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Improving students' learning achievement in school musical ensemble through portfolio-based assessment

Kun S. Astuti

F.X. Diah K.

Abstract: In light of the implementation of the competency-based curriculum (CBC), the study aimed to (1) develop portfolio-based assessment for the School Musical Ensemble course and (2) find out its impact on the students' learning achievement. The subjects of the study were students of the Department of Music Education at the Yogyakarta State University (YSU) who took the Advanced School Musical Ensemble class. Observation sheets were used to collect descriptive qualitative data and students' semester scores were used as data for the descriptive quantitative analyses. The findings of the study indicated that (1) classification of students' learning achievement in the cognitive, psychomotor, and affective aspects can be used as components of portfolio assessment in musical ensemble and (2) based on the t-test analysis results, there is a significant difference in students' learning achievement before and after the implementation of portfolio assessment.

Key words: competency-based curriculum, education-unit level curriculum, portfolio assessment, authentic assessment, standard of competencies, cognitive domain, psychomotor domain, affective domain, attitudes towards learning

1. Introduction

Starting from the academic year 2002, formal schools in Indonesia implemented the competency-based curriculum (CBC). In 2006, the CBC was further developed into education-unit level curriculum (EULC). The main difference between the CBC and the EULC is that in the EULC every school is given the freedom to develop its own specific curriculum which suits its unique condition and environment. The contents of the two curricula were the same.

The competency-based curriculum was designed following the development of society that became more critical of the output of the educational system which focused mainly on conceptual abilities. The society as stakeholder demands the school graduates to be more able to actualize their abilities in a more concrete way, which requires the graduates not only to master the concepts, but also to be able to implement them in real life. Even though the CBC was not very much different from the preceding curricula, it was expected to bring about the objectives of the educational system more realistically.

There are two main reasons why the government launched the CBC at all levels of education. First, the competition taking place in the global era lies mainly on the quality of human resources which constitutes the outputs of education institutions. To be able to survive and win the competition, the competencies of the graduates at all levels of education have to be clearly defined. Second, the system of evaluation needs clear standards. These standards are in

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the forms of competencies that must be achieved by the learners. To show how far these standards are achieved, achievement indicators are established (Mardapi, 2003: 1). The next process is to construct the standard of competence as benchmark (Marzano, 2003: 3). The benchmark must be specific knowledge or skills that are clearly defined.

Four components constitute the main framework of the CBC: Curriculum and Learning Achievement, Class-Based Assessment, Teaching Learning Activities, and School-Based Curriculum Management. Curriculum and learning achievement consists of planning for developing the competencies that the students need to achieve comprehensively, which include the competencies, learning achievement, and indicators of achievement. Meanwhile, class-based assessment consists of more accurate and consistent principles, objectives, and implementation of evaluation. This is realized through competence identification and achievement that have been obtained, a clear statement about the standards that need to be achieved, and the map of students' progress and report (Balitbang, 2002: 1).

The demand of the CBC which emphasizes the result or learning achievement in the form of competencies that can be known, accepted, and performed by students should be authentic. Mursell (1983: 3) states that authentic learning results are results that can last for a long time and are purposeful and meaningful in that students can really use them in their life. Mursell (1983: 93) also adds that the meaningfulness of a learning result will depend on its possibility to be "transferred" to other situations.

What Mursell states above answers the critiques avowed by Suyanto and Hisyam (2000: 63) who adopt the term proposed by Paulo Freire that, so far, learning is just a banking concept that provides conditions for students to treat the learning results as a collection of information. Mursell (1982: iv) developed a different learning approach to achieve authentic learning results by presenting six learning principles as follows:

- (1) A learner's way of thinking must run in the appropriate contextual framework, if he is to learn well,
- (2) The learner should focus his attention accordingly,
- (3) The suitable social relationship will help a lot,
- (4) Up to a certain limit, he should be able to follow his own way of learning,
- (5) Every learning activity should be a sequence of process to understand and to comprehend, and
- (6) The suitable method of assessment is a must, because a learner needs to know his progress.

The Competency-Based Curriculum requires an assessment method performed individually and continually, which can reflect the process performance that has been achieved by the students from time to time. The type of measurements suitable for this assessment refers to a new alternative to measurements, instead of the traditional measurements. One of these new type of measurement is the portfolio assessment.

A portfolio is a record which describes the skills, ideas, interests, and abilities that have been achieved by a student. Different from the traditional measuring tests which describe the students' ability at a particular time, a portfolio is a description of students' abilities recorded from time to time to know the students' progress. A portfolio aims to, among others: (1) reveal the development and progress of the students, (2) improve the effectiveness of communication between teachers and parents about the students' performance, and (3) make it easier for teachers and supervisors to evaluate the learning program (Hart, 1994: 5).

