

## NEURO-PSIKOLINGUISTIC APPROACH IN BUILDING STUDENTS' CHARACTER IN THE PREPUBERTAL AGE: A REFLECTION OF JAPAN'S BASIC EDUCATION SYSTEM

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### Abstract

This paper discusses the implementation of neuro-psycholinguistic in building students' character in the prepubertal age in primary school. Psycholinguistic approach composed consists of three things, namely: comprehension, production, and bio-neurological. Reflecting the basic education learning system in Japan, it tries to explain how the Japanese government's role in building the students' character, especially at primary school age. Various competences, cognitive, psychomotor, and affective domain, in prepubertal age are being discussed through neurolinguistic studies how Japan become a advanced country. It was built together by the three pillars to build students' character, the government, schools, and parents. Based on psycholinguistic approach, it reveals that the Japanese character is built through a long process, especially in the prepubertal age, as this age is the rapid nerve cells in the brain work in the process of localization of various intelligence functions, especially the treatment to the children in the area of emotional intelligence of the right hemisphere of his brain, so it internalized into the character of each individual until adulthood. From the review of the theoretical and practical neuro-psycholinguistic approach to build the students' character, proving that education plays an important role in the growth and development of children as the future generation. Indonesian language learning competence (especially "writing" used to be called the "composing" is expected to develop language skills so that students are characterized by 4 basic competencies, i.e. reading, writing, listening, and speaking. Through these basic competencies, it is expected that the students will have core competencies and soft skills such as hard skills that reflects the attitudes, skills, and knowledge students that are interlinked subjects to each student-student in the group. In addition, through the concept of "Liderlis" (see, hear, and write), "Firalis" (think, feel, and write), and "Menudas" (read - write - smart) will produce the students with good character, that are able to translate text and experience into values which will build the personality of the students. It require good cooperation between the government, teachers, and parents to gether in creating an educated and character of human being in Indonesia.

**Keywords:** neurolinguistics, Japan's character, prepubertal age, writing

### A. INTRODUCTION

Neurolinguistics is one of the ways used by human being to enhance their thought which help them to change their behavior. Aitchison (1998) defines neurolinguistics as the study of language and mind or the study of mental process in using language. Futhermore, Clark (1995) mentions that neurolinguistics deals with three processes, including comprehension, production, and neuro-biological base. Thus, neurolinguistics can be define as the study of mental processes that human being pass during their activity in using and understanding language which reflected in their behavior.

Comprehension is a mental process which enable human being to understand what people said either by spoken or written language, and also understand what the speaker intention is (reseptive competence). Production deals with mental process that enable human being to produce language either spoken or written language to express their thought, idea, or feeling (expresive competence). While neuro-biological base is defined as devices or organs that enable human being to use language in communication (including brain and speech organs).

When the three mental processes above work properly in respect to value, norm, and culture value, by that mean from localization of the brain to lateralization of the brain, the intended character will be builded properly as well. This process begins by the development of neurons in the brain since 4 months fetus in the womb until puberty around 11-12 years old (Geshwind, 2000). Any positive behavior which conveys through language will be figured out by other people. The problem is how to train these three processes to help people in character building and skill building. Among other positive thing that can be done to build character at the golden age is through reading and writing which will activate billion of neurons and to convey thought beside through oral language.

Mental process must be enhanced by kognitive competence which equiped by psychomotoric and affective function. By doing so, it can be created people with strong character, physically and mentally health, which give good impact for the society. These competences should be developed during golden age because at

that age the habit will be help to develop corpus collosum and lymbic system as the basic nature of the children. Geschwind (2000) states that the effective method in developing right hemisphere competence is through four skills, including reading + writing and listening + speaking, while character building is depend on emotional intellegent. It means that the character of the children is depend on the treatment toward right hemisphere area, especially at preschool and school age.

The habit in reading and writing are gained through education, either from family or school. Both are related to teaching, not only language learning but also other majors. Language in teaching needs explanation or description and action and behavior about the student (Simanjuntak, 1990). In order to design effective teaching design, then it should be devided based on students competence. Teachning design could be processed through language teaching because language reflects cognitive process. Therefore, teaching action must consider and follow the system tha can improve cognitive and behavior intellegent by equiped a set of teaching design, including language teaching.

