



DEVELOPMENT OF BRAIN BASED LEARNING MODEL FOR FORMAL EDUCATION BY PLANTING CULTURE VALUE

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Abstract

The objective of this study is to explore the use of brain based learning approach in character education through formal education. Law insists that education is a conscious effort to develop the potential of every student to become a smart, creative, and noble citizen. Cultural values suggest human condition to live with mutual respect with different values shared together. If this condition is achieved, a harmonious life for all human life can be realized. However, why manners, creativity, independence and other human traits is fading? Education is among the most highlighted. Some extreme opinions has highlighted that the education has uprooted children from their cultural roots. This is caused by monotone and curbing learning, which places child as an object of learning, rather than active subjects. To restore the function of education in the direction expected, the learning climate must be created as closely as possible to real life as well as the integration of curriculum with real things in life. This condition will encourage learners to develop and become intelligent, creative, and noble children. This has become one of the target of the application of the brain based learning.

KeyWords : *Brain based larning, education, cultural value.*



A. Introduction

The current conditions that occur in an educational setting sometimes do not bring a pleasant atmosphere for learning. Students tend to feel better outside of class hours, but if in the classroom they feel burdened. This can be seen from the lively cheers of the students if they hear today's announcement that they are not studying because the teacher is meeting. Their faces are happy as if they are free from shackles. One characteristic of cultural values is having abstract objects. The nature of these norms, morals and values is poorly understood by students, especially in terms of cultural values. Not a few students who do not understand the culture, when asked where the village, he was busy looking at the right see left looking for the answer.

One characteristic of cultural values is having a value object. The nature of this value is that many students have difficulty understanding it. Not a few students know what to do, but in doing so it is not done. Teachers as the spearhead of the transformation of science and forming character in students must have high creativity. The teacher must always strive for learning in the classroom so that it can produce meaningful results in accordance with the demands of the current era and curriculum optimally. Micro-teachers must find effective and efficient learning models in the classroom. How teachers can make the subjects taught become favorite lessons and students compete in the front seats to follow the learning we are teaching. The learning model chosen must be interesting, fun and meaningful.

This *brain based learning* model is adopted from several suggestion theories, brain based learning theory, triune theory, modality choices (visual, audiovisual and kinesthetic) and holistic education. Along with the development of the world of education, in 1999 the United States developed a teaching approach called Quantum Learning by Bobbi de Porter and Mike Hernacki. The results of the study showed that the application of the concept of Quantum Teaching succeeded in boosting students' psychic potential, there was an increase in motivation by 80%, a learning value of 73% and an increase in self-confidence 81% (De Porter, 2004: 4).



The use of *brain based learning* models in formal education is expected to improve learning outcomes, maximize learning motivation and strive to be one of the formal learning strategies that can improve student learning outcomes and improve student achievement as a reference for character formation optimization.

Brain based learning is learning that is aligned with the workings of the brain that is scientifically designed to learn. While the implementation of the *brain based learning* model by activating the right brain and left brain (Kotchadakdi). Furthermore Awalola revealed that *brain based learning* is student-centered learning as a facilitator whose role is to support students' cognition (in Anas, Z, 2011)

According to Sapa'at in Akbar (2008) the potential of students' brain that is unlimited can be optimized by designing learning that combines all brain functions in learning. Unfortunately, the potential of our brain as the main modality is not optimally empowered. One learning model that optimizes brain work and is expected to improve learning outcomes, namely the *Brain Based Learning* model.

According to Jensen (2011) "*Brain Based Learning* is Brain-Based Education which is learning according to the way the brain is designed naturally to learn". In addition, according to Sapa'at in Jansen (2011) states that "*Brain based learning* offers a concept for creating learning oriented efforts to empower students' brain potential". The three main models that can be developed in the implementation of *Brain Based Learning* are: (1) creating a learning environment that challenges students' thinking abilities; (2) creating a pleasant learning environment; and (3) creating active and meaningful learning situations for students.

