NEUROSCIENCE-BASED ISLAMIC EDUCATION LEARNING DESIGN: THE ROLE OF MUSIC, LIGHTING, AND SPATIAL PLANNING

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ABSTRAK

Tujuan dari penelitian ini adalah untuk memberikan solusi dalam desain pembelajaran PAI dengan menerapkan pendekatan neurosains yang meliputi peran musik, pencahayaan dan tata ruang. Penelitian ini menggunakan metode kualitatif dengan pendekatan studi literatur. Sumber data dalam penelitian ini berasal dari penelusuran database Google Scholar, dengan kata kunci desain pembelajaran PAI dan pembelajaran berbasis Neurosains. Hasil penelitian menunjukkan bahwa implikasi musik dalam pembelajaran melalui pendekatan Neurosains bersentuhan langsung dengan berbagai otak, berupa sistem saraf otak *Ganglia Basalis* dan *Lobus Temporalis*. Implikasi pencahayaan dalam pembelajaran melalui pendekatan neurosains juga dapat menstimulasi bagian otak, berupa *Cyrus Cingulatus* dan *Lobus Temporalis*. Implikasi tata ruang dalam pembelajaran melalui pendekatan neurosaintifik merupakan bentuk kenyamanan bagi siswa, yang juga menstimulasi bagian otak, berupa sistem saraf otak *Ganglia Basalis* dan *Limbic System*.

Kata kunci: Desain Pembelajaran PAI, Pendekatan Neurosains, Peran Musik, Pencahayaan, Tata Ruang.

ABSTRACT

The aim of this research is to provide a solution in PAI learning design by applying a neuroscience approach that covers the role of music, lighting and spatial planning. This research uses a qualitative method with a literature study approach. The data source in this research is from searching the Google Scholar database, with the keywords, PAI learning design and neuroscience-based learning. The research results show that we can see the implications of music in learning through a neuroscientific approach in direct contact with various brains, in the form of the Basal Ganglia and Temporal Lobe brain nervous systems. The implications of lighting in learning through a neuroscientific approach can also stimulate parts of the brain, in the form of the Cyrus Cingulatus and Lobus Temporalis. The implications of spatial planning in learning through a neuroscientific approach are a form of comfort for students, which also stimulates parts of the brain, in the form of the Basal Ganglia brain nervous system and the Limbic System.

Keywords: *Islamic education learning design, Neuroscience Approach, Role of Music, Lighting, Spatial Planning.*

INTRODUCTION

The neuroscience approach to learning design concepts is still quite foreign and less well known to educators. On the other hand, educators are required by the government to continue to be creative and innovative in the scope of learning, both general and specific. In this case, PAI learning is certainly inseparable from the demands to implement learning designs that continue to grow while still intersecting with creative and innovative aspects. This is in accordance with the findings by Qolbiyah &; Purnamanita (2022) which suggests that only the educator profession can change the way the brain of students works every day through the delivery of material, with the same goal, educators are also required by the environment to understand the neuroscience approach *holistic*.

The neuroscience approach focuses on the workings of the brain, where the brain's response can be influenced by external conditions, such as the educational environment. In research findings by Akbar &; Suyadi (2021) The role of the educational environment which includes spatial planning can make a sense of security and comfort, optimal lighting in the room can increase eye focus channeled to the brain in receiving material, and in optimizing cognitive and psychomotor aspects by listening to music regularly. The study provides a learning view from neuroscience, which focuses on the work of the human brain. With the same title, the current research is intended to complement the study in the context of Neuroscience-Based PAI Learning Design: The Role of Music, Lighting and Spatial Planning.

In other studies, the educational environment is a place where the process of learning values takes place in a certain period of time and place (Rosyad, 2019). Directly proportional to narration Sumiati &; Gumiandari (2022) that in the neuroscience perspective a person who has a positive behavior signifies that his brain performance is working well which is influenced by the stimulus of a positive educational environment. Meanwhile, the neuroscience approach studied by the author is more directed to 6 brain systems that will have a connection with the external conditions of the educational environment.