Competence is a set of design and setting about the standard competence, and its schould consider several factors, such as teachers, facilities, first language, curriculum, etc. Language curriculum covers several competence including knowlegde, skill, behavior, and value which reflected from the attitude in thinking and action (Wachidah, 2003). These factors influence the students competence. Therefore, these factors need to be improved in order to support students competence. By that mean, in order to improve students ability in reading and writing, the competence of supporting factors should be improved first.

Bloomfield dalam Wetson (1974) state that learning language means try to behave like current culture and language. This attitude can be gained by reading work of the current language which reflects several issues in the society. Thus, teaching and learning process (particularly language learning) and life skill influence people's chatacter and personality in dealing with society where they belong. Neurolinguistics or neurology of language is an approach that can be used in developing character of people in a country. Yet, system is the most influence one because it defines the input, process, and output. In educational environment, it should be arrange accordingly and cannot be switched one another.

## B. DISCUSSION

### 1. Brain Function and Puberty

The current educational system is a main factor in character building. Attitude reflects the way of thinking which constructed through long process in someone life, especially treatment toward brain development since fetus in the womb until puberty along with the lateralization and localization of left and right hemispher of the brain. In psycho-neuro linguistics, character building begins since fetus in the womb, since the formation of single sel layer neural plate in the middle-back of brain embryo (Geschwind, 2000) at fourth month of fetus development. It keeps develop simultaneously at infant (0-5 year old) until puberty (11-13 year old) in right hemispher and followed by left hemisphere. Input which being processed in cortical area of right hemisphere will send sematosensy message to wernicke and broca area in left hemisphere and become linguistic competence.

If the development shows possitive progress where sensoric and motoric reaction flow prom right hemisphere to left hemisphere simultaneously, then brain will be develop well with right hemisphere brain intelligent. Therefore, since 0 year until 12 year is golden age which will defines creativity in thought and attitude. Then, lateralization will continue until adult (around 25 year old). Lateralization is a process where the asimetry cells are active in both left and right hemisphere simultaneously or hierarchy of right and left hemisphere in unlimited numbers. Cells movement will be coordinated one another depend on intellegent of hemisphere which develop before puberty (Obler, 1999). Thus, possitive attitude is depend on treatment toward the right hemisphere before puberty. It is because attitude is not processed in left hemisphere but in right hemisphere which leads someone to gain emotional development in expression his/her self.

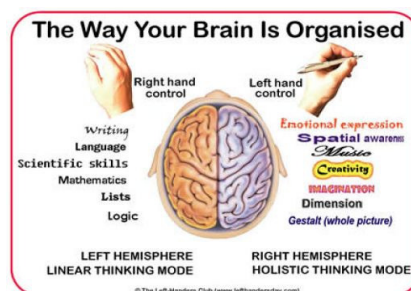


Figure 1.

Resource: [www.hemispherebrain.com](http://www.hemispherebrain.com)/6/5/2014

The development of right hemisphere is depend on the treatment in order to make it develop well as it meant to be. Since the creativity and and emotional are processed in right hemisphere, then the development of neurons in this area is important for emotional development. This area differentiates human being to other creatures, and it also plays important role in utilizing left hemisphere competence. Moreover, according to cells development in the brain, right hemisphere is growth quickly at golden age. The rate of development covers both internally and externally. If the children get positive treatment for their brain, then they will grown well, while left hemisphere will develop without any special treatment. Life demand leads neuron of left hemisphere develop without any special treatment because it will distract the development of right hemisphere. Corpus colosum which connects billion neurons of both hemisphere will develop character. This area will play important role in developing positive attitude of the children which make the follow the value and norm, and make being accept by their society. The development control of this area grown rapidly until puberty (around 11 - 13 years old). Therefore, in order to define character, it is depend on the development of the brain in puberty along with the development of limbic system which located in the middle of the brain. Limbic system has great influence toward attitude (Bloom dkk, 1996). The control of limbic system will be difficult when the treatment is done after puberty. Moreover, Dulewicz dan Higg (2001) stated that the activation of right hemisphere will increase emotional intellegent of the children. Emotional intellegent is not genetically given, yet it can be defined by the character-base education.