This approach develops the ability of the left brain and right brain. The process of thinking of the left brain is logical, sequential, linear and rational, the way of thinking is in accordance with verbal expression, writing, reading, placing details and facts, phonetics and symbolism. The way of thinking of the right brain is random, irregular, intuitive, and holistic, in accordance with ways to find out which are nonverbal, such as feelings and emotions, consciousness that is related to feelings (feeling the presence of an object or person), special awareness, recognition of forms



and patterns, music, art, color sensitivity, creativity and visualization. The two hemispheres are important, people who often use these two hemispheres of the brain will also be "balanced" in every aspect of their lives. Learning also feels very easy for them because they have the choice to use the parts of the brain needed for each job they face.

To balance the left brain with the right brain, music and aesthetics need to be included in the learning experience, all of which cause positive emotions that make the brain work effectively. (DePorter & Hernacki, 2004).

Jensen (2011) an expert on learning based on the workings of the brain (*Brain Based Learning*) revealed that the brain is indeed not designed to follow formal instructions. "In fact, the brain is not designed for efficiency or order at all. Indeed, the brain develops best through selection and ability to survive. All of this is obtained through experience dealing with various problems in life. Through involvement in dealing with and resolving the problem of the ability of the brain to work optimally, because a problem experienced requires the brain to work harder. "The problems faced today cannot be solved with the same level of thinking or with the same devices that have created the problem (ibid).

Based on several theories above the learning process usually provides space for students to express their potential, schools need to provide productive "places" to let go of frustration and give attention. The human brain has unlimited abilities, the positivity is unlimited, the negative is also unlimited. The experts of the brain agree that until now there is no one tool that is able to measure the ability of the human brain. During this time we often talk about the ability of two sides of the brain, namely the left brain (logic) and the right brain (creativity and faith). The study of the brain shows that the brain does not only consist of two sides. Jensen explains that there are four main parts, namely the *occipital lobe* (the back), the *frontal lobe* (the front), the *parietal lobe* and the *temporal lobe*, and each part has sides, each side and parts of the brain have a function different, all of which run in synergy. The main task of education is not to develop one side of the brain, but to build a "bridge" or *corpus collosum* between the sides of the brain. The larger the bridge that is built, the more



fluid the brain is to flow from one side to the other, so that the more agile in giving consideration before making a decision. Thus, the person concerned will be able to make the right decision at the right time before taking action.

The sides that become the dominant potential in a person are developed by those concerned, supported by the right learning climate. This is what results in everyone having different potential. This is fitrah, as expressed by Engku Sjafii (founder of INS Kayu Tanam, West Sumatra), "from the mango tree, do not ask for rambutan fruit", take care of each one in the right way so that every philhon produces sweet fruit with a variety of flavors in accordance with the character. Isn't the diversity of flavors keka-yaan (in Anas, Z, 2011).

B. Research Methods

This study uses a method of analysis and literature review. The educational and learning discourse that often occurs today is analyzed by general trends. The discourse is not on the side of creativity and character habituation, then the solution is proposed with the brain based learning model.

C. Results and Discussion

Learning is the result of learning. The term learning is a translation of the instruction word. According to Gagne, Briggs and Wager (in Winata Putra et al., 2008) learning is a series of activities designed to enable the learning process to occur in students. In terms of learning, student interaction is not limited by the physical presence of the teacher. Students can study through printed teaching materials, radio programs, television programs or other media. Of course the teacher still plays an important role in designing each learning activity.

In the learning process the teacher must have a strategy so that students can achieve learning goals well. One element in the learning strategy is mastering the presentation techniques or teaching methods.



Learning is a mental activity (psychic) that takes place in active interactions with the environment which results in changes in knowledge, understanding, skills, and attitude values. Change is relative and trace (Winkell in Winataputra, 2007). According to the understanding psychologically, learning is a process of change, namely changes in behavior as a result of their interactions in their environment in fulfilling their life needs.

Changes due to learning can occur in various forms of behavior, from the cognitive, affective, and / or psychomotor domains. Not limited to just adding knowledge (B.S Blom in Winataputra 2007). Change does not have to directly follow the learning experience. Immediate changes are generally not in the form of behavior, but mainly only in the potential of a person to behave.

