtracting or adding letters and clear sounds.
- d. Score 2: if students can answer the test in doubt, their voice is unclear.
- e. Score 1 if the student cannot answer the question and his voice is unclear.

IV. Discussion

In this study, a strata classification of the condition of the research object was made. Each case in this classification was given a similar treatment according to the technique and strategy of Multisensory Stimulation therapy. However, several steps are often reduced or added to achieve research effectiveness and efficiency.

As we know, humans are equipped with five senses, namely the senses of sight, hearing, touch, taste, and smell. Nevertheless, two other senses are also vital: the vestibular sense (balance) and the proprioceptive (movement).

The first disturbance occurs in the tactile sense. Tactile provides information about pressure, temperature, and pain to a person through what is touched and what is touching. Tactile is the enormous sense possessed by humans because receptors are from the tip of the hair to the direction of the human toe. The presence of disturbances in tactile will cause misperception of the information provided through touch.

There are three sensory disturbances: hypersensitivity, hyposensitivity, and seeking. If a child is hypersensitive to tactile, the child tends not to like being touched, avoids touching, refuses to eat food with certain textures, refuses to wear clothes from certain materials, interfering with the development process.

If a child is hypersensitive, it is dangerous for the child. Why? If a child has a deficient level of sensitivity to temperature, for example, a child can lightly touch a hot pan, but he does not feel the heat, this can be fatal, namely burns to the child.

The next disturbance is in the vestibular sense. The Vestibular is located in the inner ear. However, this sensory system is very influential on the balance of the human body, gravity, and movement. The vestibular is responsible for maintaining a person's balance when moving.

Someone who has a disturbance in this sensory system, hypersensitivity, can be afraid of simple movements, such as climbing a swing, refusing to be carried, fearful of taking elevators, escalators, and often feel anxious.

Meanwhile, someone who is hypo-sensitive is usually less aware of the sensation of falling, so they do not take protective actions such as holding themselves with their hands, so they do not hit them.

The next disturbance is in the proprioceptive sense. Proprioception is responsible for body awareness, providing information about the position of the limbs, a person's position in the environment, and the amount of force that needs to be expended to perform a movement.

Delicate motor tasks such as writing, eating, buttoning a shirt depending on an efficient proprioceptive system. If someone has a sensory system disorder, a person will find it difficult to know how much finger muscle strength is needed to hold a pencil. Whether very strong or very weak, one could not tell the difference.

The steps that are observed and used as a reference for data collection are limited to the following stages:

4.1 Observing

- a. Using the sense of sight to read lips, see writing through picture cards and the teacher's report, and the child can say words from the word/picture cards shown by the teacher.
- b. Optimizing the sense of hearing to hear while optimizing the sense of sight in observing lip movements, then the child says the words he hears from the teacher while seeing the teacher's lips move.
- c. Optimizing the sense of hearing to hear the words spoken by the teacher without reading lips, and the child can say the words he hears without seeing the teacher's lips move.
- d. Say the word according to the teacher's example, and the child can repeat the word exemplified by the teacher.
- e. Optimizing the sense of touch to feel the vibration of the speech organ due to sound, for example, the cheek, neck, and chest area, then the child says the word according to the teacher's example model while feeling the cheek, neck, and chest.
- f. Optimizing tactile to search for words with their fingers, then the child can say the word after tracing the word with their fingers.

4.2 Asking

- a. Motivate sufferers by asking about learning materials.
- b. Encourage sufferers to respond to answers to their questions.

4.3 Reasoning

- a. Directs the patient to analyze the words spoken by the interlocutor.
- b. Directs the patient to analyze the articulation of the interlocutor when pronouncing words.

4.4 Try

- a. Guiding students to carry out exercises according to the existing work stages and reminding students to record the results of the experiment.
- b. Guiding students to focus on practical activities.

This study also collects and evaluates data formulated into the classification of student speech, the research object. The formulation is carried out qualitatively.

a. News Sentence

"Auk jalan, duduk sebelah pohon itu, alah."

"I was walking and sitting near a tree."

