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Neuroteaching Based on Islamic Education to Manage Good Learning

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Abstract

Teachers' teaching skills are an important factor in achieving learning success. However, almost 75% of teachers do not prepare the learning process well. Neuroteaching can be used as an effort to improve teaching skills because Neuroteaching is a teaching method that can hone participants' cognitive, emotive, and psychomotor skills. This study aims to explore in-depth data on the implementation of the concept of Neuroteaching based on Islamic education as an alternative guideline for teaching skills for alumni of the Faculty of Education IAIN Kudus and the inhibiting, supporting, and solution factors. This study uses a qualitative method with a case study approach. The results showed that respondents as alumni of the Tarbiyah Faculty of IAIN Kudus scored high in teaching skills are 420-528. Inhibiting factors for the implementation of Neuroteaching include limited access to references, time and resources, difficulties in large classes, inadequate technology, resistance to change, limitations of the school environment, lack of support and training, and pressure from performance evaluations. The supporting factors include; professional training, resources and technology, school leadership support, personalization of learning, support from parents and the community, and perceptions about the importance of Neuroteaching. Efforts to facilitate the implementation of Neuroteaching are to improve the management of Islamic education in TK-SD Al-Maun Jepara which includes the role of the principal, training for teachers, adequate facilities and infrastructure, cooperation between parents and the community, and appreciation for teacher achievement.

Keywords: Islamic Education; Islamic Education Management; Neuroteaching; Teaching Skills

Abstrak

Ketrampilan Guru dalam mengajar menjadi faktor penting dalam pencapaian keberhasilan pembelajaran. Namun, hampir 75% guru tidak mempersiapkan proses pembelajaran dengan baik. Neuroteaching sebagai upaya peningkatan kettampilan mengajar. Penelitian ini bertujuan untuk menggali data secara mendalam tentang implementasi konsep neuroteaching berbasis pendidikan Islam sebagai alternatif pedoman ketrampilan mengajar alumni Fakultas Tarbiyah IAIN Kudus dan faktor penghambat, pendukung serta solusi. Penelitian ini menggunakan metode kualitatif dengan pendekatan studi kasus. Studi yang dilakukan peneliti menunjukkan bahwa responden selaku alumni Fakultas IAIN Kudus mendapatkan skor tinggi dalam ketrampilan mengajar yaitu ;420-528. Faktor penghambat implementasi neuroteaching antara lain keterbatasan akses referensi, waktu dan sumber daya, kesulitan dalam kelas yang besar , teknologi yang tidak cukup, resistensi terhadap perubahan,keterbatasan lingkungan sekolah, kurangnya dukungan dan pelatihan, dan tekanan evaluasi kinerja. Sedangkan faktor pendukungnya antara lain; pelatihan profesional, sumber daya dan teknologi, dukungan kepemimpinan sekolah, personalisasi pembelajaran, dukungan dari orang tua dan masyarakat, persepsi tentang tentang pentingnya neuroteaching. Upaya dalam mempermudah implementasi neuroteaching adalah memperbaiki managemen pendidikan Islam di TK Al-Maun Jepara yang meliputi peran kepala sekolah, pelatihan bagi guru, sarana dan prasana yang memadai, kerjasama orang tua dan masyarakat dan penghargaan atas prestasi guru.

***Kata kunci** : Neuroteaching; Pendidikan Islam Managemen Pendidikan Islam; Ketrampilan Mengajar*

A. Introduction

The success of learning is influenced by a variety of factors, including the pedagogical competencies of the teachers. The teachers' pedagogical competencies are a vital element in the achievement of learning success. No matter how good the education curriculum is, it cannot be implemented well if teachers are not skilled in the management of learning. Research conducted by Leonard indicated that almost 75% of teachers do not adequately prepare for learning process (Leonard, 2015). In another study, the teaching skills of Early Childhood Islamic Education (PIAUD) IAIN Kudus alumni from the Class of 2019 to 2021 were examined. The results of this study indicated a substandard quality of teaching among alumni of the Faculty of Education IAIN Kudus, particularly those from the PIAUD Study Program (Zakiyah, 2019-2021). The observation results are presented in Figure 1.1.

