

Critical Thinking as a Trigger of the Creativity of Teaching Music

Diah Latifah, Henry Virgan, JL Hestyono Moeradi

Department of Music Education
Universitas Pendidikan Indonesia
Bandung, Indonesia
diahlatifah@upi.edu

Abstract—This study examines the power of critical thinking to produce music creative teaching performance. The study participants were twenty music teachers who had participated in teaching music training, based on twenty-first century learning practices, with the desired peak of achievement targeted at improving their creative music teaching capabilities. It is a regression study. The research methods used were intended to test the strength of the participants' critical thinking to encourage and strengthen their creative teaching skills. The results showed that critical thinking has an advantage in producing creative teaching abilities, especially in the ability of teachers to manage teaching materials that triggered their students' musical creativity.

Keywords—critical thinking; ability to teach creative music; students music creativity

I. INTRODUCTION

Teaching music in high schools requires an understanding of the policies that apply in a country. The competence of teachers in teaching should always be adjusted to the development of policies that apply nationally. "Teachers will have to update and expand their knowledge and skills and modify their pedagogy in quite major ways. This will not happen easily, particularly given the national context of all ageing school teaching force" [1]. The current policy in Indonesia was that learning leads to High Order Thinking Skills (HOTS). HOTS in 'The Bloom Cognitive Process Dimension' theory, which was revised, included; remember, understand, apply, analyze, evaluate and create [2].

The skills of the twenty-first century exposed the secondary and high school education curriculum in Indonesia to:

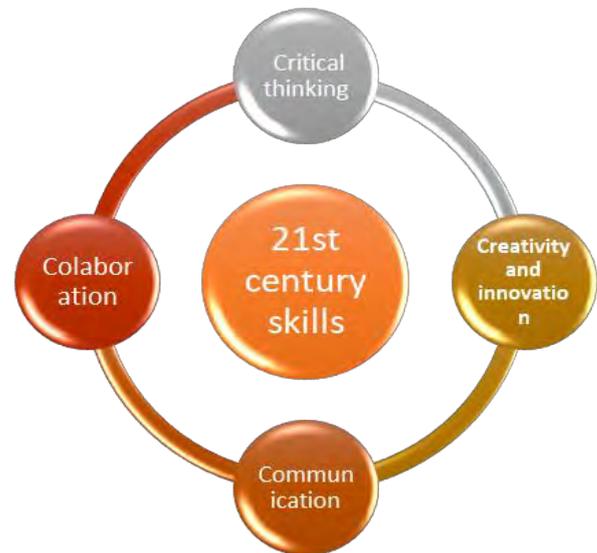


Fig. 1. Indonesian primary, secondary and high school curriculum 2017 review [3].

In HOTS there is a culmination of creative achievement. The thought process that has a high probability of triggering creativity is critical thinking. Critical thinking in music learning is required in order to achieve a high-level thinking process. "Thus there are three components in HOTS, namely [4]: (1) critical thinking skills, (2) creative thinking skills, and (3) systems thinking skills". According to Topoğlu "Critical thinking is the ability to analyze facts, generate and organize ideas, defend opinions, make comparisons, draw inferences, evaluate arguments and solve problems" [5]. Critical thinking is needed when the teacher is required to solve problems that occur with students while learning music. "In music education, critical thinking has been discussed in relation to problem solving and music listening. Hearing strength is one of the basic sensitivities of music that is needed when students learn music" [6]. Because Miendlarzewska and Trost affirmed "Listening to music requires certain perceptual abilities, including pitch discrimination, auditory memory, and selective attention in order to perceive the temporal and harmonic structure of the music as well as its affective components" [7].

Creativity is the estuary of achieving the HOTS, which is achieved through the educational process. "Creativity is

increasingly gaining recognition as a human characteristic that can, and should be, developed through education” [8]. Curricular implementation policies are needed to support achievement. “Organizational policy should allow strategies that enable both teacher and students to interact and reflect, to seek information and take initiative, and to support and encourage risk-taking and original ideas with tolerance, stimulate creativity and critical thinking” [9]. This policy needs to be followed up by implementing a music learning process that refers to achieving the process of critical thinking and creative work. “Further, it states that ‘as emerging critical and creative thinkers,’ students will gain the confidence and the tools to understand and critique the Arts in everyday life. Students will learn that the Arts exist in process as much as in finished artistic products” [9]. It is important that the teaching process is creative so that both the students and the teachers continue to maintain mutual interest so that they can achieve independent thinking and productivity. “Without a creative approach many students and teachers can lose interest and lack soft skills necessary for independent thinking and productivity” [10].

