

CHAPTER II

REVIEW RELATED THE LITERATURE

This chapter discusses some theories concerning the topic of the study. It includes of classical music, the history of classical music, the mechanism of music in the human body, the effectiveness of classical music, learning achievement.

A. The Definition of Classical Music

We ever hear the word classical music, but sometimes we do not know the meaning of classical music. There are two words of classical music; those are "Music" and "classic". To make easy the meaning of classical music we analyze one by one.

The word Music is the word from Greek that is muse. Then it is adopted in English and the meaning in Indonesia is "Renungan". Music is sound of higher or lower pitch be gotten of uniform and synchronous vibration as a string at various degrees of tension. Music is the science of harmonic tones which treats of the principle of harmony. Music is the art of combining in a manner to please the ear⁴.

⁴ The American Heritage Dictionary of the English Language, (USA: Houton Mifflin Company. 2003)

From the definition above, the researcher concludes the meaning of music in the simple words. Music is voice and sound in order pitch became a harmonic, beat, and rhythm. According Ev. Andreas Cristanday beat, harmony, and rhythm are the elements of music⁵.

- a. Beat is orderliness to high and low the tone. Beat influences the body that is useful to make easy do work that need the body force, can help to think, make strong the human soul.
- b. Rhythm is ascending and descending the tone. Rhythm influences the soul.
- c. Harmony is the general feeling. Music is said harmonic if the creator success to combine e kinds of sound be a music that is easy listening⁶.

While, the meaning of classic is the general creation from past period that have high art value, beautiful and ever lasting. Classic is relating to the most highly developed stage of an earlier civilization and its culture. Classic is established or well known or widely recognized as a model of authority or excellence. Classic is a creation of the highest excellence⁷.

Those are the meaning of music and classic. After we know the definition of music and classic we can find the conclusion that classical music is traditional genre of music confirming to an establish form and appealing to critical interest and developed musical taste⁸. The researcher make the another definition that

⁵ Muhsin Sunny, *Siap-Siap Jadi Ayah*, (Surakarta: Mandiri Visi Media, 2005) p. 69

⁶ Yeni Rahmawati *Musik Sebagai pembentuk Budi Pekerti*, (Yogyakarta: Panduan, 2005) p. 67

⁷ Harper Collins, *Collin Essential English Dictionary*, (London: Harper Collins Publisher, 2004)

⁸ www.newworldencyclopedia.org. it is accessed on 2 Jun 2009.

Classical music is music that is born from western culture for about 1750-1820 (18-19 century) and that music has high quality and will be live forever.

B. The History of Classical Music

Classical music is interesting music, but classical music has different styles every period. Moreover classical music is divided into some period, which is every period has different styles. It depends with the technology (instrument) on that period. In the general, this is the division of period of classical music⁹.

Renaissance Period. This period is the time in which classical music was made in Renaissance Period, for about 1450-1600 year. Actually it was so difficult in decision for the beginner's limitation of period of music, because there was not big alteration of music on this year. The composers on this period were, Giovanni Pierluigi da Palestrina, Orlando de Lassus and William Byrd.

Baroque Period. The classical music here was made in Baroque Period, for about 1600-1750. The meaning of Baroque is the wonderful pearl. It was so suitable with the kinds of every art on this period. Then this word was used to name of music that is made in this period. The composers in Baroque Period were, Claudio Monteverdi, Henry Purcell, Johann Sebastian Bach, Jean-Philippe Rameau, George Frideric Handel, and Antonio Vivaldi. On this period, Piano did not found yet.

⁹ <http://ivans.com> . it is accessed on 2 Jun 2009



Classical Period. This is the classical time in the history of western's music, for about 1750-1820 (18-19 century). The composers on this period were, Joseph Haydn, Muzio Clementi, Johann Ladislaus dussek, Andrea Luchesi, Antonio Salieri, Carl Phillip Einmanuel Bach, and the most known were Wolfgang Amadeus Mozart, and Ludwig Van Beethoven. The music characteristics of this period are:

1. Using dynamic shift from soft to hard voice (Cressendo) and from hard to soft voice (decrssendo)
2. Changing of tempo with acceleration (Accelerando) and slow- moving (Ritardando)
3. Thrift in using of ornamented,
4. Using accord 3 tones

Romantic Period. It takes place for about 1800 year in 20 century. This period takes place after classical period and before modern period. Some composers on this period are Franz Schubert, Johann Strauss, Sr., Felix Mendelsonhn, Frederic Choppin, Robert Schumann, Richard Wagner, Giuseppe Verdi, Hector Berlioz, and Johannes Brhms.