Furthermore, the learning process is bound by a certain time and place, as a result of which the term Learning Hours (JPL) and school appear. In addition, in

the delivery of a subject matter needed by educators, one fundamental thing is learning design, which is to adjust to the level of intelligence of the students' brains. The above statement is in accordance with the meaning of Q.S An-Nahl verse 125

اُدْعُ اِلٰى سَبِيْلِ رَبِّكَ بِالْحِكْمَةِ وَالْمَوْعِظَةِ الْحَسَنَةِ وَجَادِلْهُمْ بِالَّتِيْ هِيَ اَحْسَنُۗ اِنَّ رَبَّكَ هُوَ اَعْلَمُ بِمَنْ ضَلَّ عَنْ سَبِيْلِهٖ وَهُوَ اَعْلَمُ بِالْمُهْتَدِيْنَ

Call (people) to the path of your Lord with (wisdom) and good teaching and debate them in a better way. Verily it is your Lord who knows best who strays from His way, and He knows best who is guided ("The Qur'an of the Ministry of Commerce," 2019).

In the book entitled "Islamic Religious Education; Concept, PAI Learning Method" by Pond (2014) The above verse is interpreted as the initial foundation in the mention of the method. Where the word (ud'u) takes the form fi'il amar (command word) from the root words fi'lu al-madhi (past word) (da'a) and fi'lu al-mudhari' nya (being or going on) (yad'u), which means to exclaim or invite. When you find an indication of inviting someone, there are ways or stages that need to be done, that is called a method or design. There are three methods that can be examined through the above verse, namely, the method of wisdom, advice, and refutation (if needed).

However, PAI learning also requires an ideal design used by educators to optimize both subjectively and objectively the brain work of students. The PAI learning process has a challenge, namely making PAI a subject that is not boring and scares students. This phenomenon triggers PAI educators to be more creative and innovative in using learning design.

In the author's understanding, the designation design and method have meanings that are not much different. This is in line with Briggs' statement quoted by Prasetia &; Rosida (2022) that learning design is a system design that focuses on educators. In addition, learning design is also intended as one solution to solve problems (Zuhro, Sutomo, &; Mashudi, 2021). Furthermore, learning methods include a set of ways, paths, and techniques used by educators to achieve certain competency goals that have been compiled in the RPP. Supporting the previous statement, learning methods can be interpreted as a form of learning procedures

that focus on the success of achieving certain goals, and if classified by class, each class has a different learning method from one another (Hasanah &; Bermi, 2022; Hasibuan, Ananda, Mawaddah, Putri, &; Siregar, 2022). Through the meaning to this statement, the author can understand that the method or design is the same form, but different uses and purposes.

Based on the results of a study entitled "Neuroscience Approaches in Learning Strategies for Slow Learner Students" by Sumiati &; Gumiandari (2022) shows that "Methods that are in accordance with neuroscience-based learning strategies, including music, lighting, spatial layout, art terapy, games, fun learning, problem-based learning, cooperative learning, shaw methods, and hypno teaching". In the results of the study, neuroscience-based strategies studied through literature review can be applied to almost every subject, including PAI. However, the limitations of current research are learning design with music, lighting and spatial layout. Regarding the relationship of learning values, the educational environment with neuroscience-based learning design, as a result this paper has a relationship in literature studies, especially with neuroscience-based PAI learning design, which can later be used as a learning solution to provide a positive stimulus in the educational environment which ultimately has an impact on students' brain performance optimally.

Thus, this research uses qualitative methods with a literature study approach. The literature study approach focuses on understanding and sensitivity to theories that are in direct contact with neuroscience-based PAI learning design research. On the other hand, data collection is carried out by searching, reading, sorting, mapping, and analyzing all data sourced from journals, both national and international to researches that are in direct contact (Adlini, Dinda, Yulinda, Chotimah, &; Merliyana, 2022; Mansir, 2022) (Adlini, Dinda, Yulinda, Chotimah, &; Merliyana, 2022; Mansir, 2022). The data source in this study is from a google scholar database search, with keywords, PAI learning design and neuroscience-based learning. The search results were 56 articles, of which there were 20 articles after verification, validation and categorization in accordance with the research theme.

In addition, in a study entitled "The Importance of the Application of Literature Review to Scientific Research" by Ridwan et al. (2021) There are even three data sources, namely primary, secondary and tertiary. The first primary is in the form of government publications, journal articles, reports, and catalogs. The second secondary is a review of journals, textbooks, and publication indexes. The third tertiary is abstract, index, and bibliography.