Thus, character-base education must be given earlier, even from fetus in the womb, infancy, preschool age (0-5 years old), and school age (6-11/12 years old). Up until puberty is golden age when the neurons are actively develop. Since the localization completely formed then the internalization of character values and moral are more effective at this ages (Geshwind, 2000). Psychologist mentioned that this ages is golden age because at this range of age defines the skill of children in developing their ability. Reseach shows that around 50% of intellegent variability of adult is started at 5 years old, 30% at 6-12 years old, and the rest 20% will be al late twenty. By this fact, character building should be started from family, preschool, and school as immediate environment for character development. Educational system which has been well designed and the role of the teacher are expected to contribute in charater building in order to gain competence-base character.

## 2. Learn From Preschool System in Japan

Educational system for puberty is not only concern on school age but also preschool age, including playgroup and kindergarten, and even started from fetus in the womb. It can be seen in the system used by Japan government in providing charater building for the children. The good preschool system help children to be good person in later higher educaton. Character building at young age should be designed well in order to provide basic foundation for simultaneous education. Then, the higher education people achived, the more widely knowledge they get and the more advaced contribution they provide.

Balitbang Kemendiknas has mentioned 18 basic values for character-base education, including: religious, honesty, tolarence, discipline, hard worker, creative, independent, democrate, corious, the spirit of nationality, nationalism, respecting achivement, friendly/communicative, environment care, social care, responsible (Kemendiknas, 2013). All of these moral values are expected to be reflected as the students character and attitude. In addition, curriculum in 2013 with the concept of competency-based learning and student leaming center (SCL) method will be applied soon. In Japan, it has been applied the character education and student learning center methods toward children for long time ago. The application has been done since pre-school age, which is based on education policies since before and after World War II. Some of the policies that will shape the character of the Japanese people can be seen from the treatment of students and teaching methods at the primary level (Shougakko/小学校) which is reflected in the activities of students in the school for 6 years.

Elementary school (Shougakko) entry age in Japan is considered as sacred event in Japanese people. Entering elementary school means starting up the world, and the world can be controlled is through science. Therefore, if a child has reach appropriate age (6 years on 1 April), before that the parents are busy preparing all things related to the school for children. Starting from choosing a school (usually corresponding to rayon and rayon residence where children learn in Hoikuen/Yochien (Daycare/Kindergarten), registering the children to the school (starting at October every year), introduce children to the new school, up until providing all the needs of children, school supplies, school clothes, and the latest and the best clothing to wear on the first day of the school (Nyugakushiki). The uniqueness of nyugakushiki ceremony is the clothes worn by the parents. They accompany their children to school on the first day with decent clothes, the fater wearing formal suit and the mother wearing the best kimono.

The word Nyugakushiki 入学式, from its kanji, means the school entrance ceremony. The ceremony is reserved for new students. Although it is intended for the first year student, but the senior faculty and the parents of the new students are also involved in this ceremony. The ceremony was held on the first day of

school or every April 1st and was held in the convention hall of the school. The purpose of this ceremony is to know one another and to support the new students to be more enthusiastic about studying.

The ceremony began with the entry of new students into the hall. New students sitting in the front row by their class or kumi, the next row will be the seniors, and the parents sitting the last row. Principals and teaching staff are sitting on the podium hall. When new students come over, they were greeted with great applause from the seniors, parents, and faculty. Sometimes, the schools also provide music group to cheer ceremony. The content of the ceremony, among others, they will be introduced to the principal (koucho sensei), their homeroom, and other faculty. Then, they listened to a speech from the principal and from one of the teachers. His speech is about welcoming words to the new students, the life in the school, the words for the senior to welcome their new family, and encourage the student to study hard on the teachings of both the new students and senior. In the closing ceremony, seniors will sing the school anthem. Then, the new students are invited to the classroom by their homeroom teacher and followed by the parents of the new students.