C. The Mechanism of Music in Human Body

Generally, music causes vibration's phase, and that vibration causes the stimulation in eardrum. That stimulation is sent to formation of limbic system in

the centre of brain as a memory's place. Then brain will process that stimulus and we will produce certain behavior.

Music produces rhythmic stimulus in the body. Organ of hearing catches that stimulus and processes in the nerve system then gland reprocesses the interpretation of music or sound into internal rhythmic of listener. Internal rhythmic influences the human metabolism, with a good metabolism, body will be able to build good immunity's system to hold out the attack of illness¹⁰.

The music mechanism in human body starts with listening the sound or music by means of hearing till to the brain. Music interacts in certain of organic degree with several of neural structures. The research of expert nerve shows that interaction leaves the receptacle on human physiology. It is explained that 2/3 cilia in internal hearing vibrate only on high musical frequency, for about 3.000 – 20.000¹¹.

The human hearing in the normal situation can catch sound between 16-20.000 hertz. According Tomatis that is copied by Don Campbell, said that high frequency (3000-8000) vibrates in the brain and influences the cognitive functions such as, thinking, memorizing, and spatial perception. Medium frequency (750-3000) stimulates heart, lungs, and emotion. Low frequency (125-750 hertz) influences physic.

¹⁰ Yeni Rahmawati, *Musik Sebagai pembentuk Budi Pekerti*, (Yogyakarta: Panduan, 2005) p. 54

¹¹ Don Campbell, *Effect Mozart*, (Jakarta, PT Gramedia Pustaka Utama, 2002) p. 13

After pass through ear, the signal of music or sound enters to the brain. Then brain divides base on the impulse. If the structure of music is complex, logic, systematic, symmetric, so music will stimulate left brain. Music that has the lyric will stimulate the ability to language. The creative and imaginative music will stimulate the right brain and spatial ability. Music that has spirit, love, and calm will stimulate the limbic system in the brain. All of the influence that is caused by music will be processed by human and produce a certain behavior.

D. The Effectiveness of Music

The history of music in human civilization is so old. Music is important aspect in human's life and our respond to music have carved in our brain when we were born. Grace Sudargo, as a musician and an educator said that the basis of classical music generally is from the rhythm of human's artery beat so, classical music has the big role in brain's development, establishment of soul, body, and characters¹².

On book "*Music, Mind and Brain*" Man Fred Clynes Ph.D explained how music be able to influence all of brain's activities. The structure of music that is so harmonic, the quality of interval, timbre, tone and tempo is processed in right brain and change of acceleration to slow moving, change of volume, and lyrics is processed in left brain.

¹² Muhsin Sunny, *Siap-siap Jadi Ayah, Kado Spesial Untuk Suami*, (Surakarta:Mandiri Visi Media, 2005) p. 69

We also can feel the effect of music in our heartbeat. When we listen to music, our heart beat will follow with the speed of that music. It can be explained that listening music in high tempo our heartbeat will advance and make us more spirit, when we listen to music in low tempo our heartbeat become slowly and it can make us relax.

Another expert, Jean Houston Ph. D said that in molecule level, the body trembles on long phase which is stable and constant. Music has tremble or frequency. When we listen to music, the frequency of music can be in compatible with the frequency in the body, but when the frequency of music same with the frequency of body, we will feel relax, and we can study well.

Some effects that appear from music in our body are:

- 1) Music can increase the energy of muscle
- 2) Music can increase the cell of body's energy
- 3) Music can influence heartbeat
- 4) Music can increase the metabolism of body
- 5) Music can decrease stress and sickness
- 6) Music can increase the speed of healing
- 7) Music can decrease sense of tired and sleepy
- 8) Music can increase the creativity and the ability of think

Those are the effects that we can feel when we listen to the music. Another effect is that music can influence all of brain activities. First, music is processed by auditory cortex in the voice form. Then we can enjoy music in the right brain while the left brain process the lyric of the song. We also can feel the effect of music in the limbic system or our mammal's brain. The system limbic handles long term memory, handles the response to the music and emotion. Because of that studying use music in the right way can help the children or students increase the power of recall.

As we know that the brain is divided to right brain and left brain. Roewijoko said that left brain manages analysis activities such as mathematic activity, logic, and language. While the right brain manages the activities such as imagination, day dreaming, music, etc. The research proves that classical music can combine right brain and left brain, because classical music can sheaf analytic function and creativity function all at one.