Learning is a business process carried out by individuals to obtain behavioral changes in their interactions with the environment. Some learning goals include:

1. Learning aims to make changes in oneself, including behavior.
2. Learning aims to change attitudes from negative to positive, disrespectful to respect.
3. Learning aims to change bad habits to be good, and increase knowledge in various fields of knowledge such as not being able to read, write and so on

From the explanation above, learning will take place effectively and efficiently if it is supported by the teacher's skill in managing the learning strategy. The way the teacher manages the learning strategy is very influential on the way students learn. In presenting teacher learning material, do not be confined to just one type of technique.

Human and cultural relations are very closely related to each other, in human language derived from the word "*manu*" (Sanskrit), "*mens*" (Latin), which means thinking, understanding or intelligent being. Culture originates from a cultural word which is a word-of-compound compound word which means copyright, intention and taste. In Sanskrit language culture is called *budhayah* which is the plural form of the word *budhi* which means mind or reason. Basically humans are cultural beings who must



cultivate themselves, Humans as cultural beings are able to break away from the bonds and impulses of their instincts and are able to adapt to the surrounding environment and learn about the environment with the knowledge they have. Culture also teaches human beings some important things in life such as polite & polite ethics to make a distinctive characteristic of Indonesian culture. Humans and culture have inseparable bonds in this life. Humans are the most perfect creatures of God creating their own culture and preserving it downwardly. Culture is created from daily activities and also from events that have been arranged by the Almighty.

Humans or people can be interpreted differently according to biological, spiritual, and cultural terms, or in a mixture. Biologically, humans are classified as *Homo sapiens* (Latin), a primate species from a class of mammals equipped with a highly skilled brain. In terms of spirituality, they are explained using various mental concepts in which, in religion, they are understood in relation to the power of divinity or living things; in myths, they are often compared to other races. In cultural anthropology, they are explained based on the use of their language, their organization in plural societies and the development of their technology, and mainly based on their ability to form groups and institutions to support one another and help.

According to Koentjaraningrat (1986) culture originates from the words of wisdom and power (cultivation) or power (effort or *power*) of a mind, the word culture is used as an abbreviation of culture with the same meaning ". English language is called *culture*, derived from the Latin language *colere* which means processing or working, *culture* is defined as all the efforts and actions of humans to process nature (Ibid: 182). In the dictionary of Indonesian, the culture is interpreted as "fruit or result of mind / reason".

Parsudi Suparlan in Nugroho, Widyono (1994) defines power as "a set of capabilities possessed by humans as biosocial creatures that they use to understand and interpret the environment and its experiences, and become a framework for realizing behavior. In this understanding culture is a mechanism of control for all human behavior. Culture is a series of



rules, instructions, recipes, plans, and strategies, which consist of a series of cognitive models that are used selectively by humans who have them according to the environment they face.

Sidi Gazalba in Nugrogo, Widyo (1994) defines culture as a way of thinking and feeling then expressed in the whole life of a group of people who form society in a certain space and time.

Sumardjan and Soelaeman Soemardi in Laksono (1999) they interpret culture as "all works, tastes, and inventions of society". Thus, culture or culture has a very broad meaning and as if there is no limit. He covers various dimensions of human life which are born as a result of reason and reason, from the smallest to the largest; starting from the procedure for eating to the procedures for managing a country. Because of the wide range of cultures, there are many definitions or cultural meanings expressed by scholars. In the book *Culture: A Critical Review of Concepts and Definitions*, for example, David Kroeber and Kluckhohn gathered around 160 cultural definitions expressed by scientists. Of these many definitions, there is no single definition that can bring together all the complexities of culture. Each definition only emphasizes one or several aspects of culture.

Edward Burnett Tylor (in Koentjaraningrat, 1986) defines culture as a whole complex of knowledge, beliefs, arts, morals, laws, customs, abilities and habits that humans get as members of society. Thus, according to Tylor, culture includes everything that is acquired or learned by humans as members of society. The same thing was also expressed by Prof. Dr. Koentjaraningrat, that culture is a whole system of ideas, actions and results of human work in the framework of the life of the people that are used as human property by learning.

