THE EFFECT OF SOLFEGIO SKILL TO THE ACHIEVEMENT OF SOUND ART IN LEARNING OF STUDENTS OF SMA DAPENA SURABAYA

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Sound art as a branch of the music art is a practical and effective art to be performed in public schools. Most of the public schools such as elementary school, junior high school and senior high school in Indonesia have organized music education which includes teaching sound art. In junior high school, sound art lesson has a large portion in addition music theory and musical instrument or musical ensembles. The level of success of students in learning sound art can be seen in their learning achievement.

While the factors that affect of learning achievement can be divided into two parts, namely external factor and internal factor from the students themselves in learning achievement of sound art. The writer concern is to analyze the effect of solfegio skill to the learning achievement of the students of SMA Dapena 1 Surabaya

Keywords: SMA Dapena 1 Surabaya, Solfegio, Learning Achievement

INTRODUCTION

In accordance with the character of sound art which is much more related to the individual than the environment, in learning achievement the writer assumes that internal factor having a greater role. Then, the internal factor can be divided into two aspects, namely physiological aspect and psychological aspect (Surya Brata, S.1983: 7). Physiological condition is general physiological and five senses condition. While psychology is talent, intelligence, motivation. The physiological condition of students of SMA Dapena 1 Surabaya are assumed to be the same, it means, there are not students with disskill who can interfere with the learning process of sound art. So that in this study the writer is focused on physiological or psychological aspects.

The psychological factor of a person that is closely related to music is what is known as musicality. Musicality is a person feeling toward musical impressions, for example on rhythm, a series of tones and sound together or called chord. Furthermore, it is stated that a
person musicality does not fill a separate box in someone personality, but it is more or less mixed with that person personality (Wouter Paap, 1986: 9). Therefore, musicality is not standard, but can be developed as well as possible. Thus, it is necessary to develop the musicality of senior high school students to support their music learning.

Solfegio skill is an skill that can be developed to improve student musicality. However, this problem is less attention by school teacher even though Solfegio skill will have a major effect to the other people musical skill. While Solfegio itself is a term that refers to singing musical scale, interval, and melody with Sillaby Zolmization, namely, singing musical tones using syllables (Stanley S, 1980: 454). In the next development, not only singing but also reading and listening, these three things are very important and affect someone who is learning music. The skill to read, hear and sing tone is a process in expressing musical work, especially sound art. How far the students’ skill in Solfegio will more or less affect the development of their music.

From the above problems, this study will describe how much Solfegio has influenced students of SMA Dapena 1 Surabaya in the learning achievement of sound art which they have successfully achieved.

Musicality is one of the factors that play a role in determining the success of learning music Solfegio skill as developer to students musical will also affect in playing their music, both vocal music or sound art or instrumental. So that the problem that can be formulated is "Is there an effect of Solfegio skill to the students of SMA Dapena 1 Surabaya in the learning achievement of sound art that is successfully achieved?"

METODOLOGY

According to Arikunto (2003: 60-61) states that the basic assumptions of research are seen as the theoretical basis or starting point of thought used in a study, where the truth is accepted by the writer. Furthermore, it is stated that researcher is seemed necessary to formulate research assumptions with the intention of: (1) there is a main
foundation for the problem which is being researched; (2) emphasizing the variables that are the focus of the research; and (3) it is useful for the purposes of determining and formulating hypotheses. In formulating the assumptions of this research, it is done by examining various concepts and theories related to the research problem.

Solfegio skill is the main foundation toward the learning achievement of sound art of students of SMA Dapena 1 Surabaya, because solfegio skill is an skill that can be developed in order to improve musicality. Supported by (Stanley S, 1980: 454) solfegio is a term that refers to singing musical scale, interval and melody with sallaby Zolmization which is singing musical tones using syllable.

1. Research Variable

In this study, the independent variables are: reading skill, listening skill and singing skill. While the dependent variable is learning achievement of sound art. The research model can be described as follows: the operations of each variable are as follows:

Reading skill is the level of fluency of student in understanding musical tone if the tone is played according to the high and low tone, the value of tone or rhythm and the way of tone is sung.

a) The skill to hear is the level of sensitivity of student in listening to music referring to melody, chord and rhythm.

b) The skill to sing is a student habitual level of changing the form of music from tone to sound with his/her own voice, consisting of singing melody, musical scale, and interval.

c) Learning achievement of sound art is the learning result of sound art of student in the form of a score getting from the final semester result test that is held by the music teacher and the researcher.