Music phase is sent to brain as an electric energy through nerve network, and it can come up the brain phase that is divided to alpha, beta, theta, and delta. Alpha can comes up relaxation, where brain can receive new information. Beta relates with the mental activity. Theta relates with the situation such as stress, creativity. Delta relates with situation such as sleepy¹³.

¹³ Yeni Rahmawati, *Musik Sebagai pembentuk Budi Pekerti*, (Yogyakarta: Panduan, 2005) p. 41

With music, it is expected that the students can study use whole-brain learning. When the students study or listen to the explanation of the teacher, the students will use left brain in this activity. On that time the right brain does not have activity; it can make the right brain bored and can disturb students' activity. It can be solved with give the activity to the right brain and that activity is enjoying the music. So, the right brain can not disturb students' activity. The left brain processes the material in the learning process and the other side the right brain processes the music. The extending of stimulus simultaneously between right brain and left brain called whole-brain learning. It is expected can increase human's learning. Basically, we can use many kinds of music in the learning process but the recommended music is classical music, because classical music had examined scientifically and proven can increase students' intelligence optimally while there is no research that proves music besides classical music. There are many studies that prove the effects of classical music. Frances Rausher Ph. D did the research in center for Neuro Biology of learning and memory in California University. The researcher showed that just listening Mozart with the title *Mozart Sonata for Two Pianos* in D major for about ten minutes can increase the result of test of spacial and abstract reasoning. It means that the IQ can increase 8, 9 point.

On year 1998, Don Campbell as a musician and educator with Dr. Alfred Tomatis as a Psychologist did the research to know the positives effect of some

music. The result of that research was written on book and in Indonesia it is produced with the title "*Efek Mozart, Memanfaatkan Kekuatan Musik Untuk Mempertajam pikiran, Meningkatkan Kreativitas dan Menyehatkan Tubuh*". There are many interesting facts that is expressed by Campbell and Tomatis. Among others is there is interesting relation between music and human's intelligence. The result of music that has positive effect is classical music. Classical music proves can increase the brain's function and human's intellectual optimally.

Addie MS as a musician and the leader of Twilite Orchestra also speaks about the positive effect of classical music. He copied the result of research that is done by Jean Claude Baron from the Caen University, Addie said that there is increase of students' activity in part of frontal of right brain and part of temporal-parietal of left brain who listen the classical music. That part relates with the function of intelligent. With the music they can increase their intelligence¹⁴.

There is the research that is done at Elementary School in England. The students there have low ability in reading. Then the teacher tries to give the classical music. The students listen to that song and the result is they can increase their brain's ability and there is the increase of their ability in reading¹⁵.

There are some advantages of using classical music in learning process, those are: making the students relaxed and decrease stress (stress can impede the

¹⁴ <http://cyberwoman.cbn.net.id>. It is accessed on 29 Mei 2009.

¹⁵ Ibid.

learning process), decreasing the discipline's problem, being able to stimulate the creativity and thinking ability, stimulate the interest to read, stimulate the storage of words.

The stressing point here is that using classical music must be in the right way. We can get the advantages of classical music if we know how we use it, when we use it and what kind of music we should use in the learning process. The music that will be used is different for every situation (there are the music for opening, relaxation, increase spirit and energy, discussion, closing, etc).

The recommended classical music that is used in the learning process is instrumental classical music. Why should we use the instrumental classical music in the learning process, for exactly when the teacher gives the explanation, if we use a song in the learning process, the students will divide their concentration to listen to the information from the teacher and also to listen to the lyrics of that song. It can disturb the information intake process in memory. We also can not use instrumental music from the song which has a lyric. Although the students just listen to the instrument, they will concentrate to sing the lyrics rather than listen to the information from the teacher. That's why, classical music is recommended to be used in the learning process, especially in information intake process¹⁶. In certain situation where the teacher does not give the explanation, we can use the classical music that has lyric in the learning process.

¹⁶ Gunawan, Adi W, *Genius Learning Strategy*. (Jakarta: PT. Gramedia Pustaka Utama, 2006), p, 253.

Now the important question is have we abused the classical music as a media in education in school? Based on the suggestion from UNESCO music council explain that music is a means of education and it is used to increase human intelligence. The music that is recommended according UNESCO music council is classical music¹⁷. State such as German, Japan, Singapore, are the state that use classical music to increase their students' achievement.

E. Learning Achievement

1) Definition of learning

According Ernest R. Hilgard copied by Abd. Rohman Abror said that learning is a process by which an activity originates or is changed through training procedures (whether in laboratory or in the natural environment)¹⁸.