The sentence is a news sentence. There is a mission to inform the researcher that the object of the study walked to a tree next to a house and then sat there. As a reference,

Kridalaksana (2008, p. 103) explains that news sentences contain news intonation and generally contain the meaning of 'state or give something,' and news sentences end with a period.

The findings of this study are also similar to the results of Dardjowidjojo's (2008, p. 158) study, namely the language of children with specific language disorder is not perfect because specific language disorder is a speech disease in the form of not being able to speak well because of a brain disorder.

b. Interrogative Sentence

"Apa ini pulak pulak"?

"What is this"?

The sentence is identified as an interrogative sentence. Because "What is this" uses a question word that indicates a question about the noun, namely "what." An *interrogative sentence* is a sentence that contains a question. This theory is supported by the opinion of Manaf (2009, p. 92), who calls interrogative sentences with interrogative terms, namely sentences that contain the basic meaning of questions.

According to the researcher's assumption, the context of this sentence occurs when the object of research is confused in identifying an object given to him. The thing given to the object is a pain relief patch. It was later discovered that the research object had never seen or used a pain reliever patch before.

c. Imperative sentence

"Hoi sana, ngan ko, sana ngan."

"Huh there, don't you, go there."

This sentence is a command sentence because the sentence produced by the research object contains the above elements. It is a command sentence; the research object orders his younger brother to go in a particular direction.

Command sentences are also called orders, namely sentences containing an order's meaning. This opinion is like the opinion of Manaf (2009: 99), who calls command sentences imperative sentences, namely sentences with the command's primary purpose.

d. Single Sentence

"Capek aku"

"I am tired"

The sentence is a single sentence because there is only one independent clause. This follows the opinion of Kridalaksana (2008:106), which states that a single sentence consists of one independent clause.

The context of this sentence is when the researcher asks the resource person or the object of research regarding his willingness to continue the research session. The penalty is a verbal response from the thing of research.

Sentence patterns generated by the speakers or research objects can generally say sentences with the S-P, P-S, P-K marks. Research data related to sentence patterns found can be seen in the following description.

1. S-P Pola Pattern

The researchers found sentences with the S-P pattern in sentences produced by people with aphasia, such as "Aku duduk."

The filler element of the subject is a noun. In contrast, the predicate filler element is a verb. The meaning of the sentence uttered by the child in the example above is to inform that he is tired.

2. P-S Pola Pattern

The researchers also found sentences with P-S patterns in sentences produced by people with aphasia, such as "Capek aku."

3. P-K Pola Pattern

The researchers also found sentences with P-K patterns in sentences produced by people with aphasia, such as "Sana ngan."

Observations made by researchers during the learning activities that took place showed essential things as follows:

- a) Objects 2 and 5 looked very enthusiastic about participating in the therapy process. Objects follow the entire learning sequence even though the two subjects fight over the same paper. Subject 2 often took the identification card belonging to subject 5, so the two subjects often joked and made a fuss during the lesson. These two objects often appear impatient and compete to start first when asked to pronounce consonant variables and stick cards before being given instructions by the therapist.
- b) During the learning process, object one was initially confused about following the therapist's instructions, so he was often late when sticking cards and got the last queue when he practiced pronouncing the consonants in words listed on the cards. Object 1 was still confused when following the learning series at the first and second stage meetings. Meanwhile, the objects were enthusiastic about playing puzzles and asking questions at the third and sixth meetings.
- c) Object 5 is the most easily directed in learning. Object 5 also often helps the teacher when other things have difficulty following instructions and improving pronunciation. Object 5 is very enthusiastic about participating in education. Object 5 was able to follow instructions and speak words and string questions, although some errors still occurred. Object 5 also on its initiative to practice pronunciation during the grace period.
- d) All objects experience saturation after meeting the 3rd stage. The enthusiasm for following the new therapy process emerged after revisions and material variations were carried out in the following steps. Modifications and interpretations made in principle only change the figure or place presented in the learning material. At the same time, the classification and orientation of the material were not changed or corrected at all.
- e) All objects are seen to identify the therapist's sincerity and patience. In many cases, therapists who claim to be physically or mentally exhausted do not seem to respond positively to all objects. Although the way of speaking and gestures has been tried to be changed to be more gentle and pleasant, things still react negatively to the interactions made by the therapists.