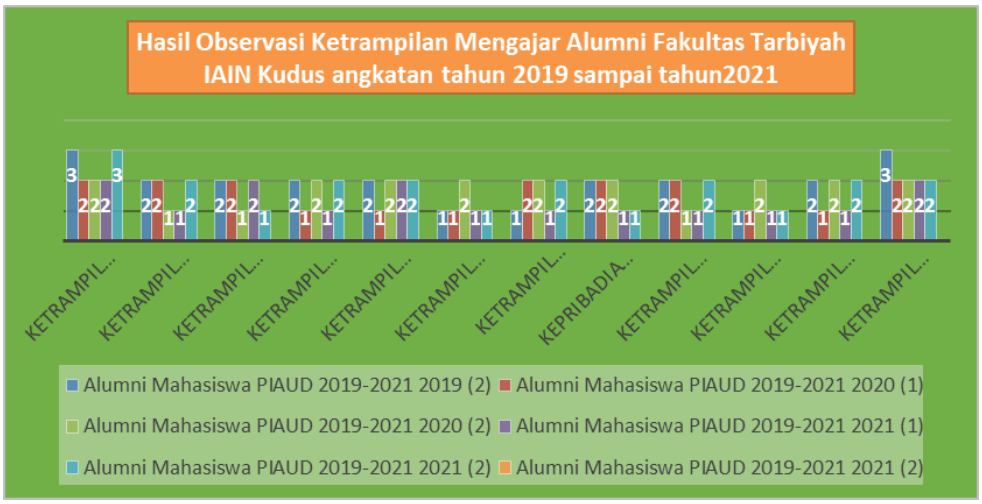

Figure 1.1

Graph of the Teaching Skills of PIAUD Alumni of IAIN Kudus Class of 2019-2021

The low teaching ability of the alumni of the Faculty of Education is due to the lack of teacher competence in pedagogical, personality, social, and professional competencies. This outcome is in contrast to the government's expectations, as outlined in the appendix of the Minister of National Education Regulation No. 16 of 2007 dated May 4, 2007, on Academic Qualifications and Teacher Competencies Standards which stated that teacher competency standards are developed as a whole from four main competencies, namely pedagogical, personality, social and professional competencies. The four competencies are integrated into teacher performance. The explanation means that as educators, teachers must master pedagogical competencies, which in this case, teachers must understand the concept of teaching and be able to apply teaching skills in the learning process, have a positive personality, and have social and professional competencies.

Teaching skills are defined as a general characteristic of an individual who has acquired knowledge and skills through practical application. Fundamental pedagogical competencies encompass fundamental forms of behavior that are distinct and particular in nature, and their possession is essential (Rusman, 2010, p. 80). The refinement of pedagogical skills is an ongoing process. The concept of Neuroteaching, as a brain-based teaching and learning concept, is one of the efforts to improve pedagogical competence. The Neuroteaching concept provides a framework for teaching skills that is informed by the complexities of the human brain. This means that teachers must develop a comprehensive understanding of the characteristics of the student's brain. The left hemisphere of the brain plays a role in processing logic, words, mathematics, and sequences that are dominant for academic learning. In contrast, the right hemisphere of

the brain deals with musical rhythms, images, and creative imagination. Both hemispheres are proportionally developed to the maximum potential during the learning process. Thus, a teacher can guide his students toward positive behavioral changes after the learning process.

The practice of Neuroteaching starts with learners physical and mental readiness. Therefore, it is important to prepare learners' physically and mentally before the opening of the lesson. In addition, educators must prepare a safe and comfortable environment. In The Fundamentals of Neuroteaching 2, Zuhdi revealed that the Nucleus solitarius, a brain device located in the brain stem, is a receptor of sensory input related to the learning environment and affects the activity of the limbic system, especially the amygdala, which is recognized as the emotional center. Consequently, based on the concept of Neuroteaching, educators must prepare a conducive environment to learning, such as a calm (not noisy) and comfortable (not too cold or hot) environment to keep positive emotions in learners and engage them in the learning process **(Zuhdi, 2022).**

Islamic education is defined as a type of education that aims to cultivate a comprehensive Muslim individual, thereby enhancing both the physical and spiritual dimensions of human potential (Daulay in Syaban, 2019). In the context of Islamic education, the mental preparation of children is defined as the cultivation of positive emotions, particularly the instilling of a sense of pleasure and joy in the learning process. This approach provides the stimulation of students' feelings, thereby they will be happy, joyful, hopeful, and amazed. In this regard, Allah has provided many examples in the Qur'an. One such example is the passage in Surah Al-Baqarah verse 150, where Allah instructs the Prophet Muhammad to move the Qibla from the Aqsa Mosque to the Haram Mosque. During this period, the Prophet Muhammad encountered significant opposition from numerous Jews and Christians. However, Allah gave Muhammad a lot of hope and encouragement to be more determined in conveying the message of Allah.