RESULTS AND DISCUSSION

Based on the findings of the literature review that intersect with the research theme, namely neuroscience-based PAI learning design which includes the role of music, lighting, to spatial layout has an influence on the brain performance of students. This is based on the performance of the brain if it leads to positive things, there are several things that stimulate it, such as the educational environment, what they hear, lighting when learning takes place, to the arrangement of seating in learning. As for the analysis of library data sources as follows.

Neuroscience-based PAI Learning Design

PAI learning delivered by educators both face-to-face and PJJ (Distance Learning) has the same level of responsibility in ensuring learning will take place conducively and certainly enjoyable. There are solutions that can be taken by educators in ensuring this, namely by making and running learning designs according to the needs of classroom situations and conditions.

In delivering material, the position of the educator is not the only source of information, but his position increases to become a facilitator for students in every learning carried out. This of course slowly changes the thinking or paradigm both from the point of view of students, educators themselves to the community. This is aligned in the book entitled "School Based Management" by Manu &; Blegur (2017) Make it clear that there are 6 roles of educators in terms of implementation, namely educators as demonstrators, class managers, mediators, facilitators, evaluators, and administrators. Meanwhile, recognition by Amka (2021) that "educators are education personnel who are qualified as teachers,

lecturers, tutors, instructors, facilitators and other designations in accordance with their specificity and participate in providing education".

Meanwhile, educators get rights in the teaching process, this is contained in Law of the Republic of Indonesia Number 20 concerning the National Education System (2003) Article 40 Paragraph 1 Point e, "Opportunity to use educational facilities, infrastructure, and facilities to support the smooth implementation of duties". With this, educators have the flexibility to metaphor and optimize all forms of needs in the teaching process, both face-to-face and Distance Learning (PJJ).

Through explanation, recognition to the rights above, the author can draw a common thread that the educator profession has a holistic role and not just aborts the obligation to provide material to students, while educators are also required to be able to metaphor according to the needs of situations and conditions in the implementation of education in the form of learning.

Furthermore, to support this role, educators need a connecting path between the knowledge and abilities possessed by educators in being responsible for ensuring optimal learning.

From an educational point of view, learning design is needed by educators to achieve this sustainability. Appropriately, building a building certainly requires the design of the building to be built. As well as building and running a learning, educators also need learning design to achieve optimal learning goals.

In understanding learning design, at least we need to know 2 supporting conditions for students in a learning process itself, namely internal and external. Internal conditions include basic abilities, learning styles, interests and talents as well as readiness to accept learning. External conditions include environmental arrangements and conditions of learners. In interpreting these 2 conditions, if internal conditions show a negative direction, then external conditions can help change in a positive direction, with the equation that bad internal conditions are able to return to good with the support of external conditions (Suryadi, 2022).

Furthermore, the learning design itself is so close to external conditions, where the environmental settings in question are in direct contact with the situation and classroom conditions. In a study entitled "The Effect of Classroom

Management and Teacher Competence on Student Learning Achievement (In Class VIII PAI Lessons at SMP Islam NW Jakarta)" stated that 23.3% of the teaching and learning process is determined by classroom management, the rest is determined by other factors. With a simple linear regression calculation for class management variables for the teaching and learning process $\hat{Y}$= 57.864+0.267X1. The equation provides information that the average addition of one class management score is followed by an increase of 23.3 student achievement scores. The price correlation coefficient (r) is 0.609 or the determination index is 0.233 (23.3%).

The results of the above research are directly proportional to the concept of a neuroscience approach, where positive educational environmental conditions provide stimulus to the brain work of students. If the educational environment occurs in the process of reducing to the classroom environment, then a relationship is obtained between classroom management and a neuroscience approach.

The neuroscience approach is not a new approach in the scope of education, but many of us do not realize that we have used this approach unconsciously so often. As a reflection that neuroscience if it stands alone, including science that studies how the human brain works or performance, including triggering how the brain hears sounds, how the brain captures light to how the brain responds to a stimulus (Latifah &; Sahroni, 2023).