Music creativity is generally done through creating music compositions, arranging music and improvising. This can be done well if the teacher gives enough time for students to find and develop their ideas. “Composing work, for example, was good when music teaching made it possible for the students to give adequate time and thought to how they could shape their ideas” [11]. Music creativity in the form of rhythmic or melodic music creation activities, based on the strength of auditory sensitivity, can be obtained from hearing sensitivity exercises on sound. “Musical creativity can be demonstrated through composition and improvisation which are regarded as the main activities for generating new ideas in music; however, music listening, and performance have been considered as additional forms of creative behavior” [11].

Although problems often occur during the implementation of art learning, there are still many teachers who are still implementing the process of learning music only until the stage of music analysis, after the practice of music is implemented (the results of data processing Technology Guidance for Indonesian Art Curriculum, Sukabumi in 2016). This is typically followed up with a practical reinforcement of teaching music oriented to the process of critical thinking and creativity. “The critical thinking perspective is comprehensive and includes creativity, problem solving, intuition, and insight” [12].

From the existing problems, a problem formula is drawn: “Is the competence to teach music triggered and influenced by critical thinking skills and as well as creativity?”

The research hypothesis is structured as follows:

- HA if the competence to teach music is influenced by critical thinking skills and creativity.
- H0 if the competence to teach music is not influenced by critical thinking skills and creativity.

II. METHOD

The research method used was a survey of twenty professional teachers who attended the workshop from April to August 2018 to explore and strengthen teaching competencies oriented to HOTS and Skills in the twenty-first century. In this research only two aspects of twenty-first century skills were analyzed, namely:

- Critical thinking skills in analysing the rhythm patterns.
- Ability to create motives and melodies as a trigger for the teaching competence of music.

Data analysis uses multiple regression measurements to predict how critical thinking influences the rhythm patterns and ability creating motives and melodies on the teaching competence of music.

Data collection techniques were carried out through collecting and analyzing the tests results

- The application of critical thinking when participants examine the rhythm pattern. (X1)
- The application of creativity when participants create motives and melodies. (X2)
- Competency to teach music oriented to critical thinking and creativity of music. (Y)

The research variables were:

- The dependent variable (Y) is the ability to teach music oriented to critical thinking and music creativity.
- The independent variable (X1) is critical thinking skills to examine rhythm.
- The independent variable (X2) is the ability creating motives and melodies.

The research instruments were:

- Reference to the practice tests of teaching music.
- Critical thinking test reference when reviewing rhythm patterns.
- Reference tests for the practice of creative music when creating motives and melodies.

A. Indicator of Music Teaching

- The teaching competency which have creativity and critical thinking of music activity.

B. Indicator of Critical Thinking of Rhythm Analysis

- Problem based thinking. (Finding the problem of sounds produced by listening to the rhythm.)
- Finding the reasons (reasoning) why the problems appear, or exist, with the rhythm pattern.
- Analysis of sound and rhythm.
- How to solve any problems and to understand the sound and rhythm pattern?

C. Indicator of Music Motive and Melody Creativity

- Exploring sound.
- Exploring motive.
- Applying melody.
- Analyzing melody.
- Short melody creativity. (One bar.)
- Four bars melody creativity.

III. RESULTS

A. Data Description:

Measurement of research results:

1) The correlation results between (X1) and (Y):

- The variable X1 was the test result of critical thinking of rhythm.
- The variable Y was the test result of the competence to teach music.

The number of teacher’s participants. (N) There were 20 participants.

Calculation results using the SPSS 6 program showed:

TABLE I. CORRELATION RESULTS BETWEEN VARIABLES (X1) AND (Y)

Correlations			
		<i>Critical thinking of rhythm (X1)</i>	<i>Music teaching (Y)</i>
<i>Critical thinking of rhythm (X1)</i>	Pearson Correlation	1	0.832**
	Sig. (2-tailed)		0.000
	N	20	20
<i>Music teaching (Y)</i>	Pearson Correlation	0.832**	1
	Sig. (2-tailed)	0.000	
	N	20	20

** Correlation significant at the 0.01 level (2-tailed).

Correlation results between variables (X1) and (Y):

Pearson R = 0.832
 N = 20
 Df = 18
 Probability = 0.01

These results showed that the competence of teaching music is related to critical thinking in analysing the rhythm pattern.