A survey of pedagogical practices reveals that the majority of teachers and lecturers have not yet fully implemented Neuroteaching in their teaching. As revealed in an interview conducted by researchers with the Head of the Early Childhood Islamic Education (PIAUD) Study Program at the Faculty of Education IAIN Kudus, the Microteaching course curriculum at the Faculty of Education IAIN Kudus has not incorporated the concept of Neuroteaching. Consequently, alumni students of the Faculty of Education IAIN Kudus lack a comprehensive understanding of the concept of teaching and are unable to apply teaching skills following the principles of how the brain works (Isnawati, 2022).

On the contrary, the educational institutions in Al-Maun Jepara Kindergarten-Elementary School show different practices. This Islamic-based educational institution employs Neuroteaching methods, which have been incorporated into the teaching curriculum. The efficacy of this approach is evident in the positive classroom observations, where students demonstrate a high level of learning engagement. The teachers at this institution are alumni of the Faculty of Education IAIN Kudus Class of 2019-2023, who have completed various study programs in the previous five years.

Based on the explanation above, researchers found it is important to undertake a comprehensive investigation into the implementation of the concept of Neuroteaching, founded on Islamic education, as a prospective framework for enhancing teaching skills among alumni of the Faculty of Education IAIN Kudus Class of 2019-2023. The purpose of this study is to examine the implementation of Neuroteaching based on Islamic education and the inhibiting factors, supporters, and solutions to the implementation of the concept of Neuroteaching guidelines based on Islamic Education in alumni of the Faculty of Education IAIN Kudus. This research employs a qualitative approach. Specifically, this research uses a case study design. The data collection techniques of this research include observation, interviews, and documentation study (Sugiyono, 2011).

B. Discussion

1. Neuroteaching Based on Islamic Education

Neuroscience is the scientific study of neurons or nerve cells. These cells constitute the nervous system, encompassing both the central nervous system (comprising the brain and spinal cord) and the peripheral nervous system (consisting of 31 pairs of spinal nerves and 12 pairs of head nerves). Nerve cells, also known as neurons, function as synapses, which are the sites where two nerve cells converge and facilitate the transmission of neurotransmitter information. At the molecular biology level, the smallest unit is analogous to genes or genetic studies (Suyadi, 2021).

The field of neuroscience has found application in the domain of education. The concept of "neuro-education" itself originates from the concept of "neuropsychology of education," which is a synthesis of the field of educational psychology and neuroscience. The domain of neuropsychology involves the study of brain imaging, which serves as a tool for evaluating the efficacy of interventions or teaching programs that have been implemented (Ilham & Nani, 2018).

The practice of Neuroteaching in Islamic educational institutions, founded on the principles of Islamic teachings, offers a significant contribution to the curriculum of Islamic education. According to Langgulung, there are five recognized sources of value

in Islam: the Qur'an and the Sunnah of the Prophet as the source. The second source is Qiyas, which involves the comparison of problems mentioned in the Qur'an or Sunnah with those faced by Muslims, in the absence of explicit Nash in the Qur'an. Public interest provided it does not contradict the nash. The fifth source is the consensus of Islamic scholars and thinkers following the fundamental sources of the Qur'an and Sunnah of the Prophet (Putra Daulay et al., 2021).

2. Management of Islamic Education

Qomar (2007: 10) explained the definitive meaning of Islamic education management as the process of managing Islamic educational institutions in an Islamic manner by dealing with learning resources and other related matters to achieve Islamic education goals effectively and efficiently. A fundamental aspect of management is planning. According to Kauffman, planning is the process of determining the goals or objectives to be achieved, as well as the paths and resources needed to achieve those goals effectively and efficiently (in Maya & Lesmana, 2018).