Population and Research Sample

a. Population

Arikunto (2003: 108) states an understanding of population namely the entire research subject,
while Sugiyono, (2010: 117) states an understanding of population as follows:

Population is a generalization area consisting of object / subject that have certain quantity and characteristic and it is determined by researcher to study and then draw conclusion. Population is not only people, but also other natural objects. Population is also not just the number that exists in the object / subject, but including all the characteristics / properties that is possessed by that subject or object.

From this understanding, it can be concluded that the population in the study includes everything will be the subject or object of research based on the researcher wants. Related to this research, the population in this study are 80 students taking from SMA Dapena 1 Surabaya who learn vocal art. Student population selection is the main object in this study. In this study, the sampling process gives equal opportunity for each element (member) of the population to be selected as sample member.

b. Sample
Riduwan (2007: 56) says that "the sample is part of the population."

The research sample is a partial of the population taking as a data source and it can represent the entire population. Only becoming a mark, if the subject is less than 100, it is better to take all of them, so that the research is a population study. Furthermore, if the subject is large, it can be taken between 10% - 15% or 20% - 25% or more.

Based on Nasution sampling technique (1998: 135), "... the quality of research is not always determined by the size of the sample but the solidity of the theoretical basis, the research design (statistical assumptions), and also the quality of its implementation and processing."

Sukardi (2004: 55) says "for social, educational, economic and political research related to a society that has heterogeneous characteristics, sampling in addition to the requirement of the sample size must be fulfil the requirement of representativeness or represent all components of the population."

C. Data collection technique

The independent variable data collection consisting of the skill to read, hear, and sing (three elements
of solfegio) is got by using test. While the data collection of the dependent variable, namely the learning achievement of sound art, it is got by doing scoring of sound art at the end of teaching program by a music teacher or researcher.

d. Research Instrument

The instrument used to measure solfegio skill is divided as follows:
The reading skill test consists of three parts, namely the skill to read melody, rhythm and chord. Each part consist of six questions, and each question consist of three parts of bar.

Table I. Detail of the number of reading skill test.

<table>
<thead>
<tr>
<th>Reading test</th>
<th>Amount of question</th>
<th>Amount of bar of each question</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Melody</td>
<td>6</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>2. Rhythm</td>
<td>6</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>3. Chord</td>
<td>6</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Amount of question</td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Amount of bar:</td>
<td></td>
<td></td>
<td>54</td>
</tr>
</tbody>
</table>

The singing skill test consists of three parts, namely the skill to read melody, rhythm and chord. Each part consist of six questions, and each question consist of three parts of bar.

Table III. Detail of the number of singing skill test.

<table>
<thead>
<tr>
<th>Singing test</th>
<th>Amount of question</th>
<th>Amount of bar of each question</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Melody</td>
<td>6</td>
<td>3</td>
<td>18</td>
</tr>
</tbody>
</table>
e. Data Analysis Technique

An activity that is quite important in the entire research process is data processing. With data processing, it can be seen about the meaning of the data that has been collected. Thus, the research results will soon be known. In the implementation, data processing is done through computer assistance using SPSS program (Statistical Product and Service Solution) version 14.

The analysis technique used in this research is Pearson product moment correlation analysis and multiple correlation. This analysis will be used in examining how big of influence and contribution of variables X1 and X2 on Y. This analysis is to determine the contribution of the school principal transformational leadership (X1), and the school organizational climate (X2) together contribute significantly to school productivity (Y) in all junior high schools around Palu both collectively and individually. The Pearson Product Moment (PPM) correlation analysis formula is as follows:

\[
 r_{xy} = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2]} \cdot \sqrt{[n\sum y^2 - (\sum y)^2]}}
\]

The PPM correlation is symbolized (r) under condition the value of r is not more than the price (-1 < r <+ 1). If the value of \( r = -1 \) it means that the correlation is perfectly negative; \( r = 0 \) it means there is no correlation; and \( r = 1 \) it means that the correlation is very strong. Meanwhile, the meaning of the price of \( r \) will be consulted with the interpretation table for \( r \) value as follows.