Clifford Geertz in Masinambaw, 1997: Book writer *Abangan, Santri, Priyaydi in Javanese Society* defines culture as a system in the form of conceptions inherited in a symbolic form so that in this way humans are able to communicate, preserve, and develop their knowledge and attitudes towards life. Here, Geertz emphasizes culture as a set of ideas as a creative process of inherited reason and then coloring the life of a society. Although definitions of culture have different points of view, each



definition concludes similarities, namely that culture is a human creation. As such, there is no culture without humans and no human without culture. Humans and culture are like two inseparable sides of a coin.

Irianto in Mawardi 2009, stated that there are at least two streams in defining culture, namely *positivist* and *interpretivism*. The fundamental difference in the two schools lies in the paradigm of human relations with the surrounding environment. The flow of positivism views human beings as part of nature that is based on social laws, its behavior can be learned through observation and regulated by external causes. On the contrary, the *interpretivism* class views people as members of society who share with each other a social system and system of meaning. Humans occupy a central position, reality and social relationship are the results of human creation which are regulated through a system of meanings.

This paper does not dispute the differences between the two streams, but both opinions are used to complement a review of a complex culture. That is, the two income aims to strengthen the argument that culture is an important element in building harmony in life. In line with all these opinions, as an affirmation, we can refer to the opinion of Daoed Joesoef (1982) which states: "culture is a system of values and ideas that are lived in by a group of people in a particular environment in a certain period". Culture is interpreted as all things related to culture. In this context, cultural reviews are seen from three aspects, namely *first*, universal culture, which is related to universal values that apply anywhere that develops in line with the development of community life and science / technology. *Second*, national culture, namely the values that apply in Indonesian society nationally. *Third*, local culture that exists in the lives of local people. These three aspects are closely related to the education system as a vehicle and process of cultural inheritance.

Culture takes its constituent elements from all sciences which are considered really important and very necessary in interpreting all that is in their lives. This is needed as a basic model to be able to adapt and maintain (*survival*). Culture is seen as values that are believed to be shared and internalized in the individual so that they live in every behavior. The values that are lived out or the ideas that are believed are not the creation



of each individual who lives and believes in them, all of which are obtained through the learning process. All concepts and thoughts about culture show a close relationship between knowledge in the realm of knowledge (cognitive) with attitudes and behaviors that are in the realm of skills (psychomotor) and attitudes (affective). Culture is seen as values that are believed to be shared and internalized in the individual so that they live in every behavior. The values that are lived out or the ideas that are believed are not the creation of each individual who lives and believes in them, all of which are obtained through the learning process. This confirms that the formation of behavior can start from building knowledge (cognitive), followed by the process of forming attitudes and behavior through habituation, or vice versa, knowledge is built beginning with the development of personality or often referred to as learning how to learn (*learn how to learn*). All of this confirms that the development of knowledge (cognitive) cannot be released from the formation of attitudes and behavior. Thus, it should be, the higher or the depth of one's cognitive knowledge, attitudes, behavior and personality also develop. That is, the higher a person's knowledge, he should be more virtuous (noble).

Cultured human beings are human beings who show consistency between the knowledge they have and their attitudes and behavior. These attitudes and behaviors are manifested in reference to the values that are believed. So, human beings are truly human beings who are intelligent human beings who are able to maintain speech, speech and behavior so that they can play an active role in building a harmonious life.

Brobbly in Hamdani (2010) suggests a motivational strategy used by teachers to stimulate students / students to be productive in learning: Linkages to environmental conditions that contain conducive environments, conditions of difficulty, learning conditions with meaningful strategies In other words motivation is an encouragement contained in a student to try to make changes in behavior that can be interpreted in behavior in the form of optimization stimulation, encouragement and curiosity. The following are some of the efforts of teachers to maintain and increase learning motivation (Hamalik, 2001): (1) Link learning objectives to student goals, so that learning objectives



become student goals or the same as students' goals (2) Make meaningful lessons, namely :(a) Linking learning material to daily life, (b) Linking learning material to student experience, (c) Making presentation more interesting, namely by choosing a learning model or method that makes students more attentive.