Good management of Islamic education begins with teaching planning. Teaching planning constitutes a critical component of the learning process aimed at ensuring the efficacy of teaching methodologies. A significant factor contributing to the success of this process is the adoption of a systematic approach, wherein educators formulate teaching plans before entering the classroom. Based on the 2013 Curriculum, the educational process encompasses three domains: attitudes, knowledge, and skills. The intended learning outcomes are designed to cultivate students who are productive, creative, innovative, and effective by fortifying integrated attitudes, skills, and knowledge (Qasim & Maskiah, 2016).

3. Implementation of the Islamic Education-Based Neuroteaching Concept as an Alternative Teaching Skills Guideline

Neuroteaching implementation can be executed by teachers in a series of steps. First, creating an atmosphere or environment that can stimulate students' cognitive abilities. This strategy can be facilitated through the use of puzzles, simulations, games, and other interactive activities. Second, providing a pleasant learning environment, such as an outdoor learning environment. Teachers should avoid learning situations that may cause students to feel uncomfortable and bored. Third, creating an active learning atmosphere for students can only be implemented if students can perform physical and psychological activities optimally. The learning strategy is structured in such a way as to ensure students are involved interestingly and interactively, through a demonstration learning model (Sesmiarni, 2015).

The research indicated that alumni of the Faculty of Education IAIN Kudus Class of 2019-2023 who implemented Neuroteaching based on Islamic education at Al-Maun Kindergarten-Elementary Jepara succesafully motivated students, making them enthusiastic and engaged with the material. The concept of Neuroteaching in learning is a breakthrough in learning design that focuses on empowering students' brains. The alumni reported a transformation in their pedagogical practices following their acquisition of knowledge and expertise in Neuroteaching. This shift has led to an increase in the enthusiasm levels of both the alumni and the students, particularly about teaching and learning activities.

The following table presents an assessment of the change in the quality of teaching skills of alumni before and after the Neuroteaching concept training for alumni of the Faculty of Education IAIN Kudus, categorized as follows:

Table 3.1

Category of Teaching Skills Score

No	Score Range	Category
1	0 - 147	Very Low
2	148 - 294	Low
3	295 - 441	Moderate
4	442 - 589	High

The following table offers a summary of the research results on the implementation of the concept of Neuroteaching based on Islamic Education:

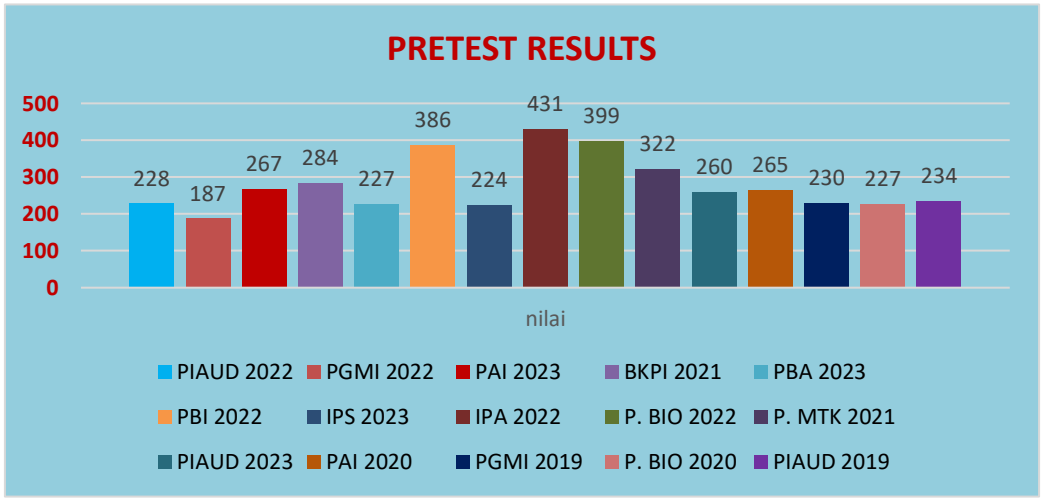

Figure 3.1

Pretest of the Implementation of Neuroteaching Concept Based on Islamic Education

Based on Table 3.1 above, the teaching skills of IAIN Kudus alumni scored 187-399 before getting knowledge and experience about Neuroteaching based on Islamic education. It means that the teaching skills are in the category of moderate in carrying out teaching and learning activities.