V. Conclusion

Based on the research process, the conclusion describes that the learning method based on Multisensory Stimulation therapy has a significant positive impact. The enthusiasm of the participating students dramatically affects the process and results of treatment. Willingness is challenged by the saturation of the therapeutic process itself. The conception and creativity of the teacher will determine the quality of the therapy process

and its results. The accuracy of setting the frequency and intensity of time is paramount. It also dramatically determines the significance of the process and the effects of the therapy itself.

This study ultimately recommends that learning based on Multisensory Stimulation be used as a priority alternative in overcoming the problem of rehabilitation for people with Transcortical Aphasia. However, the development of strategies, tactics, and learning models based on Multisensory Stimulation also needs to be developed, actualized, and coordinated according to the principles of effectiveness and efficiency.

References

- Ahmadi, Anas. 2015. The foundations of psycholinguistics. Jakarta: The Achievement of the Jakarta Library.
- Aribowo, Luita. (2018). Neurolinguistics: Applying Linguistic Concepts and Theories. *Journal Language Description*. 01(1), 46.
- Bambang Setyono S.PTh. (2000). *Speech Therapy for Education and Health Practitioners*. Jakarta: Medical Book Publisher
- Batticaca, Fansisca. 2008. *Nursing Care of Clients with Nervous System Disorders*. Jakarta: Salemba Medika.
- Bernadeta Tumirah. (2012). *Speech Learning for Deaf Children*. The BinteK Development of Substances of the SLB Curriculum Materials for the Speech Development Program. Semarang: Department of Education and Culture of Central Java Province
- Chaer, Abdul. 2012. *Psycholinguistics Theoretical Studies*. Jakarta: Rineka Cipta.
- Chaplin, J.P. (1997). *Complete Dictionary of Psychology*. Translator Kartini Kartono. Jakarta: Raja Grafindo Persada.
- Daniel P. Hallahan, James M. Kauffman, and Paige C. Pullen. (2009). *Exceptional Learners: An Introduction to Special Education*. USA: Pearson.
- Dharmaperwira – Prins, Reni. 1985. *Dysarthria – Verbal Apraxia and TEDYVA*. Jakarta: Indomedika.
- Dudung Abdurachman and Moch. Sugiarto. (1996). *Speech Teaching Guidelines for Deaf Children*. Jakarta: CV. Prosperous Works.
- Edja Saadjah & Dardjo S. (1995). *Build Perception of Sound and Rhythm*. Jakarta: Director General of Higher Education.
- Endang Supartini. (2003). *Speech Pathology*. Yogyakarta: Yogyakarta State University
- Eriyanti, R. W. (2017). Coherence of Teacher Questions on Learning. *TOUR: Journal Science of Language, Literature, and Its Teaching*, 2(1), 77-89.
- Ginsberg, Lionel. 2005. *Lecture Notes: Neurology*. Translation by Indah Retno. 2007. Jakarta: Erlangga.
- Hasbullah, Hatta, M., and Arifin, Z. (2018). Communication Pattern of Wilayatul Hisbah, Lhokseumawe City in Implementing Amar Makruf Nahi Mungkar. *Budapest International Research and Critics Institute Journal*, Vol. 1, No. 4, 194-205.
- Herawati Susilo et al. (2009). *Classroom action research*. Malang: Bayumedia Publishing.
- Hurlock, Elizabeth B. *Developmental Psychology* Jakarta: Erlangga, 2004.
- Indah, Rahmani. 2017. *Language Disorders Introductory Study*. Malang: UIN-Maliki Press.
- John, Mhd. (2018). Language Disorders in Stroke Patients A Study: Neurolinguistics. *Journal of SNISTEK* (1), 114.
- Indriati, Ety. *Speech and Language Difficulties in Children: Parental Therapy and Strategies*. Jakarta: Prenada, 2011.
- Kirana, C., & Sulisty, E. T. (2018). Expressive Speech in Republican Political Humor