In the classroom, the teacher distributed all school supplies including textbooks. Teachers also give a little explanation on learning activities in the classroom, as well as class regulations. Each student will have a control book to connect the teachers to the parents called renrakuchou, which must be brought every day. After homeroom teacher is finished giving an explanation, they took a picture together in the classroom and then they walking out of the classroom to the school yard. Then, they take pictures with background of cherry blossom.

The new students are wearing a boxy and quite stiff backpack, which is called randoseru. Female students are usually wearing red randoseru and male students are wearing black randoseru. These bags are expensive, ranging from 10,000 yen to 80,000 yen because the quality is very good and can be used by the students for over 6 years. These bags are also insured, so it'll be covered if damaged during the insurance period. Japanese children usually get randoseru from their grandfather or grandmother as a gift for entering the new school.

Subjects in Japanese Primary School is based on curriculum from the ministry of education, among other things; Japanese (Kokugo), arithmetic (sansuu), science (Rika), lifestyle habits (seikatsu), music (ongaku), drawing and crafting (zuga kousaku), family income (Katei), physical education (Taiiku), moral education (doutoku), environmental studies, specific activity, and applied studies. There will be around 4 subjects everyday starting from 08.30 am to 16.00 pm, including lunch and break.

These subjects are not providing starting from 1st grade, but the quality and quantity are gradually increased from 1st grade up to the next higher grade. For example, in 1st grade, the subject on Japanese is more than other grades, including Japanese language skills such as reading, writing, listening, and speaking, or the arithmetic lesson. Students of 1st grade only introduced numbers and how to use numbers instead of how to calculate the number. Science subject can be combined with environmental studies, so the students get real experience.

It is also the same for all other subjects, almost all subject are related to the everyday life experiences, without any worried about the tests and the target grade. Every student will learn with fun for all of these subjects in groups, and assing their competence toward any subject matter is also within the members of their group, while teachers only guiding, directing, and motivating the students to master each lesson according to defined curriculum. There will no student left behind in understanding the every lesson and no student who cannot move to the next grade. If the student is having problem in understading a lesson, the school will provide extra lessons after the other students going home at the afternoon. Students will be not assessed based on the scoring of the test results, but it depends on competence of the students in mastering each subject. Therefore, the learning report of the student is not based on the numbers, yet the text contains information about the students' abilities and the message that should be increased for the student. Every student has different potential depend on their interest, so there is no smart student or dumb student; they only differ in competence for mastering certain subject. In other hand, moral lessons and skills are expected to be equal for each student.

The elementary school in Japan is 6 years long, 1st grade to 6th grade, while the compulsory schooling age is 9 years, from 1st grade of elementary school to 3rd grade of junior high school. Approaches and methods of teaching in Japanese schools is more focuses on learning from experience and direct observation so the students know and understand not only rely on theory and memorization. Students are invited to understand any of the materials with their experience in the field. In each school the students learn while observing and experimenting directly from a variety of theories from any subject, such as how to plant and nurture the plants, watch and observe the animals, buying and selling, and other activities associated to the subject.

Learning life skills in the elementary school in Japan is very prominent, especially in seikatsu (life habits subjects). This course aims to familiarize the children with a way of daily living independently. Instead teaching science or social studies, Japanese prefer to introduce procedures for daily life to student after they completed preschool. New students are more focused on playing rather than learning activities in the classroom. Therefore, children in 1st grade to 2nd grade of elementary school in Japan is consider in the transition process by providing lots of activities to learn while playing, even almost every school is provided

with playground as in daycare and kindergarten. The size of the table and chair used in 1st grades to the next higher grade is not the same in term of height, because the they are high-adjusts to the size of the students.

Learning Japanese (Kokugo) and numeracy (sansuu) are taught more than other subjects. Physical education is also a subject taught in excess of other subjects other than language and numeracy. Besides academic education, aesthetic education such as music and drawing are also taught in larger portions. In addition, all subjects are aimed to develop right-brain intelligence, especially intelligence of the students. The development of children's creativity is always trained through the development of language skills, including reading, writing, listening, and speaking. These four skills are always done every day through writing assignments (sakubun/ read: sakubung/ not similar to "fabricate").