2) The correlation results between (X2) and (Y):

- Variable Y was the test result of the competence to teach music.
- The X2 variable was the test result of the motive and melody creativity.
- The number of teacher’s participants. (N) There were 20 participants.

Calculation results using the SPSS 6 program showed:

TABLE II. CORRELATION RESULTS BETWEEN VARIABLES (X2) AND (Y)

Correlations			
		<i>Motive and Melody creativity (X2)</i>	<i>Music teaching (Y)</i>
<i>Motive and melody creativity (X2)</i>	Pearson Correlation	1	0.666**
	Sig. (2-tailed)		0.001
	N	20	20
<i>Music teaching (Y)</i>	Pearson Correlation	0.666**	1
	Sig. (2-tailed)	0.001	
	N	20	20

** Correlation significant at the 0.01 level (2-tailed).

Correlation results between variables (X2) and (Y):

Pearson R = 0.666
 N = 20
 Df = 18
 Probability = 0.01

These results showed that the competence to teach music is related to creating motives and melodies.

3) The correlation results between (X1) and (X2):

- The X1 variable was the test result of critical thinking analysing rhythm patterns.
- Variable X2 was the test result of music creativity.
- The number of teacher’s participants. (N) There were 20 participants.

Calculation results using the SPSS 6 program showed:

TABLE III. CORRELATION RESULTS BETWEEN VARIABLES (X1) AND (X2)

Correlations			
		<i>Critical thinking of rhythm (X1)</i>	<i>Music teaching (Y)</i>
<i>Critical thinking of rhythm (X1)</i>	Pearson Correlation	1	0.470*
	Sig. (2-tailed)		0.037
	N	20	20
<i>Motive and melody creativity (X2)</i>	Pearson Correlation	0.470*	1
	Sig. (2-tailed)	0.037	
	N	20	20

* Correlation significant at the 0.01 level (2-tailed).

Correlation results between variables (X1) and (X2):

Pearson R = 0.470
 N = 20
 Df = 18
 Probability = 0.05

These results indicated that the ability to think critically analyze rhythm patterns related to creativity creating motives and melodies.

4) The results of calculating the influence of critical thinking on the analysis of rhythm and creativity create motives and melodies for the teaching competencies of music:

TABLE IV. THE RESULTS OF CALCULATING THE INFLUENCE OF CRITICAL THINKING ON THE ANALYSIS OF RHYTHM AND CREATIVITY CREATE MOTIVES AND MELODIES FOR THE TEACHING COMPETENCIES OF MUSIC

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	72.479	2	36.240	31.887	0.000 ^b
Residual	19.321	17	1.137		
Total	91.800	19			

a. Dependent variable: Music teaching (Y)
b. Predictors: (Constant), Motive and melody creativity (X2), Critical thinking of rhythm (X1)

Value F = 31.887: Y (dependent variable) with predictors motive and melody creativity (X2) and critical thinking of rhythm (X1) showed; motive and melody creativity and critical thinking of rhythm are influence to music teaching competency.

5) The results of multiple regression calculations between Y, X1 and X2 showed:

- Y = Dependent variable. (Music teaching)
- X1 = Critical thinking of rhythm.
- X2 = Motive and melody creativity.

Calculation results using the SPSS 6 program showed:

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.521	0.955		0.545	0.593
Critical Thinking of rhythm (X1)	0.318	0.060	0.666	5.284	0.000
Motive and Melody creativity (X2)	0.147	0.053	0.353	2.802	0.012

a. Dependent Variable: Music Teaching (Y)

Regression equations result;

$$Y = 0.521 + 0.318X1 + 0.147X2$$

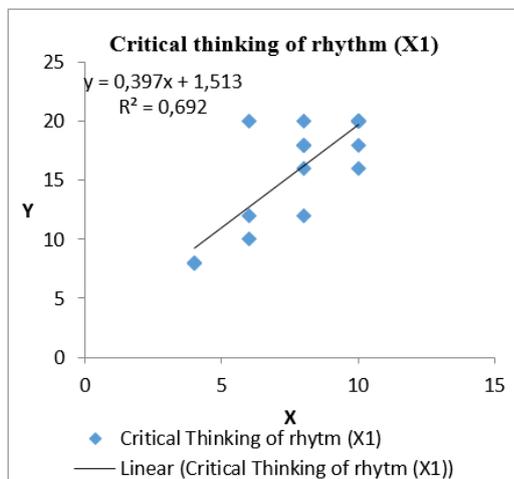


Fig. 2. Critical thinking of rhythm (X1).