**Interpretation of the Correlation Coefficient of r Value**

<table>
<thead>
<tr>
<th>Coefficient Interval</th>
<th>Level of Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.80 – 1.000</td>
<td>Very high</td>
</tr>
<tr>
<td>0.60 – 0.799</td>
<td>high</td>
</tr>
<tr>
<td>0.40 – 0.599</td>
<td>sufficient</td>
</tr>
<tr>
<td>0.20 – 0.399</td>
<td>low</td>
</tr>
</tbody>
</table>
Further testing is a significant test which functions if the researcher wants to find the meaning of the influence variable X on Y, then the results of PPM correlation is tested by the significance test with the formula:

Information: \[ t_{\text{count}} = t \text{ value} \]

\[ r = \text{Correlation Coefficient Value} \]

\[ n = \text{Amount of sample} \]

\[ \frac{\text{rvn}-2}{t_{\text{count}} = \sqrt{1-r^2}} \]

In addition, to state the size of the contribution of variable X to Y, it can be determined by the formula of determinant coefficient. Determinant coefficient is square from PPM correlation coefficient multiplied by 100%. This is done to find out how much variable X has a contribution or to determine variable Y. Contribution is found using the formula:

Information: \[ KD = \text{Coefficient of} \]

\[ r = \text{Correlation Coefficient Value} \]

Understanding the effect between the variables X1 and X2 to the variable using the multiple correlation formula as follows:

\[ R_{x:x',y} = \sqrt{r_{x1,y} - r_{x2,y} - 2 (r_{x1,y})(r_{x2,y}) (r_{x1,x2})} \]

1 - \[ r^2_{x1,x2} \]

Further analysis uses both simple and multiple correlation techniques. The simple way of calculation is using computer services in the form of software with program of SPSS (Statistical Product and Service Solution) Windows version 14.

RESULT & DISCUSSION

1. The Essence of Sound Art

According to source of sound, music is divided into two parts, namely vocal music and instrument music. Basically, both of them are a means of expressing feeling. Khalali bin Ahmad (1983: 7) says that sound art or vocal is the main tool to improve the experience and enrichment of music, as well as

\[ KD = r^2 \times 100 \]
the most original way to express feeling. Meanwhile, Pelupessy (1975: 5) argues that sound art or vocal is the most effective tool for efforts to enrich mental and moral development widespready.

There are several things that need to be considered and learned in order to be able to sing properly, namely:

a. Breathing

Breathing is a very important factor in singing. There are three ways of breathing in singing, namely, 1) abdominal breathing, 2) chest breathing, 3) diaphragm breathing (P. Prier, 1984: 4). The best breathing for singing is diaphragm breathing, which is by filling the air into the lungs completely without being pinched because the chest cavity moves downward. In such situation we can adjust our breath according to our wishes and sing confidently.

b. Intonation

Intonation is the accuracy of the tone so that the tone is not out of tune. There are several things that cause the singer out of tune, namely:

1) The singing atmosphere is too tense
2) Singer lacks of concentration in singing
3) Out of breath
4) Singer is less sensitive to the mix of tones or harmony of tones
5) Singer is not good at understanding pitch change
6) Singer tends to follow other voices
7) Singer makes a mistake in singing pitch change

c. Resonance

According to Teddy Sythady (1984: 21) there are three elements that are important in the effort of sound formation in learning sound art or vocal, namely:

1. The breathing motor which is the asset
2. Vibrator, with vocal cord as a contribution
3. Resonator, nasal cavity and mouth as a means or place

The definition of resonance is the effect caused by the process of vibrating sound with the resonator cavity. This resonator can shape the strength of the sound and the color
of the sound. In other words, the quality of the human voice is determined by the shape, area and skill of the resonator cavities or resonator construction.

Pengertian resonansi adalah efek yang ditimbulkan dari proses bergetarnya suara dengan rongga resonator. Resonator inilah yang dapat membentuk kekuatan suara dan warna suara, dengan kata lain kualitas suara manusia ditentukan oleh bentuk, luas serta kemampuan rongga – rongga resonator atau konstruksi resonator.

d. Articulation

Articulation is a clear pronunciation of word (Latifah Kodijat, 1986: 5). The pronunciation of this word cannot be separated from the mouth as a means of speaking, many people try to beautify their mouths when singing, even if there is excessive singing that is not correct and it can interfere in singing. Singing with a proper mouth shape and it is not made up.