Sakubun (writing subjects) is given since the first grade of elementary school, which then also thought until high school with increasing simultaneously every day. Students are required to write about four things, namely mirukoto (what is they seen), kikukoto (what is they heard), kangaekoto (what is they contemplated), and kokorokoto (What is they perceived) any daily activities they experienced. They may either write down what they have been read, and write what is they experienced or felt directly. Accordingly, the student is also trained to deliver his sakubun task in front the teacher and his friends.

Moreover, almost all school activities are done in groups, they work together with the group in completing a variety of activities and subject matter. Group work can train children intolerant, critical, and mutual understanding among the students. All students are performed in a group activity, including how to get to school and back home as part of the group. Thus cooperation and leadership have been assisted since elementary school in Japan.

To get to school and back home, elementary school students must join the group which consist of the members of their neighborhood. Approximately 8-12 people will gather at one place in the morning, their house were not far away. The members are consist of students from 1st grade to 6th grade and the higher grade will be a person in charge of the group. He will responsible for to monitoring all the members of the group. If anyone did not show up, the leader will ask the parent whether he sick or any other reason. Every member of the group who come over will say good morning (おはようございます) and together the other members will answer the greeting. After all members of the group gathered, they will march accordingly to the school and will arrive at school before 09.00 am. The distance of their neighborhood to the school will determine what time they should get together. They will go hand in hand on the same street and the track, which has been appointed by the government for them to pass through until they finish Elementary School.

When school was over, the students will gather in groups and walking back to their home through their track every day. Togetherness in the walking group, providing some value that can be learned, such as leadership training to anyone who has been pointed as the leader of the group, training patience since they pass the same path during the 6 years of school, and building tolerance, responsibility, and respect to the older and loving the younger. They should not be escorted by their parent using vehicle. All of them have to walk home even though their house are quite distance from the school. By doing so, they will be used to face the challenges with different weather conditions in four seasons in Japan, while they learn directly observe and train the sense of struggle that must be passed along with the group. Children in Japan are sensitive toward the group, so they are afraid if they are different or not accepted in the group.

Another thing that contributes in education activities of elementary school in Japan is the system implemented by the government to connect the teachers with parents in order to achieve educational goals. The government would be the pilot to regulate the system, the teacher is responsible for implementing the system and parents took part in the educational success of their children. The parents together with the teachers join the organization called the PTA (Parent Teacher Association), which is an organization of teachers and parents (guardians) who provide support and give active contribution toward all the children's activities. Good cooperation between the school and parents provide great contribution to the success of the school activities. Among other activities conducted by PTA are "Safety Guidance for travelling to and from School" (including scheduling parents to get the children cross the road) and contribute to some activities at school at a certain time that have been arranged, such as sports and game activities, observing the children's learning process in the classroom once a month, and filling control book every day as a bridge between parents and teachers.

Moreover, since education plays significant role for the development of children as the future generation, then Japan government has provide character and moral education as early as possible. In the deliver moral value, about the lie, for instance, Japanese teachers not use direct indoctrinate toward the importance to be honest, they rather take the children to discuss about consequences of lying. No one hesitate to ask or laugh at their friends who asking, even in answering questions from the teacher, all students are quickly raised their hand and say "haik" out loud. The interactive discussion leads the students to think about the importance of implementing moral values that has been taught. There is no memorization process or any written test for this moral lesson. To assess the students' understanding of the moral lessons, they were asked to write down what they think about a particular moral theme. Sometimes, a movie with moral content is played and the students are assigned to figure out and discuss the moral value of the film (Hartuti, 2013).

Likewise, seikatsu or living habits subjects which is a critical factor for child's life skills later life, such as discipline, eating, preparing food, cleanliness, orderliness and neatness, as well as the competency to be achieved based on the child's grade level, such as swimming for 1st grader, riding bicycle for 2nd grader, riding one-wheel bicycle for 3rd, can prepare outbound equipment and overnight for 4th grader, gardening, trading, breed, etc. All of these activities provide the students with character building, independent, and responsible.