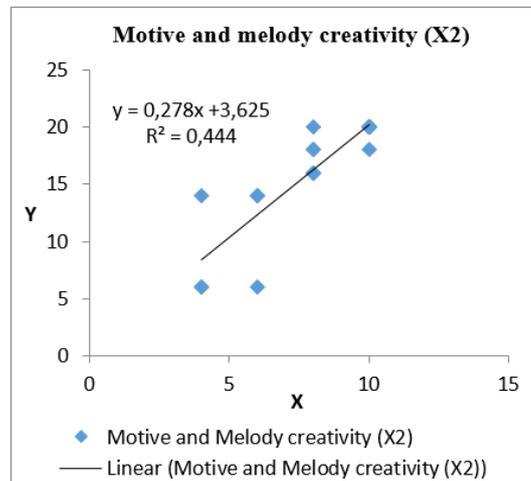


Fig. 3. Motive and melody creativity (X2).

The results of calculations using the SPSS 6 program produced these Regression Equations;

$$Y = 0.521 + 0.318X1 + 0.147X2$$

This result shows that H0 is rejected and Ha is accepted. Predicted:

- If the competence of critical thinking of rhythm is high, then the competence of teaching music is high.
- If the competence of motive and melody creativity is high, then the competence of teaching music is high.

IV. DISCUSSION

The results of the study state; predicted, if critical thinking competency is in reviewing rhythm patterns and creative activities is in creating motives and melodies high, then the ability to teach creativity-oriented music is high.

This happens because the musical sense sensitivity applied in the rhythm analysis process and the creation of motives and melodies has the power to direct the way to teach creative music to a music teacher.

The creative teaching process can occur if the teacher provides opportunities for students to support the creative thinking processes and creative music activities. "Creativity in music has been defined as a learnable and teachable high-level skill that can develop with learning, practice and experience. In the music classroom, children can produce creative work if teachers are able to nurture and support their creative thinking and encourage creative behavior" [11]. Teachers who have experience creating music, or having musical composition skills, are generally more prepared to face their teaching assignments. Competence in creating music or the ability to manage rhythmic or melodic sounds into a composition will make it easier for a teacher to work creatively when facing his teaching assignments. "Odena and Welch found that in-service educators with composing and improvising experience were more comfortable with these tasks in their classrooms. Because of this, music teacher educators have called for music

teachers to be educated in skills that readily employ creative thinking, such as composition and improvisation” [13].

Besides several facts from the research above, it was found that the critical thinking process influences the performance of creativity and will trigger artistic creativity. “The skills of critical thinking are directly connected with creativity and with a willingness to explore elements that condition all artistic processes” [12]. Critical thinking and creativity in music have a culmination of achievements that often arise at the same time. “In the field of music education, though many draw close parallels between critical thinking and creative thinking and recommend that they be cultivated together” [12]. With the relevance that occurs between critical thinking and creative work in music, or in the text and context of teaching music, it can be stated that the teaching of creative music is influenced, or triggered, by the process of critical thinking in music and creative music processing.

V. CONCLUSION

Critical thinking has the power to produce teachers who are creative and have the competence to teach music creation. This statement is proven by the presence:

- A significant correlation between the ability to think critically on the analysing of rhythmic processing with the competence to teach music.
- Significant correlation between motive creation and melody with music teaching competence.
- Significant correlation between the ability to think critically on the analysing of rhythmic processing with motive and melody creation.
- Critical thinking skills in rhythmic processing and melody creation have a positive effect on the competence of teaching music.
- So that it is predicted if critical thinking skills in analysing rhythmic and creation motives and melodies are high, the competence to teach music-oriented music creativity is also high.

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