Gayne on his book "The Condition of Learning", said that learning occurs if there is a stimulus of situation with memorize that influence students. So, their behaviors change after they get the stimulus¹⁹. Some important elements in learning are: learning can change the behavior, learning is changing that is caused by practice, and learning is accompanied by the effort²⁰.

¹⁷ <http://melayuonline.com> accessed on Jun 1

¹⁸ Abd. Rohman Abror, *Psikologi Pendidikan* (Yogyakarta: Tiara Wacana, 1993)p.66

¹⁹ Ngalm Purwanto, *Psikologi Pendidikan* (Bandung: Remaja Rosdakarya, 1998) p. 84

²⁰ Ibid. p. 90

2) Definition of achievement

Achievement is something accomplished successfully, especially by means of exertions, skill, practice. In another definition an achievement is something which someone has succeeded in doing especially after a lot of effort²¹.

The students have their own achievement in every lesson. The following are some the definitions of achievement on book Pan American Conversation:

2.1 Achievement is defined as performance accomplished by a student in a course, quality, of student's work during given period.

2.2 Achievement is a final accomplishment of something not worthy.

Those two definitions give application that achievement is accomplished of the students as the result of purposeful effort in a certain period of time. Students' accomplishment is indicated by their performance.

From that statement, achievement is defined as the result of study what is reached from something done by the students. Achievement as knowledge attained or skill developed in the school subject, usually designed by test score. It means that achievement can be measured by achievement test. Achievement test is a systematic procedure for determining the amount students has learned. The teacher gives some questions to the students, teacher calculates the amount of students' score and that score interprets their ability of the subject that they have learned.

²¹ <http://www.thefreedictionary.com>. It is Accessed on 28 Mei, 2009.



3) Definition of learning achievement

From definition of achievement and learning above the researcher makes the conclusion that learning achievement is the result that is gotten after get the treatment or stimulus in the learning process and can be showed with numeral, letter, symbol as the proof of students' success²².

4) Some factors influencing achievement

There are many factors influence achievement. It is classified into two factors are: internal and external. Internal factor is factors that students' themselves have (they are: biology and psychology factor), and external factor is factor that they are obtained from their environment (they are: family, school, society)²³.

This is the explanation of those factors:

4.1 Biology factor

This factor relates with body, example is health. The students who are not healthy can not study well. They can not concentrate well if they are sick event when they can not go to school because of sick. In the learning process, the students who are not healthy will feel tired, confuse, lazy. Those conditions can disturb the information intake process to the brain.

²² Abd. Rohman Abror, *Psikologi Pendidikan* (Yogyakarta: Tiara Wacana, 1993) p. 70

²³ Ibid p. 75

4.2 Psychology factor

This factor includes:

- 4.2.1 Intelligence is one factor that has big effect to students' learning ability. Every student has different intelligence. It means that the students do not have same achievement of lesson.
- 4.2.2 Attention is doing the activity of learning process consciously. Good or not the students' achievement depends with their attention in the learning process. The students will get a good achievement when the students pay more attention to the teacher's explanation.
- 4.2.3 Interest is wish to do something continuo. The interest from students' need is a strong factor to support the students in doing their effort to attain the achievement.
- 4.2.4 Motivation is support or requirement. Motivation makes the students strong or spirit to do something. Motivation is strength that supports to do learning process. With good motivation the students are expected do the learning process well so they can attain good achievement.

5) Family factor

The way how parent teach their children can influence to their learning process. Family is first and principle institute of education. Family is small place

where children will get the first education²⁴. Parents decide the next education's success of their children. Parent who does not care with their children's education and their progress in education can be hindrance to children's learning.

6) School factor

School is the place where the students get the education. In this school the students will meet teacher as their second parent in education. Teacher also decides the students' achievement, because teacher is the person who has direct interaction with the students in the learning process. In the teaching learning process, teacher must be sincere when they teach the students. It means that teacher should have good method, good capability to manage the class, and can make the students interest to teacher's explanation in order that students can succeed in learning process. Besides the teacher there are some factors in school that influence students' achievement: means, infrastructure, etc.

7) Society factor

Students also can get the education in the society environment. There are many education sources also. Human will try to tech their selves to make of use education sources in their environment. It is expected that there is good sources education in society in order to give good influence to the students or children so, they can study well there.

²⁴ Slameto, *Belajar dan Faktor-Faktor ynag Mempengaruhinya*, (Jakarta: Gramedia Widiasarna, 1997) p. 6