Treatment toward the function of right hemisphere of the brain has been demonstrated by the Japanese people through the education system by conducting some imaginary creativity and enhancing language skills through reading, writing, listening, and speaking from age 6 to 17 years. At the primary school to high school, language skills are trained through the national language subjects (Kokugo) and writing subjects (sakubun). In elementary school, Kokugo is taught for about 6 hours a week with the introduction of the material kanji, hiragana, katakana, and then writing, then read the light children novel (syuuzi) and folklore. In the junior high school and high school lesson, the material for Kokugo is reading long novels and literary works of Japan and China. Sakubun (writing subjects) is given starting from first grade elementary school until high school with the lowest to the high percentage of hours every day. Students are required to write about four things, including mirukoto (what is they seen), kikukoto (what is they heard), kanggaekoto (what is they contemplated), and kokorokoto (What is they perceived), that they experienced during daily activities and required to read literature works that has been selected.

### 3. Neuro-psycholinguistic Approach in Building Students Character

Neuro-psycholinguistic approach can be used to build the character of students, especially in the building passion in reading, communicative, and various values which mentioned in the written text. The integration of core competence and basic competences in various fields of study is obviously need Bahasa Indonesian as an instruction language, then the learning method of Bahasa Indonesian becomes very important. Therefore, the competence in learning Bahasa Indonesian is expected to enhance language skills in order to create students with strong character through 4 basic competencies, including reading, writing, listening, and speaking. Through these basic competencies, the students will have basic competencies of hard skills and soft skills as reflected from their attitudes, skills, and knowledge which related to every subject.

The competence of attitudes, skills, and knowledge can be processed through 3 psycholinguistic approaches, including the comprehension, production, and neuro-biological. Through these approaches it is expected to create students with strong character who; (1) capable to comprehend written and spoken text by considering neurological through listening and reading, (2) capable to process informative discourse directly from listening then discuss it with the learning group.

Neuro-psikolinguistik approach is an attempt to educate human mind, in this context it involves 3 supporting components, that is to educate the government and its policies, educating the public through habituation, and educate teachers and students through a system that is built together. Language is a bridge to get the intelligent of these aspects (Clark, 1995). Therefore neuro-psycholinguistic approach is an attitude to educate and train mind through three mental processes, including comprehension, production, and neuro-biological.

#### a. *Comprehension*

As Clark (1995) said that comprehension is the mental process that human being through which enable them to get what people saying either verbal or writing, and understand what the intention of the speaker. At this stage people need competence in listening and reading. Listening competence has already acquired since the infancy, while the reading ability has been started to acquired since 6 years (school age) and will gradually increase until get fluent at 8 years or more. The understanding of what is heard and read, will be processed by the brain of the child. Although every child will has different level of understanding, but it is also determined by other factors that influence their intelligence.

There are several factors that affect the intelligence of human brain, which according to Mercy (2005), is not only determined by genetic, but also by other factors, including food, movement, and environmental condition. These factors must be built together by parents, schools, and government. Comprehension is fundamental competence in building the intelligence. This competence should be built since the fetus in the womb until high school. Thus the pre-school, elementary school and high school is crucial in order to enable the students to have understanding and comprehension. Comprehension is not only perceived through reading, but also can be perceived from the nature. Reading the nature means contemplating and translating the meaning of anything from what have been seen. Here, people trying to figure out the meaning from what is seen from nature and from reading, and translating what is heard by the sense of hearing.

Mental processes normal child in looking or reading, by using the sight in the occipital lobe, involves the temporal lobe which is associated with auditory and language. If the sight and hearing are activated at the same time, then it will activate the neurons in the brain which enable the learning process; the process where electrical impulses flowing to the axons or branches of neurons. Based on the comprehension

processes of a human brain in the learning, the concept of what you see and what you hear will be very effective. The author uses the term "LIDER - LIS" (lihat, dengar, lalu tulis) or see, hear, and write" (mitakoto and kikukoto) for this comprehensive aspect.