One of the subjects offered by the department of Music Education of the Yogyakarta State University (YSU) is Advanced School Musical Ensemble. This subject aims to provide students with skills to play school music in an ensemble. It is expected that the graduates of the Music Education Study Program can play ensemble music and teach it when they become teachers. School music ensemble is an important subject for music teachers because it is a very popular subject at the elementary and secondary schools. The school musical ensemble can be

a forum for students to play musical instruments in a large group at a time, even if they do not yet have high ability to play musical instruments.

The school musical ensemble must be performed in accordance with the demands and characteristics of the CBC. In the same way, a suitable learning strategy for school musical ensemble needs to be developed for the students to achieve mastery learning, that is to master all the basic competencies for the subject, and give opportunities to each student to obtain those competencies at their own speed according to their talents and abilities in the cognitive, psychomotor, and affective aspects.

According to Boediono (2001), the learning model based on portfolio assessment is a form of learning practice, that is, a learning innovation designed to help the students to understand the theories comprehensively through practical-empirical learning experience. This learning practice can be an education program that will support the competence, responsibility, and participation of the students; learn how to evaluate and influence the general policy; and participate in the activities taking place among the students and among the community members.

2. Objectives of the Study

Based on the discussion on the background of problem above, two objectives are formulated in the study. The study aimed to develop portfolio-based assessment in the School Musical Ensemble course. It also aimed to find out the impact of portfolio-based assessment on the students' learning achievement in the School Musical Ensemble course.

3. Review of Related Literature

a. School Musical Ensemble

A school musical ensemble is a collective musical performance played by several players holding different functions. All the players play the same song but using different parts (Astuti, 2003: 281). Miller (in Bramantyo, n.d.: 87) further explains that a musical ensemble involves two or more players who are involved relatively evenly and equally in playing a musical work.

1) Criteria of Qualified Musical Ensemble

According to the term "ensemble", taken from the French word "ensemble" which means "together", a musical ensemble is characterized by its "togetherness." This togetherness can be seen from the cohesiveness and the balance of the group. Cohesiveness is the suitability in tempo, while balance can be seen from the volume among the players and the sound forms. The cohesiveness of a musical ensemble can be seen from its attack, tempo, and release.

2) Factors Determining the Success of School Musical Ensemble

The success of performing a school musical ensemble is determined by two factors: individual ability and group ability. Individual ability covers the musical ability and interpersonal ability of each player. According to Gardner (1993: 24) musicality is an intelligence that needs one's sensitivity to the relationship among tones and flexibility of fingers or other body organs needed to express the music. Parson (1977) states that there are two types of musical ability: gift and talent. A gift is related to the above-average potentials from one domain of intelligence, while talent shows more on the extraordinary skillful ability in a specific field. Interpersonal and environmental factors function as catalysts in forming the

talent. Group ability is the ability of the ensemble in keeping the cohesiveness and balance. Cohesiveness involves the ability to keep compact in starting a song, maintaining the tempo, and ending the song; while balance involves the balance among the melody, rhythm, harmony and bass, and the balance of sound volume of all the musical instruments.

b. Portfolio Assessment

Budimansyah (2002: 1) states that portfolio can be understood as a form of physical material please use primary sources on portfolio assessment, and as a process of social pedagogy. As a form of physical material, a portfolio is a bundle, a collection or documentation of works produced by a student and filed in a bundle, consisting of, among other things: pre-test results, tasks, anecdotes, individual notes, certificates, statements declaring the performance of structured tasks, and post test results. As a socio-pedagogical process, a portfolio is a collection of learning experiences existing in the mind of the student in the form of knowledge, skills, values, and attitudes.

A portfolio can then be defined as a collection of a student's works selected accordingly for a specific intention and integrated according to a certain standard. A portfolio can be selected from a student's works from the whole class. As a collection of selected works, the portfolio reflects the accumulation of substances selected by the student based on a certain topic. A portfolio is not a collection of unrelated works.

Belanoff & Dickson (1991) state five characteristics of a portfolio. First, a portfolio is a part of meta-cognitive awareness. Both the teacher and student can reveal and reflect the student's progress weekly based on the student's real work. Second, a portfolio can be used as a real proof of the student's achievement if there is a disagreement on it in the future. Third, standard evaluation of a portfolio is made based on the interaction between the teacher and the student themselves. Fourth, the assessment system for a portfolio is individually important for every student because each student may have his or her own specific ability which is different from one another. Fifth, a portfolio is a system of assessment which is extensive and comprehensive, so that it can reveal both the process and the product of a learning system.

Based on the discussion above, it can be said that a portfolio is a document consisting of the description of student's work during the process of learning. As a consequence, the teacher must have the ability to make notes of all events taking place in the class effectively and efficiently. In this way, the time allocated for learning is not taken for describing the learning process as required in the portfolio.