CONCLUSION

1. The relationship between reading skill and learning achievement in sound art.

Reading skill is the skill to understand the meaning of musical codes or notation when they are spoken. From 80 samples of SMA Dapena 1 Surabaya, it is concluded that the skill to read notation is important for someone who is learning music. Even though it can be given by giving an example or asking for a tone to be imitated, this method is limited to short song and easy to memorize. Meanwhile for practicing long song and difficult to memorize, it will be easy to teach by writing music or music notation. Student learn by reading the code or notation.

Sound art as a branch of music art can not be separated from notation in studying it. Thus, the fluency of student in reading the notation more or less will affect the fluency in learning sound art or vocal, the relationship between reading skill and learning achievement can be described as follows:
2. The Relationship between Listening Skill and Learning Achievement of Sound Art

Listening skill refers to the accuracy of tone and rhythm of the music. Music is an art form whose expression is through sound. 80 samples of students of SMA Dapena 1 Surabaya who have been tested, it can be concluded that sensitivity to this sound is a must in learning and playing music.

Sound art as a branch of the music art is an art in the form of sound with a regular frequency produced by human voice. In produce a sound sensitivity to tone is required. Thus, listening skill has a major effect on the accuracy of the tones in singing or voice art. The relationship between listening skill and learning achievement can be described as follows:

Picture II. The Relationship between Listening Skill and Learning Achievement in Sound Art

3. The Relationship between Singing Skill and Learning Achievement of Sound Art

The skill in singing is to produce tones precisely according to written notation. The main goal that is expected if the students watch a music show, they are able to sing it quickly.

Singing skill is oriented to the fluency of interpreting music notation into voice or vocal, according to the high and low notation of the sound. If this activity running well, it will also affect the fluency of learning sound art.

The relationship between singing skill and learning achievement can be seen or described as follows:

Picture III. The Relationship between Singing Skill and Learning Achievement in Sound Art
4. The relationship between Solfegio Skill and Learning Achievement of Sound Art

Solfegio is a term that refers to the skill to sing musical scale, interval and melody exercises using syllable (Stanley S, 1980: 454). In further development, Solfegio not only sing but also read and listen notation. Thus, Solfegio skill consists of skill to read, listen and sing a combination that the researcher has done on 80 students of SMA Dapena 1 Surabaya. It is found a correlation between the skill to read tone and the effectiveness of learning makes learning situation getting maximum learning skill result. This thing can be done through several steps like Latifah Kodijat and Marzoeki (1984: 5), 1) Students see the sign of music that will be studied in the form of notation and then. 2) Students must be able to imagine the tone when it is sounded. 3) Students can play that artwork either with musical instrument or vocal related to the field being studied, so it can hear the sound. 4) Students can check whether the sound produced is in accordance with the imagination and also according to the pitch.

From the four steps, it can be described as follows:

The Process of People in Learning Music

Especially in this research the third step is the mouth because what is being discussed about the art of voice or vocal. So that the three steps, namely: eye, ear, mouth or finger are a means to train Solfegio abilities regarding in learning sound art.

From the information above, it can be concluded that there is a relationship between solfegio skill of students of SMA Dapena 1 in Surabaya and learning achievement of sound art that they achieve. In accordance with the role of each element, this relationship can be described as follows:
From the discussion above, the following hypothesis can be proposed:

a) In the students of SMA Dapena 1 Surabaya, there is an influence of the reading skill factor in the learning achievement of sound art.

b) It means that the higher of skill to read notation, the higher of achievement in learning sound art.

c) In the students of SMA Dapena 1 Surabaya, there is a positive influence on the listening skill factor to the learning achievement of sound art. It means that the higher of skill to listen notation, the higher achievement of learning the sound art.

d) In the students of SMA Dapena 1 Surabaya, there is a positive influence in the singing skill factor to the learning achievement of sound art. It means that the higher of skill to sing notation, the higher achievement of learning the sound art.

e) In the students of SMA Dapena 1 Surabaya, there is a positive effect of Solfeggio skill in learning achievement of sound art. It means that the higher of Solfeggio skill, the higher achievement of learning the sound art.
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