This concept, if socialized and conducted continuously, will become a habit. The habits which are supported by the system will be maintained as culture. Reading and writing culture can be developed through the concept of LIDER-lis, started since children learn in elementary school, as has been implemented by the Japanese government in the learning process of the students from basic education, which is writing 4 things every day through composition (sakubun), including writing down what they thought (kangaekoto), what they feel (kokorokoto), what they hear (kikukoto), and what they see (mitakoto) in every day life. Thus, the concept of self habituation is embedded to the students, which then continued through compulsory reading books and writing of what has they read and heard.

### **b. Production**

Production is a mental process that enables human being to speak and write what he wants. Language that has been acquired during language acquisition stages, both first language and second language, will be gradually produced in accordance with the development of brain competence. According to Kohn (1993), linguistic knowledge toward reality will be articulated through three phonological processes, including phonological stage, phonemic stage, and phonetics stage. Phonological stage involves express the lexicon (vocabulary) naturally, phonemic stage involves expressing language segmental based on lexicon form, and phonetic stages involves conditioning articulator based on phonem information that is sensitive to its environmental context.

These three mental processes will be produced by normal human or are not being impaired linguistically through oral and written language. Orally, language is produced by articulating sounds, while in writing the phonemes will be processed by the brain in order to regulate the ability to write. Thus, by the increasing of the vocabularies, it is also increasing the ability to produce language that has been stored in the memory. The ability to produce language must be trained and highly influenced by the environment and education system. Vocabulary that has been stored in the brain must be enhanced and employed in order to enhance linguistic competence through environmental stimuli such as observing the nature (direct observation in every subject), direct experience, and knowledge gained from reading books.

Among the way to employ and enhance the vocabulary is to write down what is thought about and what it feels. Children who have entered elementary school, will eager to think and feel any activities during the school time. Their brain will always get new things that will be the knowledge that they acquired from the environment and from their learning process. On the other hand, children can also produce experience from what they felt during studying and observing the environment, such as feeling happy, sad, angry, and so on.

Based on this fact, the concept that can be implemented to develop and enhance vocabulary for producing language, as well as to express feelings toward experience and observations in every subject, is the concept of "FIRA-Lis of fikir, rasa dan tulis (think, feel, and write)" (kangaekoto and kokorokoto). The tradition in writing what is being thought and felt is necessary to consider since the children enter the school, so the students are become accustomed deploy positive thinking toward the new knowledge they gained. Likewise, the habit in writing is also enhanced by writing what they think and feel toward new information that they perceived. By doing so, the students will get used to write and enhance their skill in writing concerning to the subject that they just learned.

### **c. Neuro-Biological**

Tool that makes human beings capable in processing language is based on neuro-biological or biological and neurological foundation. Therefore, without the biology and neurology foundation the mental process that responsible for comprehension and production will not be possible for human being. The development of human language is closely related to the development of biological development. Moreover, neurological factor is also very important to solve problem on acquisition, understanding, and using language, both spoken and written language.

Biological basis is associated with speech organ that enable human being to producing language, especially spoken language, as well as hand as an organ that involves in writing. Thus, language is a biological phenomenon, especially biological development. Beside the genetic factor, the emergence of language skill is also determined by the environment where the people belong, so it can elicit what is already present in human biology. If there is interference or distraction on the speech organs, then it will also influence the language development which may cause speech impairment. However, it will become worse when the impairment involves language function in the brain which will cause language disorders.

Reading as a mental process which involves Wernicke's and Broca's area in the brain, is a way to developing mind after someone enable to read and write (Sastra, 2011). If this skill has done since elementary school, then it becomes a habit and needs for childrens brain during its development. If the input is writing

(reading), then the mental processes not activated in primary cortex for hearing, but visual occipital lobe in the cortex will be activated. The input is not directly sent to comprehension area, yet to occipital lobe first. Then, the input will be comprehended in Wernicke's area and then the information will be sent to Broca's area to get verbal response if necessary. When the response is visual, the information is sent to the parietal lobe for visual process through writing.