Culture is created or realized is the result of interaction between humans and all the contents that exist in this universe. Humans are created by God by being equipped with reason so that they are able to work on this earth and essentially become caliphs on this earth. Besides that humans also have reason, intelligence, intuition, feelings, emotions, will, fantasy and behavior. With all the capabilities possessed by humans, humans can create culture. There is a dialectical relationship between humans and culture. Culture is a human product, but humans themselves are products of culture. In other words, culture exists because humans create it and humans can live in the middle of the culture they created. Culture will continue to live when there are humans as supporters.

There are three forms of culture, which include the following.

1. As a complex of ideas, ideas, values, norms, regulations, and others. This form is the ideal form of culture. The place is in the head or mind, or it can also be contained in the writings. Another more appropriate term to describe the ideal form of this culture is custom or customs.
2. As a complex pattern of activities and actions from humans in society. This form of culture is often referred to as a social system or *social system*, namely the patterned human action itself. As a series of human activities, this social system or form of culture is concrete or real, happens all the time around us, can be observed, and can be documented.
3. As objects made by humans. This form of culture is often referred to as physical culture. Because of the nature of physical objects, this form is very concrete, palpable, seen, and photographed. For example, computers, buildings, and clothing.

According to J.J. Hoenigman in Koentraningrat (1986) forms of culture are divided into three: ideas (ideal forms), activities (actions), and artifacts (works).



1. The ideal form of culture is culture in the form of an abstract collection of ideas, ideas, values, norms, regulations, etc. cannot be touched or touched. This form of culture lies in the heads or in the minds of the people. If the community expresses their ideas in written form, then the location of the ideal culture is in essays and books produced by the writers of the community members.
2. Activity (action) is a form of culture as a patterned action from humans in that society. This form is often referred to as the social system. This social system consists of human activities that interact with each other, make contact, and associate with other humans according to certain patterns based on customary behavior. It is concrete, occurs in everyday life, and can be observed and documented.
3. Artefact (work) is a form of physical culture in the form of the results of activities, actions, and works of all humans in society in the form of objects or things that can be touched, seen, and documented. The most concrete nature among the three forms of culture. In the reality of social life, one form of culture cannot be separated from other forms of culture. For example: the ideal form of culture regulates and gives direction to human actions (activities) and works (artifacts).

Based on this form, Culture has several elements or components, according to antropologist Cateora in Koentraningrat (1986), namely:

1. Material culture refers to all real, concrete community creations. Included in this material culture are findings produced from an archaeological excavation: clay bowls, preparations, weapons, and so on. Material culture also includes items, such as televisions, airplanes, sports stadiums, clothing, skyscrapers, and washing machines.
2. Nonmaterial culture is abstract creations that are passed down from generation to generation, for example in the form of fables, folk tales, and traditional songs or dances.
3. Social institutions and education provide many roles in the context of relating and communicating in the community. The social system that is defeated in a country will become the basis and concept that applies to the social order of society. Example In Indonesia in cities and villages in some areas, women do not need high school especially



working in one agency or company. But in big cities it is reversed, naturally a woman has a career.

4. System of belief or belief in something, this will affect the assessment system that exists in society. This belief system will affect habits, how to look at life and life, how they consume, and how to communicate.
5. Esthetics is related to art and art, music, stories, fairy tales, saga, drama and dance, which apply and develop in society. As in Indonesia, every society has its own aesthetic value. This aesthetic value needs to be understood in all roles, so that the message we will convey can achieve the goal and be effective. For example, in some areas and regions, each will build what type of structure must be placed yellow leaf and fruits, as a symbol that means in each area is different. But in big cities like Jakarta, it is rarely possible to see people using this method.
6. Language is a means of communicating, the language for each region, part and country has a very complex difference. In the science of language communication is a component of communication that is difficult to understand. Language has a unique and complex eel, which can only be understood by users of this language. So the uniqueness and complexity of this language must be learned and understood so that communication is better and more effective by gaining the value of empathy and sympathy from others.