Portfolio-based assessment is based on the principle of student active learning, cooperative learning, participatory learning, and reactive learning (Budimansyah, 2002: 8). Students' activities take place in almost all the phases of the learning process, including the reporting. In the planning phase, for example, brainstorming is used, that is every student presents an interesting problem related to the learning material. After all the problems are collected, students will vote to decide one problem to discuss in class. In the field-activity phase, students collect data and information to answer the problem to be discussed in class. Then in reporting, are focus on making the class portfolio.

The process of portfolio-based assessment also applies cooperative learning principles, that is the learning process should be based on cooperation. The teacher must be able to utilize the social facilities so that every student has a different responsibility but based on one collaborative effort. Eventually, all students will feel satisfied because they have contributed their thoughts and work for the success of the group.

Portfolio-based assessment also uses the learning by doing principle. It means that all the learning process is based on learning by doing some tasks. A portfolio-based learning is, therefore, also a task-based learning. Classroom tasks are designed and done in the classroom according to the objectives and indicators of achievement.

The last principle of portfolio-based assessment is reactive learning. In this mode of learning, it is important for the teacher to create a suitable learning strategy so that students will have a high learning motivation. Students' motivation can be endorsed by making the students aware that the material or skill they are about to learn will be useful and meaningful for their real life later.

4. Methodology

a. Treatment

The study is action research involving an empirical treatment, that is making notes on what is done and what happens in the study, observing the action, and reflecting on the results by looking back at the objectives (Madya, 1994: 24). The study was carried out on the subject of Advanced School Musical Ensemble at the Music Education Department, Faculty of Languages and Arts, Yogyakarta State University, from March to June 2007. It was performed in two cycles. The dependent variable was the students' portfolio during the class, while the independent variable was the students' learning achievement of school musical ensemble subject.

Data collection was done through the test and non-test techniques. The test technique was used to collect data related to the learning achievement. The non-test technique, including describe content of portfolio including artifact, procedure of interview, was used to collect data related to the instructional process during the class interaction.

Factor analysis which was used to look at the instrument of learning achievement showed that there were three factors which had *eigenvalue* more than one. Therefore, the instrument in fact contained three variable components and was able to explain 87.36% of the learning achievement phenomenon. Only about 12.64% of the ability measured constituted variables outside the competence of learning achievement in this subject. Furthermore, the alpha coefficient of 0.9292 produced in the analysis results showed that the instrument had met the condition for good reliability and validity.

The second instrument, i.e. the observation sheet of portfolios, adopted from the classification of learning achievement, consisted of the three cognitive, psychomotor, and affective aspects of learning as developed by Bloom, Gagne, Simpson, and Krathwol. Considering that this classification had been standardized, the instrument was not pre-tested.

The Action Research was carried out in 16 meetings, divided into two cycles. Each cycle consisted of the steps of planning, actualizing, observation, and reflection. In general, the lesson plan on Cycle I covered three activities: setting up the committee; training for mastering the material of songs consisting of the sectional and gathering steps; and adjusting the harmony of musical ensemble including cohesiveness, balance, and performance.

The observation for collecting the data was carried out together in the actualization step. In this action phase, monitoring and evaluation was conducted towards the students' attitudes in the aspects of cognitive, psychomotor, and affective learning.

Starting from the second up to the eighth meeting, the teacher informed students of the achievements they were to obtain in all the cognitive, psychomotor, and affective aspects. Assessment was carried out both qualitatively and quantitatively. Qualitative assessment was in the form of teacher's comments on the performance and responses shown by the students including any weakness that should later be eliminated. The quantitative assessment was in the form of measuring the students' achievement in learning the musical ensemble, including the aspects of attitudes, cohesiveness, balance, and performance.

Based on the results of observation in Cycle I, it was shown that all students improved their cognitive aspects, although the improvement was not the same for every student. However, the improvement had similar characteristics, i.e. when a student had achieved a

higher level of the cognitive domain, the student would never get back to the lower level.

The development of the psychomotor aspect could only be seen in the third meeting, that is when the school musical ensemble was practiced. At the beginning of the learning, students had achieved the psychomotor aspect at the level of guided responses (P4). In this case, the students were unable to play musical ensemble in groups; they were able to play in sections. But at the end of the third meeting, the students had achieved the psychomotor aspect at the level of mechanism (P5). It could be seen from their ability to play the musical ensemble together, although it still was not a good performance. In the next meetings, their learning achievement improved incrementally. At the end the eighth meeting, the students had achieved the psychomotoric aspect at the level of adaptation (P7).