Therefore, reading and writing are the processes for enhancing mental which simultaneously done in order to enable Wernicke area to capture information and sent it to Broca's area to keep balance in the brain. Someone who get used to read and write will have balance for neurons working in the language area at left hemisphere of the brain, as an attempt to empower the brain. The more information someone get, the more creative he/she in writing and also the more active right hemisphere processing the information. Thus, the concept that can be explained regarding to neurological competence is "MENUDAS (membaca + menulis □ cerdas or Reading + Writing □ Smart)".

Accordingly, the brain intelligent can be builded by activating sensory and motor areas of language. What is read will be comprehended by Wernicke's area, then processed, and forwarded to the Broca's area as the area of language motor neurons that initiate to producing phonemic in the form of written language. The processes that in written language is more crystallized than oral processing, because the phoneme production in Broca's area requires the maximum time to think and arrange what to say. In neurology, the crystallization process is kind of brain empowering because it has enabled a number of neurons that related to language areas in the brain. Thus, the compulsory-read policy, either science or literary book, then write down and discuss it has to be applied, due to provide students with left and right brain intelligent.

Based on these three concepts, "Liderlis, Firalis, and Menudas", then it will provide the students with strong character who capable to translate text into values that would shape his personality. Through the habit of reading, writing down what is read, listen to what friends are reading and talking about or discuss what has been read together, then it will enhance the process of empowering mind and emotional intelligent from the knowledge that has been perceived. The knowledge will determine the attitudes and skills of the students in their daily lives. The next issue is to train teachers' competence in applying the method of language learning through the concept liderlis, firalis, and menudas. In addition, the government as policy maker also has important role, because the neuro-psycho-linguistic approach not only dealing with language learning, but also numbers of facilities such as books. Science books are for left brain intelligence, while the literary books are for right brain intelligence. The choice of books will determine the expected competence and character for the students to achieve. Therefore, the collaboration between government, teachers, and parents is needed to develop the basic competencies of students, just like Japanese education system which involve three pillars of education, including the government, schools, and communities. All work together in creating a well-educated human being.

### C. CONCLUSION

There are several things that can be concluded from this paper:

1. Neuro-psycho-linguistics is concerned with three things: comprehension, production, and neurological and biological basis (neuro-biological). Thus neuro-psycho-linguistics is the study of mental processes that human beings pass through in using and interpreting language which is reflected in their behavior.
2. Mental process should be supported by cognitive competence, which is equipped with psychomotor and affective functions. Thus, it will provide the human beings with strong character, physical and mental health in carrying out its role in their neighborhood and social system.
3. The effective method of learning and habituation toward the intelligence of the brain hemispheres is through the 4 skills, including reading + writing + speaking and listening, while the character building is defined by the child's emotional intelligence.
4. The issue of personality is not thing to do with left hemisphere, yet it is define by the treatment toward right hemisphere in achieving emotional maturity in expressing himself.
5. Character education should be done at an early age, even since the fetus in the womb, preschool age (0-5 years) and school age (6-11/12 th). Up until the age of puberty is active period when the nerve cells of brain development rapidly, due to the age of puberty the process of localization of the brain is formed.
6. The activation of the right hemisphere can improve a child's emotional intelligence. Emotional intelligence is not genetically innate, but rather something that can be trained and developed through character education.
7. Education holds a significant role in the growth and development of children as the future generation, so in Japan the character education and moral values are taught in early ages.
8. The competence of learning Bahasa Indonesian (especially "composition" which used to be called the "mengarang") is expected to enhance language skills which will provide students with strong character through 4 basic competencies, including reading, writing, listening, and speaking. Through these basic competencies, it is expected the students will have core competencies of hardskills and soft skills as



- reflected from their attitudes, skills, and knowledge which are interlinked to each subjects among the students in the group.
9. The concept of "Liderlis" (lihat, dengar, dan tulis or see, hear, and write), "Firalis" (fikir, rasam dan tulis or think, feel, and write), and "Menudas" (membaca + menulis → cerdas or reading + writing → smart) will provide students with strong character, who can translate text and experience to be the values which will shape the personality of students. It required good cooperation between the government, teachers, and parents together in creating an educated human.

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