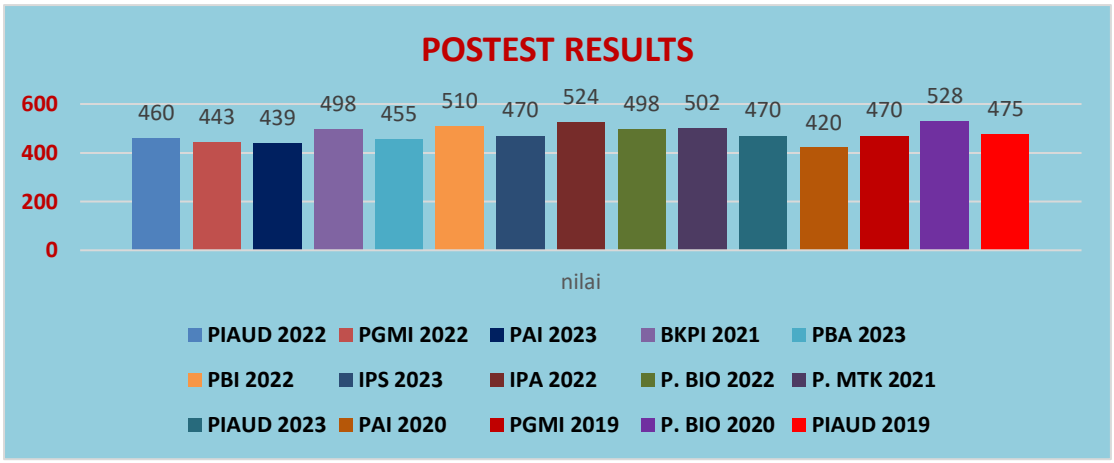

Figure 3.2

Post test of the Implementation of Neuroteaching Concept Based on Islamic Education

Based on Figure 3.2, the teaching skills of IAIN Kudus alumni scored 420-528 after getting knowledge and experience about Neuroteaching based on Islamic education. It means that the teaching skills are in a high category in carrying out teaching and learning activities.

The two figures above illustrate the difference in the quality of teaching skills of alumni of the Faculty of Education IAIN Kudus Class of 2019-2023 In the pretest assessment, the majority of the participants demonstrated a moderate level, while the majority of the post-test scores on the high category. The low category assessment on the pretest reached 80 percent, accounting for 12 out of 15 alumni, while the high category assessment on the posttest reached 93.3 percent, accounting for 14 out of 15 alumni. This finding suggests that the Neuroteaching training based on Islamic Education, which served as a guide to the skills in teaching the alumni, has contributed to an enhancement in the quality of skills exhibited by the alumni of the Faculty of Education IAIN Kudus. This finding suggests that the concept of Neuroteaching based on Islamic Education can serve as an effective guideline for the teaching practice of alumni, particularly in the domain of mastering teaching skills.

Research on the effectiveness of the Islamic education-based Neuroteaching learning concept as an alternative guideline for alumni teaching skills shows high effectiveness data. This is because all alumni acknowledge that the learning concept is

not limited to the provision of material, but rather emphasizes the analysis of student conditions and the utilization of brain performance. The difference in emphasis in this approach gives rise to learning concepts and techniques that prioritize the condition of students and the empowerment of their brain abilities. These findings align with the research conducted by Handayani and Corebima, which demonstrates that the learning approach is founded on neurolinguistics and body language. This approach emphasizes the role of gestures in facilitating learning (Handayani & Corebima, 2017). The same research was also conducted in Cikajang. The implementation of the Brain-Based Learning model in the context of mathematics education represents a novel approach for students at SMPN 1 Cikajang. This learning atmosphere makes students more active and fun (Winarti & Haq, 2013). A similar outcome was observed in Iran, where a correlation was identified between brain-based learning and the enhancement of social skills and self-efficacy (Oghyanous, 2017).

These findings represent novel insights within the domain of education. Teachers play an important role in the education of students, fostering the development of their emotional, cognitive, and social qualities. These enhancements are a manifestation of brain function. As Nuraeni explained, the objective of cognitive neuroscience is to provide educators with the most effective strategies for teaching and learning (Nuraeni, 2014).