Through the reflection above, it needs to be considered again by educators of neuroscience-based PAI learning design prioritizing external conditions which include classroom environmental conditions. This can stimulate the brain performance of students. In understanding the human brain system, it is necessary to know by the reader through the explanation of Amen quoted by Dahuri (2023).

Table 1. Dahuri (2023)

Brain System	Function	Annoyance
Cortex Prefrontal	Attention, planning, rule abiding, inhibition, empathy, measurement system control, morality, ethics and organizational skills	Loss of attention, intention, impulsiveness, procrastination, reduced empathy, deterioration of ethics, disorganization
Limbic System	Control of spirit, motivation, attitude, control of sleep or eating, health, smell, sexual arousal	Disturbance of mind, lack of motivation, poor attitude, insomnia or no appetite, lack of development, solitude, discomfort with the environment, loss of life expectancy
Ganglia Basalis	Feelings of enjoyment and relaxation, methane level of worry, avoiding problems, elements of controlling body movements, delivery of happiness and enthusiasm	Tension, gerogi, anxiety, bad thoughts, tremors, addiction, loss of self-motivation
Cyrus Cingulatus	Brain power, cognitive flexibility, teamwork, picking things, early detection of problems	Worry, anxiety, rigid compulsiveness, obsessiveness, vindictiveness, difficulty detecting self-blame
Lobus Temporalis	Emotional function, emotional stability, character management, memory, auditory language, reading, social footprint, mental experience, gestures, wordplay recognition, facial expressions	Emotional reactions, difficulty accepting stimuli, moodiness, irritability, panic, fear for no apparent reason, negative thoughts, forgetfulness, loss, social skills, difficulty detecting facial expressions
Cerebellum	Speedometer that monitors movement, posture and style while walking combines information	Coordination disorders, slowing down of picker power, slowing down of speech response, impulsiveness, learning suitability, disorganization

The table above explains that there are 6 brain systems that have functions and disorders. The neuroscience approach certainly requires these 6 systems to optimize brain work, especially in learning. Meanwhile, in the discussion of research entitled "Study of the Concept of the Brain in the Qur'an: Study of Tafsir 'Ilmi on the Words Al-Nasyiyah and Al-Sadr" by Tamin (2022) The parts of the brain in the great circle are present *proencephalon* (forebrain, forebrain), *Mesencephalon* (midbrain, midbrain), and *rhombencephalon* (hindbrain,

hindbrain). Then to those 3 parts, wrapped by hair, scalp, skull bones, duramater, room *Arachnoid*, and piameter. The brain is also wrapped in an independently produced fluid called cerebrospinal. Liquid *cerebrospinal* Being a source of nutrition for the brain and serves to protect the brain from collisions or movements in the head. In a picture, as follows.

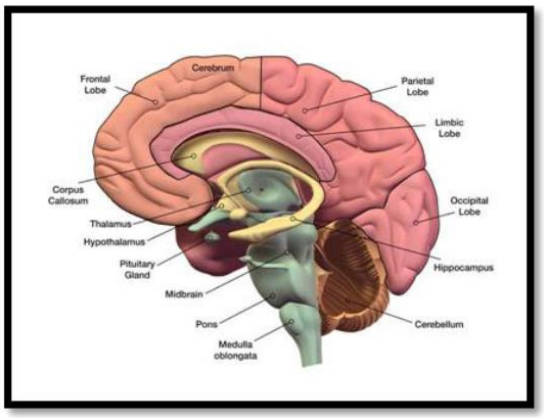

Figure 1**.** Human Brain Anatomy (Zaimatuz Zakiyah et al., 2022)

Through the explanation above, the position of the brain in the neuroscience approach is very important, because of the way the approach itself works which focuses on the human brain, and with the connection of PAI learning from external conditions in the form of classroom environment management. Then, the neuroscience approach in learning PAI became one of the many solutions offered by various speakers. This approach focuses more on how students' brain performance in external conditions to understand and analyze PAI learning. Based on exposure by Sumiati &; Gumiandari (2022) "In neuroscience-based learning design, including music, lighting, spatial layout".