From the affective aspect, the initiative and discipline of the students were low at the beginning of the learning. It was shown by the fact that many students came late and not all of them showed active participation in the discussion in designing the program of musical performances. But after the description of students' portfolio was given in the first meeting, the students' attitude changed. In the second meeting, all students took part in the discussion and in making decisions. From the third up to the eighth meeting, students had achieved the affective aspect at the level of valuing (A3).

Reflection of the learning process of Cycle I showed that the improvement achieved by students in the aspects of cognitive, psychomotor, and affective domains resulted from the condition that the students were aware of their achievement from time to time and of the achievement that they should have obtained. In this case, both the lecturer and the students knew exactly what objectives to be obtained and what weaknesses to be improved.

In general, the learning achievement obtained in the first cycle was that the students were able to play and organize the process of mastering the songs. However, there were still some things to be considered such as their careful attention in reading the rhythm, accessory tones, filler, balance, and performance, including interpretation and expression. Therefore, in the next cycle, they should master comprehensively not only the songs, but also the subtle details of the songs.

The lesson plan for Cycle II was mostly focused on mastering the technique and performance of the musical ensemble, with specific stress on details of the songs and cohesiveness and balance of the songs with higher level of difficulty. The actualization of Cycle II was somewhat different from the plan, but not diverging from the substance of learning. For example, in the tenth meeting, the students should still practice musical ensemble in the intermediate level, but in the second meeting of Cycle II the students had played musical ensemble of the advanced level. This was due to the fact that their ability increased faster than the estimation, such that they could play to the songs of the higher level of difficulty.

Observation in this second cycle showed that in the cognitive aspect, the average students achieved the level of evaluation (C5), and synthesis (C6). It was shown by their ability in correcting the practice of musical ensemble they played. This achievement covered the aspects of attitudes, techniques, cohesiveness, balance, and performance.

The average level achieved in the psychomotor aspect in the second cycle was that of complex responses (P6) and adaptation (P7). Students were able to play the songs fluently according to the expression symbol given as the requirements. However, their balance was not yet optimal. The level of originality (P8) had not yet been achieved. This can be understood considering that the learning process took place only one semester. Generally, to obtain the level of group originality it needs adjustments for approximately four years.

In the second cycle, students had already understood the rules to follow in the learning process. This way, classes could run quite smoothly since the students had already prepared

the musical instruments and song partitions before the class started. Besides, students had already studied previously so that the songs could be mastered quite well.

Positive responses were also shown by the students in their responsibility to pay attention to and participate in the instructional activities. It could be seen from their being busy in preparing the transportation and accommodation and setting up the musical instruments on stage during the class sessions. From the affective aspect, the students achieved an average level of organization (A4).

Observation in the second cycle showed that cognitive, psychomotor, and affective aspects achieved by the students tended to remain the same in the sixth, seventh, and eighth meetings. An interesting thing to note is that the affective aspect was more stable compared to the cognitive and psychomotoric aspects. It then can be said that to change the students' attitudes needs a relatively longer time than to change their cognitive or psychomotor aspects.

On June 16, 2007, the final product of the musical ensemble class was a staged performance at *SMP Negeri* (State Junior High School) 2 Cangkringan, Sleman, Yogyakarta. The performance was not only an evidence of the students' achievement of the instructional program, but also as a forum for musical appreciation for the students of this junior high school.

b. Impacts

The impact of the portfolio-based assessment the students' achievement in the musical ensemble instructional program was measured by comparing their achievement before and after the learning process. Using the *t*-test with the version 10 SPSS software, the analysis yielded a *t* figure that was significant at the confidence level of 0.00. It means that there was a significant difference between the students' achievement before and after the instructional processes. It can thus be said that the portfolio-based assessment can improve students' learning achievement in the musical ensemble subject.

Based on the results of the analyses of the research data, it can be shown that the portfolio-based assessment can improve the students' achievement in all aspects of cognitive, psychomotor, and affective learning. In the musical performance as well, the ability of the students treated with portfolio-based assessment improved significantly. It is due to the fact that students can understand clearly what they should achieve in the learning process. Transparency in the evaluation step makes the students able to focus on their objectives. Besides, there is a similar perception on evaluation between the lecturer and the students because the results of evaluation were continually communicated to the students.

5. Conclusion and Recommendations

Based on the discussion above, two items of conclusion can be formulated that relate back to the objectives of the study. These are presented as follows:

- a. Classification of students' learning achievement in the cognitive, psychomotor, and affective aspects can be used as the components of portfolio assessment in learning musical ensemble. As evident from the results of the study, these components can describe the development of students' achievement in learning musical ensemble hierarchically and comprehensively.
- b. Portfolio-based assessment can improve the learning achievement of school musical ensemble at the level of significance of or lower than 5%. There is a significant difference in students' learning achievement before and after the implementation of the portfolio assessment.

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