Elements of universal culture or culture according to C. Kluckhohn (in Koentjaraningrat, 1986) include the seven basic elements that each culture has, namely as follows.

1. Language
2. Knowledge system
3. Social organization
4. Life and technology equipment systems
5. Living livelihood system
6. Religious system
7. Art

Everything that is in society is determined by the culture of the society itself. Good or bad behavior or attitude of society also depends on



the culture. Every society has a culture that is continuously adhered to and taught from generation to generation. Consciously or unconsciously, structurally or unstructured, the community through its members will teach their culture. This teaching process is called cultural transformation or cultural inheritance. The process of cultural transformation can be done through speech, attitudes, or behavior that has been patterned. In other words, cultural transformation is carried out through the learning process.

In relation to the environment, humans are a living organism (living organisms). The formation of one's personality is influenced by the environment even in extreme terms, everyone comes from one environment, both vertical environment (genetics, tradition), horizontal (geographic, physical, social), and historical. When a human is born, he feels the difference in temperature and loss of energy, so the child cries, demands that the difference be reduced and the loss is replaced. From there arises the basic assumption that every human being is given sensitivity to sense of discrimination and the desire to live. To be able to live, he needs something. Tools to meet those needs sourced from the environment.

Humans and culture are one of the inseparable bonds in this life. Humans are the most perfect creatures of God creating their own culture and preserving it downwardly. Culture is created from daily activities and also from events that have been arranged by the Almighty.

Culture comes from a cultural word which means things related to mind and human reason. The definition of kebudayaan itself is something that will affect the level of knowledge and includes a system of ideas or ideas contained in the human mind, so that in everyday life, culture is abstract. But we can also enjoy culture with our five senses. Songs, dance and language is one form of culture that we can feel.

Humans and culture essentially have a very close relationship, and almost all actions of a human being are culture. Humans have four positions on culture, namely:

- 1) adherents to culture
- 2) bearers of culture
- 3) cultural manipulators, and



4) creator of culture

A large culture usually has a sub-culture (or commonly called a sub-culture), which is a culture that has little difference in terms of behavior and beliefs of its parent culture. The emergence of sub-cultures is caused by several things, including differences in age, race, ethnicity, class, aesthetics, religion, work, political views and gender.

Early education can provide services that are in accordance with the potential that they have and direct them to prepare for the challenges ahead. Education leads to character formation, concrete performance (*observable*) that develops in three domains of ability, namely: cognitive, psychomotor, and affective. Capacity building in these three domains is seen as a complementary and integrated entity.

Education providers are expected to be able to develop programs and learning processes to lead students to have competence and be able to develop everything they already have, which is obtained during the learning process, so that it is beneficial in life both academically and in daily life. It should also be emphasized here that in real life, between academic and non-academic abilities coalesce in a continuum. For this reason, the program and the learning process should not make a *dichotomy* between the two. All of this shows that education is an effort to build a culture of society so that a modern, advanced, and harmonious life is created based on cultural values believed to be shared by a society.

D. Conclusion

The inconsistency between educational goals which are formulated in the practice of learning, creates a distance or separation between knowledge and attitudes and behaviors of students. The learning process actually makes children passive. This gives rise to the assumption that good children are children who sit, listen, shut up, do what they are told to do. This condition runs more than 90% of the time allocated for learning. Such rigid learning processes will break the relationship between cognitive, psycho-motor, and affective.



So that the aim of education is to develop potential through providing the widest possible space for each student to grow into a smart, creative and noble person who is difficult to achieve. The potential of students will develop if education provides the widest possible space so that students are free to express and have a sense of belonging. This condition will minimize the chances of developing negative attitudes. For this reason, it is necessary to develop a natural learning situation or climate, similar to real and democratic life. Otherwise, children will be uprooted from their cultural roots. Brain Based Learning is one model to overcome this problem.

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