Implications of Music in PAI Learning

The presence of music provides its own stimulation for students if the music heard and with the condition that students find the appropriate momentum triggers an atmosphere of happiness. This is in accordance with the function of music, namely as a means of entertainment and expression of emotional

expression. In addition, music is included in the category of art that most people are not only interested in but even like (Hannum, 2022; Lia, 2021).

In meaning by Akbar & Suyadi (2021) Music has quite complex benefits such as in terms of physical, mental and social. This benefit is certainly caused because in the singing of a music there is a sound that has rules, harmony and purpose and is relaxed, comfortable and peaceful. Therefore, the brain that gets stimulus from it is able to more effectively receive various information.

Meanwhile, in the brain system associated with the function of music there are 2 brain systems that work, among others, *the Basal Ganglia* and *the Temporal Lobe.* In these 2 systems, the *Basal Ganglia* respond to feelings of pleasure to relax and *the Temporal Lobe* responds to emotions to hearing. Through these 2 systems, the position of students in the neuroscience approach to optimize PAI learning can be collaborated holistically between the application of music for the delivery of PAI subject matter.

In the perspective of Q.S An-Nahl verse 78, as follows.

وَاللّٰهُ اَخْرَجَكُمْ مِّنْۢ بُطُوْنِ اُمَّهٰتِكُمْ لَا تَعْلَمُوْنَ شَيْـًٔاۙ وَّجَعَلَ لَكُمُ السَّمْعَ وَالْاَبْصَارَ وَالْاَفْـِٕدَةَۙ لَعَلَّكُمْ تَشْكُرُوْنَ

"God brought you out of your mother's belly knowing nothing, and He made for you hearing, sight, and conscience that you might be grateful" ("The Qur'an of the Ministry of Commerce," 2019).

In the Brief Tafsir of the Ministry of Religion "Allah is Almighty and All-Knowing; nothing escapes His knowledge. And among the proofs of God's power and knowledge is that He has brought you out, O man, from your mother's belly. You did not exist before, then there was a process that manifested you in the form of a fetus that lived in the mother's womb within the time He specified. When the time comes, God takes you out of your mother's belly knowing nothing, either about yourself or about the world around you. And He gives you hearing to hear sounds, sight to see objects, and conscience to feel and understand. Thus, God bestows it upon you that you may be grateful."

Through the verses, translations and interpretations above, the author understands that with the neuroscience approach through music in the form of sound, without us realizing it has optimized the grace that God entrusted to us. In

this study, which refers to students in PAI learning using music as a neuroscience approach, they are able to remember information faster, because in music there is a rhythm that responds to the brain system of students (Rusdianah, Wahyudin, &; Mustofa, 2022).

Implications of Lighting in PAI Learning

Learning done in poor lighting, can interfere with the optimization of vision that leads to sending information to the brain system. At least good lighting can be measured when an object is clearly visible, and known to humans quickly without excessive effort. Meanwhile, lighting can be obtained naturally from sunlight and artificially, it can be in the form of lamps, candles and artificial tools to support special lighting in classroom management (Ardhiyanti et al., 2023).

In view (Ministerial Regulation Number 24 on Facilities and Infrastructure Standards for Elementary Schools/Madrasah Ibtidaiyah (SD/MI), Junior High School/Madrasah Tsanawiyah (SMP/MTs) and Senior High School/Madarasah Aliyah (SMA/MA) (2007) A good school building must meet the standard of "Have sufficient facilities for adequate air ventilation and lighting." The author's interpretation of adequate lighting tends to be good lighting and can support learning in the classroom.

Referring to the neuroscience approach that focuses on parts of the brain, there are 2 systems that respond to lighting, including, *Cyrus Cingulatus* and *Temporal lobe*. Author's understanding in the system *Cyrus Cingulatus* There is a function of cognitive flexibility, which in the journal discussion on "Developing Logical Thinking Skills" in an effort to develop the ability process which includes how to respond to analyze an event, including cognitive tendencies for students (Rosmauli &; Watini, 2022).

Furthermore, the brain system *of the Temporal Lobe*, where this part in the meaning of the author can respond to reading activities which is directly proportional to the indication of good lighting (can be seen clearly), this equation also means that it can carry out reading activities in a classroom with adequate lighting.

Meanwhile, from the perspective of QS. An-Nur verse 35, as follows.