- Kunandar. 2008. *Easy Steps for Classroom Action Research as Teacher Professional Development*. Jakarta: Rajawali Press.
- Lucky Ade Sessiani. (2007). *Effect of Multisensory Method in Improving Early Reading Ability in Kindergarten Children*. Research Report. Semarang: Faculty of Psychology, Diponegoro University.
- Lumbantobing, S. M. *Clinical Neurology: Physical and Mental Examination*. Jakarta: FKUI Publishing Agency, 2014.
- Lutfi Diah A.W. (2015) *Improving Articulation Skills Through the Peer Tutorial Method for Deaf Children in Elementary Grade IV at SLB Wiyata Bhakti Kulon Progo*. Essay. Yogyakarta: Yogyakarta State University.
- Marsono. (1993). *phonetics*. Yogyakarta: Gadjah Mada University Nasution. (2010). *Integrated Quality Management*. Jakarta: Ghalia Indonesia.
- Miftakhul Huda. (2014). *Teaching and Learning Models*. Yogyakarta: Student Library.
- Mohammad Efendi. (2005). *Introduction to Psychopedagogy of Children with Disabilities*. Jakarta: Earth Literacy
- Mujianto, G. (2018). Analysis of Critical Discourse on Reporting About Islamic Organizations on Online News Sites. *KEMBARA: Scientific Journal of Language, Literature, and Its Teaching*, 4(2), 155-172.
- Mujianto, G. (2018). Cohesion Tools in Written Discourse for Teachers of SMA/SMK Muhammadiyah Malang Regency *KEMBARA: Scientific Journal of Language, Literature, and Their Teaching*, 3(2), 210-233.
- Mukhtar. *Practical Methods of Qualitative Descriptive Research*. Jakarta: Reference, 2013.
- Mulyono Abdurrahman. (2003). *Education for Children with Learning Disabilities*. Jakarta: Rineka Cipta
- Munawir Yusuf. (2005). *Education for children with learning problems*. Jakarta: Ministry of National Education
- Musaffak, M. (2015). Discourse Analysis of Food and Beverage Advertisements on Television Based on the Structure and Function of Language. *KEMBARA: Scientific Journal of Language, Literature, and Its Teaching*, 1(2), 224-232.
- Ngalim Purwanto. (2012). *Teaching Evaluation Principles and Techniques*. Bandung: PT. Remaja Rosdakarya
- Nur Indah D.M (2014). *Improvement of Velar Consonant Pronunciation Ability Through VAKT Method in Deaf Children in Taman 3 Class at Karnnamanohara Special School*. Essay. Yogyakarta State University of Yogyakarta.
- Pinzon, Rizaldy. 2010. *Beware Stroke! Definition, Symptoms, Action, Treatment & Prevention*. Yogyakarta: Publisher Andi.
- Robbins, Stephen P. and Judge, Timothy A., (2009). *Organizational Behavior*. 13th Edition. Pearson Education, Inc., Upper Saddle River, New Jersey.
- Sabrina, A., Siregar, I., & Sosrohadi, S. (2021). Lingual Dominance and Symbolic Power in the Discourse of Using the PeduliLindungi Application as a Digital Payment Tool. *International Journal of Linguistics Studies*, 1(2), 52–59. <https://doi.org/10.32996/ijls.2021.1.2.8>
- Salsabila, Siregar, I., & Sosrohadi, S. (2021). Analysis of Code Mixing in Jerome Polin Youtube Content “Nihongo Mantappu”. *International Journal of Linguistics, Literature and Translation*, 4(12), 01–08. <https://doi.org/10.32996/ijllt.2021.4.12.1>
- Santrock, John W. *Lifetime Development*, 5th Edition, Volume I. Jakarta: Erlangga, 2010.
- Sardjono. (2005). *Speech Therapy*. Jakarta: Directorate General of Higher Education
- Suharsimi Arikunto. (2010). *Research Procedures, A Practical Approach*. Jakarta: Rineka Cipta.