4. Obstacles, Supporting Factors, and Solutions for the Implementation of the Islamic Education-Based Neuroteaching Concept

Some obstacles that inhibit teachers in applying Neuroteaching concepts in learning have been identified. These obstacles include limited access to references and understanding, lack of knowledge, limited time and resources difficulties in large classes, insufficient technology, resistance to change, limitations of the school environment, lack of support and training, and pressure of performance evaluation.

The supporting factors that can help teachers in implementing Neuroteaching concepts in learning include; training and professional development opportunities, access to resources and technological tools, school leadership support, personalization of learning, collaboration and the exchange of experiences among teachers, understanding of the principles and benefits of evaluation and constructive feedback, flexibility and ability to experiment with different teaching methods, support from parents and the community, support from institutions and colleagues, and perceptions about the importance of Neuroteaching.

Several factors both inhibitors and supporters of the implementation of Islamic education-based Neuroteaching practices have been identified. The objective of presenting material in such a manner is in order it is successfully accepted and stored in students' long-term memory. Then the learning process must be coherent, which means that the material or information presented must be comprehensible to students and able to be connected to their prior experiences. For example, Supena's perspective on learning in a neuroscience perspective is that it empowers the brain's abilities by creating a learning environment that is challenging, engaging, meaningful, and encourages students to be active (Batubara & Supena, n.d.).

A learning process that maximizes brain function means not only the empowerment of a single cerebral hemisphere but also the optimization of both hemispheres in a balanced manner. The outcome of this pedagogical approach is students who demonstrate not only the capacity for structured thinking but also divergent, global, and creative thinking. Ramakhrisnan's (2019) argument posits that a brain-based approach to teaching and learning fosters a spirit of exploration. Teachers and students can cultivate a sense of community. The process of learning, therefore, becomes an opportunity to cultivate the skills of problem-solving, with each new challenge being met with anticipation and a sense of adventure (Ramakrishnan, 2013).

Teachers can apply Neuroteaching concepts in learning more effectively by improving education management through several solutions. These solutions include training or workshops for teachers, procurement of teaching aids, and utilization of technology. These solutions are considered to have great potential to improve the quality of education, learning, and student achievement. School leadership support is essential for the success of Neuroteaching initiatives. Principals and administrators must support Neuroteaching initiatives. Experienced mentors and mentoring, collaboration between teachers in developing Neuroteaching-based lesson plans, personalization of learning according to student needs, creation of a supportive learning environment, evaluation and feedback, involvement of parents and the community, flexibility and opportunities to experiment, commitment to lifelong learning, rewards and recognition of teacher achievements.

The implementation of brain-based teaching requires teaching planning. Hakim's approach to teaching planning involves the incorporation of components from the learning system and elements of activities undertaken by both teachers and students within the learning process. Planning encompasses how activities, strategies, or methods are implemented, ensuring that students acquire learning experiences that facilitate them to achieve goals (Arifudin et al., 2021).

Teaching planning is a small part of Islamic education management which is a very crucial issue. Islamic education management as stated by Ramayulis is the process of utilizing all resources owned (Muslims, educational institutions, or others) both hardware and software. The utilization is achieved through effective, efficient, and productive cooperation with others, thereby fostering happiness and prosperity both in this world and in the hereafter (Syaban, 2019).

C. Conclusion

The Neuroteaching concept, which is based on Islamic education, is aligned with the way the brain works. This scientific design is intended to facilitate learning, and it also follows the principles of learning from an Islamic perspective. The Neuroteaching learning paradigm involves students in a complex interactive experience, requiring students to face challenges independently and the knowledge provided must be compared with students' experiences to be relevant. Consequently, the Neuroteaching approach fosters a student-centered learning environment, empowering students to maximize their brain potential by providing them with the necessary stimuli to develop their cognitive abilities and actively engage all sensory receptors during the learning process. Sensory stimulation is processed by the brain in memory, and it is expected to support the achievement of learning goals.