اَللّٰهُ نُوْرُ السَّمٰوٰتِ وَالْاَرْضِۗ مَثَلُ نُوْرِهٖ كَمِشْكٰوةٍ فِيْهَا مِصْبَاحٌۗ اَلْمِصْبَاحُ فِيْ زُجَاجَةٍۗ اَلزُّجَاجَةُ كَاَنَّهَا كَوْكَبٌ دُرِّيٌّ يُّوْقَدُ مِنْ شَجَرَةٍ مُّبٰرَكَةٍ زَيْتُوْنَةٍ لَّا شَرْقِيَّةٍ وَّلَا غَرْبِيَّةٍۙ يَّكَادُ زَيْتُهَا يُضِيْۤءُ وَلَوْ لَمْ تَمْسَسْهُ نَارٌۗ نُوْرٌ عَلٰى نُوْرٍۗ يَهْدِى اللّٰهُ لِنُوْرِهٖ مَنْ يَّشَاۤءُۗ وَيَضْرِبُ اللّٰهُ الْاَمْثَالَ لِلنَّاسِۗ وَاللّٰهُ بِكُلِّ شَيْءٍ عَلِيْمٌۙ

"Allah (giver) of light (on) heaven and earth. The parable of His light is like an impenetrable hole (in the wall) (518), in which there is a great lamp. The lamp in the glass tube (and) the glass tube is like a star (which glitters like a) pearl, lit with the oil of the blessed tree, (that is) the olive tree which grows neither in the east nor in the west (519), whose oil (alone) almost illuminates even if it is not touched by fire. Light on top of light (in layers). God gives guidance to His light to those He wills. God made parables for man. Allah knows all things" ("The Qur'an of the Ministry of Commerce," 2019).

(518) An impenetrable hole (misykāt) is a hole in the wall of a house that is impenetrable to its side, which is usually used as a place to put lamps or other items.

519 The olive tree grew on the top of the hill. The tree gets sunlight, from sunrise to near sunset, so it thrives and its fruits produce good oil.

In the Complete Tafsir of the Ministry of Religion "Allah is the giver of light, hence He sent down the Qur'an to be a light for human life. God is the giver of light to heaven and earth, both visible material light and immaterial light such as faith, knowledge, and others. The parable of the brightness of His light that illuminates the hearts of believers is like an impenetrable hole so that it is not buffeted by the wind that can extinguish light, and help gather light and reflect it; in which was a large lamp. The lamp in the glass tube and the glass tube is like a sparkling star, lit with the oil of the blessed tree, the olive tree, which grows neither in the east nor in the west, so that it always gets sunlight throughout the day. The clarity of the oil alone is almost illuminating, even if it is not touched by fire. Light on top of light, layered; The lamp is light, so glass and oil are so clear, that the light is perfect. Allah instructs His light for those He wills, that is, anyone who follows the instructions of the Qur'an, and Allah makes parables for people so that they can easily understand its content and take lessons from it until they finally want to believe. And Allah knows all things; there is not the least hidden from Him".

Referring to the verses, translations and interpretations above, the author can understand explicitly that light is divided into 2 categories, material and immaterial light. All visible light has a material meaning. By (Ministry of Education and Culture, n.d.) visible means visible to the eye; real; concrete. For example, in the form of lamps and the like. While all invisible light has an immaterial meaning, in the form of light of faith, knowledge and the like. Examining the 2 categories of light in the context of PAI learning, it was found that material light that can be combined with PAI learning.

In addition, in research studies by Akbar &; Suyadi (2021) obtain findings of ideal light criteria used by learners with media such as *white board*, *black board*, and LCD Projectors in PAI learning between 250-500 lux. In the findings of the study also stated that there are several things related to the requirements of lighting sources, including not dazzling, spreading evenly, not flickering, and not causing reflections or shadows on certain objects and the intensity must always be measured by the load of teaching and learning activities.

Therefore, through the presentation of the study of neuroscience approaches, there is a relationship between the implications of lighting in PAI learning that focuses on neuroscience approaches, with which educators get choices in applying PAI learning designs. Creative and innovative learning design is the basis for educators to try this approach, moreover there is a correlation in the source of QS An-Nur verse 35.