- Sastra, Gusdi. *Neurolinguistics: An Introduction*. Bandung: Alfabeta, 2011.
- Satyanegara. 2013. *Neurosurgery*. Jakarta: Gramedia Pustaka Utama.
- Siregar, I. & Sabrina, A. (2021). Representation of Religious Values in Gurindam Twelve and Their Relevances with Modern Era. *International Journal of Cultural and Religious Studies*, 1(1), 50–57. <https://doi.org/10.32996/ijcrs.2021.1.1.7>
- Siregar, I. & Salsabila. (2021). Acts of Illocutionary Speech by Ganjar Pranowo in the "One Hour Closer" Talkshow. *International Journal of Arts and Humanities Studies*, 1(1), 95–100. <https://doi.org/10.32996/ijahs.2021.1.1.14>
- Siregar, I. & Siregar, R. (2021). The Relevances between Poda Na Lima Philosophy with Islamic Perspective. *Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences*. <https://doi.org/10.33258/birci.v4i4.3240>
- Siregar, I. (2020). *Exploration and Implementation of the Cultural System as a Solution to National and State Problems*. <http://repository.unas.ac.id/id/eprint/811>
- Siregar, I. (2020). *Geografi Leksikon Betawi*. Jakarta: LPU Unas
- Siregar, I. (2021). Analysis of Betawi Language Interference on the Morphology of Adolescent Speech in Jakarta. *Journal of Humanities and Social Sciences Studies*, 3(8), 54-60. <http://doi.org/10.32996/jhsss.2021.3.8.7>
- Siregar, I. (2021). Epistemological Challenges Against Sociolinguistics. *International Journal of Linguistics Studies*, 1(2), 37–42. <https://doi.org/10.32996/ijls.2021.1.2.6>
- Siregar, I. (2021). The Existence of Culture in its Relevance to the Dynamics of Globalization: Bahasa Indonesia Case Study. *International Journal of Cultural and Religious Studies*, 1(1), 33–38. Retrieved from <https://www.al-kindipublisher.com/index.php/ijcrs/article/view/2285>
- Siregar, I. (2021). Verbal Communication of Schizophrenic Patients Due to Neurotransmitter Distortion. *QALAMUNA: Jurnal Pendidikan, Sosial, Dan Agama*, 13(2), 543-556.
- Siregar, I., (2021). *Research Methodology*. Jakarta: Uwais Inspirasi Indonesia
- Siregar, I., Rahmadiyah, F., & Siregar, A. F. Q. (2021). Auditorium Model Assessment with Corrected Acoustic Function. *British Journal of Physics Studies*, 1(1), 01–06. Retrieved from <https://al-kindipublisher.com/index.php/bjps/article/view/2610>
- Siregar, I., Rahmadiyah, F., & Siregar, A. F. Q. (2021). Linguistic Intervention in Making Fiscal and Monetary Policy. *International Journal of Arts and Humanities Studies*, 1(1), 50–56. <https://doi.org/10.32996/ijahs.2021.1.1.8>
- Siregar, I., Rahmadiyah, F., & Siregar, A. F. Q. (2021). Therapeutic Communication Strategies in Nursing Process of Angry, Anxious, and Fearful Schizophrenic Patients. *British Journal of Nursing Studies*, 1(1), 13–19. <https://doi.org/10.32996/bjns.2021.1.1.3>
- Somad & Tati Herawati's play. (1995). *Orthopedagogics for Deaf Children*. Bandung: Ministry of Education and Culture Director General of Higher Education.
- Sukadi. (2012). *Improving Reading Ability Through a Multisensory Approach for Mild Mentally Impaired Children Class V SLB-C Ma-Arief Muntilan Academic Year 2011/2012*. Essay. Yogyakarta: Yogyakarta State University
- Sumanto. *Developmental psychology*. Yogyakarta: CAPS, 2014.
- Wurianto, Budi. 2019. Literacy of Indonesian Language and Literature Towards Professional Entrepreneurship in the Era of the Industrial Revolution 4.0 and Society 5.0 (Opportunities and Challenges). *Proceeding SENASBASA*. Issue 1, 11.