This study also recommends several fundamental aspects of learning, including suggesting teachers (especially elementary school teachers) to study and understand the brain in learning, recommending the implementation of neuroscience/neuropsychology-based learning training or workshops by relevant agencies, and starting to consider and include neuroscience/neuropsychology concepts in the preparation of learning curricula or teacher professional education programs for educators.

REFERENCES

Arifudin, Moh., Sholeha, F. Z., & Umami, L. F. (2021). PLANNING (PERENCANAAN) DALAM MANAJEMEN PENDIDIKAN ISLAM. *MA'ALIM: Jurnal Pendidikan Islam*, *2*(02). https://doi.org/10.21154/maalim.v2i2.3720

Batubara, H. H., & Supena, A. (n.d.). EDUCATIONAL NEUROSCIENCE DALAM PENDIDIKAN DASAR. *Jurnal Pendidikan Dasar*.

Handayani, B. S., & Corebima, A. D. (2017). Model brain based learning (BBL) and whole brain teaching (WBT) in learning. *International Journal of Science and Applied Science: Conference Series*, *1*(2), 153. https://doi.org/10.20961/ijsascs.v1i2.5142

Ilham, M., & Nani. (2018). *Teachers Need Neuro-Teaching Skills In The Classroom: A New Perspective For Better Future In Education*. Conference: National Seminar on Elementary Education,.

Isnawati, Z. (2022). *Laporan Penelitian Ketrampilan Mengajar Alumni PIAUD IAIN Kudus Angkatan 2019-2021*. LPPM IAIN Kudus.

Maya, R., & Lesmana, I. (2018). PEMIKIRAN PROF. DR. MUJAMIL QOMAR, M.AG. TENTANG MANAJEMEN PENDIDIKAN ISLAM. *Jurnal Islamic Management*, *01*(01). https://doi.org/10.30868/im.v1i2.281

Nuraeni, L. (2014). Pendidikan Berbasis Neuropedagogis. *Didaktik*, *8*(1), 11–20.

Oghyanous, P. A. (2017). The Effect of Brain-Based Teaching on Young EFL Learners' Self-Efficacy. *English Language Teaching*, *10*(5), 158. https://doi.org/10.5539/elt.v10n5p158

Putra Daulay, H., Dahlan, Z., Aimanun, & Siregar, A. (2021). Manusia dalam Pendidikan Islam Menurut Hasan Langgulung. *Islamic Education*, *1*(1), 11–20. https://doi.org/10.57251/ie.v1i1.9

Qasim, M., & Maskiah. (2016). PERENCANAAN PENGAJARAN DALAM KEGIATAN PEMBELAJARAN. *Jurnal Diskursus Islam*, *04*(03). journal3.uin-alauddin.ac.id

Ramakrishnan, J. (2013). Brain Based Learning Strategies. *International Journal Of Innovative Research Dan Studies*, *2*(5).

Rusman. (2010). *Belajar dan Pembelajaran Berorientasi Standar Proses*. Kencana.

Sesmiarni, Z. (2015). Brain Based Teaching Model as Transformation of Learning Paradigm in Higher Education. *Al-Ta Lim Journal*, *22*(3), 266–275. https://doi.org/10.15548/jt.v22i3.141

Sugiyono, S. (2011). *Metode Penelitian Pendidikan: Pendekatan Kuantitatif , Kualitatif Dan R&D*. Alfabeta.

Suyadi. (2021). *Pengembangan Kecerdasan Majemuk Dalam Pendidikan Anak Usia*

Dini, Khasanah Islam dan Neurosains. UAD Press.

Syaban, M. (2019). KONSEP DASAR MANAJEMEN PENDIDIKAN ISLAM. *AL-WARDAH*, *12*(2), 131. https://doi.org/10.46339/al-wardah.v12i2.141

Winarti, W., & Haq, C. N. (2013). Perbedaan Hasil Belajar Matematika Siswa Antara Yang Mendapatkan Model Pembelajaran Brain Based Learning Dengan Numbered Head Together: Studi Eksperimen di SMP Negeri 1 Cikajang Kelas VII Tahun Ajaran 2012/2013. *Mosharafa: Jurnal Pendidikan Matematika*, *2*(1), 65–76. https://doi.org/10.31980/mosharafa.v2i1.271

Zuhdi, A. (2022). *The Fundamental of Neuroteaching*. Brain Institute.