Implications of Spatial Planning in PAI Learning

In classroom management, the arrangement of space has a very important contribution. Where the spatial layout becomes a place or container for students to receive all information from various sources. It has also been set in (Ministerial Regulation Number 24 on Facilities and Infrastructure Standards for Elementary Schools/Madrasah Ibtidaiyah (SD/MI), Junior High School/Madrasah Tsanawiyah (SMP/MTs) and Senior High School/Madarasah Aliyah (SMA/MA) (2007) which confirms "The minimum ratio of classroom area is 2 m2/learner. For study groups with less than 15 students, the minimum classroom area is 30 m2, the minimum width of the classroom is 5 m."

In this condition, students can feel comfortable if the classroom is arranged in such a way as an effort to support learning. Classroom management in the form of spatial planning is included in external conditions that are accommodated in facilities and infrastructure, in a study entitled "Classroom Management Design Based on Creative and Fun Learning in PAI Learning" the comfort of students can be influenced by classroom conditions which will have an impact on learning (Mannan, Khoiri, &; Mutammimah, 2023).

In this condition, the author's understanding in neuroscience approaches with the part of the brain that responds in the form of a brain system *Basal Ganglia* and *Limbic System*. The meaning of relax and enjoy in *Basal Ganglia* can also be interpreted as a sense of security to comfort. The results of a study entitled "The Importance of Completeness of School Facilities to Student Learning Comfort at SD N 008 Samarinda Ulu" by Kusumarini et al. (2022) shows that "Facilities and infrastructure play an important role in a school to support all activities and achieve a goal that is achieved, therefore student learning facilities and comfort are very important in a school to increase student enthusiasm for learning". With research subjects in the form of principals, teachers and students. In this case, the classroom layout can be included as a complement to school suggestions and infrastructure.

Then, the Limbic System brain system when viewed in terms of interference there is a sense of discomfort with the environment. With the resistance of the word, that if the surrounding environment, especially in the classroom, is good, then a sense of comfort will be present through the brain system.

Meanwhile, from the point of view of QS. Al-Isra verse 84, as follows.

قُلْ كُلٌّ يَّعْمَلُ عَلٰى شَاكِلَتِهٖۗ فَرَبُّكُمْ اَعْلَمُ بِمَنْ هُوَ اَهْدٰى سَبِيْلًا ع

"Say (Prophet Muhammad), 'Everyone acts according to his own nature.' Then your Lord knows better who is more righteous in his ways." ("The Qur'an of the Ministry of Commerce," 2019).

Brief Interpretation of the Ministry of Religion Say, O Prophet Muhammad, "Everyone acts according to his own circumstances, that is, according to his nature, his way and his tendency to seek guidance and walk the

path to the truth." Then your Lord knows better who is more righteous in his ways and who is more perverted in his ways. To each person of both factions, God rewards him according to his actions.

Referring to the research entitled "Tafsir Ayat-Ayat Alquran concerning Infrastructure Management" by Cape (2017) In material analysis, it was found that "everyone who acts according to their own circumstances" has the meaning of "doing" refers to delivery and "with their own circumstances" conveys with all the effort that requires the media.

Meanwhile, the author supports these findings, where in interpreting media, it can also mean the classroom, and to adjust to what will be delivered by educators, it is very necessary to organize or manage the classroom.

Therefore, PAI learning with a neuroscience approach is very connected, supported by verse sources, translations and interpretations. Not only that, this interpretation and findings become a strong foundation in the application of neuroscience approaches in PAI learning, both face-to-face and Distance Learning (PJJ) optimally.

CONCLUSION

Learning design in the neuroscience approach can be concluded to have an important role, especially in external conditions which include the role of music, lighting, and spatial planning. The implications of music in learning through a neuroscience approach can be seen in direct contact with the brain, in the form of the brain system of *the Basal Ganglia* and *Temporal Lobe.* The implications of lighting in learning through neuroscience approaches can also stimulate parts of the brain, such as *Cyrus Cingulatus* and *the Temporal Lobe.* The implication of spatial planning in learning through a neuroscience approach is a form of student comfort, which also stimulates parts of the brain, in the form of the brain system *Ganglia Basalis* and *Limbic System.*

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