Developing authentic assessment instruments for music ensemble learning

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Abstract

The aims of this research are (1) to explain the steps or process of developing authentic assessment instruments that are relevant for use in music ensemble learning, (2) to reveal the validity and reliability of authentic assessment instrument models, (3) to evaluate the practicality of authentic assessment instrument models, and (4) to explain the effectiveness of authentic assessment instrument models in music ensemble learning. The method used is the R&D model with the ADDIE approach: analysis, design, development, implementation, and evaluation. Data was collected through observation, questionnaires, and tests. Data analysis was carried out using qualitative and quantitative approaches. Data processing was carried out using SPSS version 22. The research results showed that previously, teachers used conventional models. The validity test for authentic assessment instruments in music ensemble learning scored 89.3, the practicality test scored 87.4, and the effectiveness test scored 89.4. It indicates that the authentic assessment instrument model is suitable for use.

Keywords

Authentic, learning outcomes, music ensemble

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Introduction

Current education, especially music education in general, has yet to be able to facilitate educational goals. Holochwost et al. (2017) explained that educational problems that have a significant impact on academic goals, including music arts education, are 1) the problem of equal distribution of education, 2) the problem of the quality of education, 3) the problem of efficiency in education, and 4) the problem of relevance in education. Autistics becomes an activity for people who can effectively share the development domain. Positive and constructive emotions and the cognitive skills acquired through educational subjects like art and music play a significant role. Suhaya (2016) explained that the art world has experienced rapid development and now plays a more important role in public life. Structured and programmed development is necessary for music arts education. Educators must have the infrastructure and energy to build quality, musically programmed art education. In general, current learning success is based on final learning achievement.

Meanwhile, students' accomplishments only partially reflect the success of the learning process comprehensively. Tohir (2022) explained the factors that cause students' failures in the learning process, such as feeling afraid, bored, and confused. The students feel afraid because they are uncomfortable, bored because the teacher's material is tedious, and confused due to being accepted into schools with lower achievements. Thedpitaka and Somphong (2021) explained that indicators of the success of the learning process should not only be seen from the results of the final learning achievement achieved by students because the achievement of learning outcomes is determined by many factors, including the ability of the beginning participant to learn, means and infrastructure, teachers, media, methods, and process learning. Thus, students' final scores differ from a time-reliant level of teacher success. The high level of learning outcomes is possible because of the previous results.

One important component of learning for educators is assessments or appraisals. Admasu (2015) explained that assessments can measure students' understanding and skills as they progress through their learning journey. Gebremariam and Gedamu (2022) explained the benefit assessments as follows: (1) a way to describe and report how well participants' are doing in their education; (2) the importance of gathering information from observations data that match the educational factors being measured and the situation in which the measurement happens; and (3) a way to measure that checks the quality of control as needed. Furthermore, Brown and Abeywickrama (2019) explained that often, the reported data does not accurately reflect the truth of teaching and learning that occurs in music classrooms because of teacher training and the use of the district's recommended SLOsNo by parameter teaching music. Baharom and Shaari (2022) explained that evaluating students' portfolios helps improve students' critical listening skills, analytical skills, and self-monitoring of proficiency and development of aesthetics.

Furthermore, Wahyudi (2010) explained that assessment is an integral part of the learning process, so it is a goal. Evaluation should align with the learning objective, aiming to collect diverse information with various techniques and consider factors such as material determination, the success of learning processes, and the desired outcomes. Therefore, it is crucial to approach assessment with meticulous planning. Assessment must be based on objective learning in a way that is intact and on certainty criteria for success, good criteria

from the success process carried out by students, or criteria for the success of teaching activities done by educators, as well as success programming in a whole way.

Observations from several schools show that learning art and music differs from what is expected. Teachers still primarily use lecture- and drill-centered methods to implement the art of music. Meanwhile, the research discusses the internal authentic assessment of musical composition. Authentic assessment results provide an overview of students' inner freedom to create and play musical compositions.

At the beginning of February 2023, observations revealed that exceptional learning in the musical arts continued to occur effectively during the assessment process, following the guidelines set by the teachers. Evaluations were implemented, but they were not systematic. As a result, most teachers in the musical arts did not follow existing procedures for learning evaluations. No guidelines were used in assessing musical arts learning, as it relied on an outdated evaluation model. Music educators believed teaching and learning music was challenging, but assessment is still possible.

Based on observational research, evaluation tends to be subjective by commenting on student performance, which is considered wrong. The teacher gives specific value to the student's writing results. This assessment process is conducted carelessly on a superficial level because this evaluation method is not enough. McArthur (2016) confirmed that assessment will cause the disappearance of reliability and justice in evaluation. Besides that, by the competency achievement indicators that the teacher has developed in the lesson plan (RPP), the demand indicator for writing is the performance of work, and not a scribbled assessment technique by giving a score.

The reality is that currently, schools only pay attention to quantitative aspects of measurement (numbers), while the assessment aspects are qualitative (affective and psychomotor). The teachers do not explain the levels in the affective and psychomotor domains that describe achievement results. This issue may lead to a decision being made. Schellekens et al. (2021) stated that one of the basic principles that must always be considered and handled when assessing learning outcomes is principal roundness, with the principal evaluator in the evaluation results.

A related matter is the need to develop a model instrument for authentic assessment of learning the music art that can comprehensively measure teachers' learning success. Salamah (2018) stated that assessment education is the process of collecting and processing information to determine the achievement of the research results. According to Heritage (2013), assessment gathers evidence and documents students' learning and growth. This explanation shows the closeness of the meaning of assessment and evaluation, which is usually used to report to the students' parents how their children grow in school. From the various definitions of assessment above, assessment is a systematic process that continuously gathers information about the success of educated research participants, which is beneficial for increasing learning effectiveness. Music assessments must be carried out by a music teacher who is experienced in related musical ensembles and good at theoretical and technical aspects.

Literature Review

The development of an assessment instrument model is a conceptual framework of work steps or stages passed to develop an instrument or measuring tool more

comprehensively. Based on this concept, the model in this research is a conceptual framework that describes a systematic procedure for organizing the assessment process to achieve goals and functions as a guideline for teachers in carrying out valid, effective, and efficient assessments.

Assessment is the process of collecting information used to make decisions related to the implementation of music ensemble learning assessments that have been carried out by teachers so far related to educational policies, quality of academic programs, quality of curriculum, quality of teaching, or the extent of knowledge that a student has obtained through the assessment process. A process evaluation is designed and applied to the implementation of activities. This includes identifying procedural problems related to event management and activities. Each activity is monitored for changes that occur honestly and carefully. Recording daily activities is important because it is helpful for decision-makers to determine follow-up improvements.

Authentic assessment refers to evaluation methods closely aligned with real-world tasks and performances. In music education, authentic assessments allow students to demonstrate their skills in contexts that mimic actual music-making scenarios. According to Frey and Schmitt (1990), authentic assessments should require students to apply their knowledge and skills in practical situations. Authentic assessments are characterized by real-world relevance: tasks reflect the complexities of actual music performances; Higher-order thinking: assessments require students to analyze, synthesize, and evaluate information; reflection and self-assessment: Students are encouraged to assess their own work and learning processes (Linn & Gronlund, 2000).

Authentic assessment is an assessment carried out by teachers to assess what has been done by students, both the process and the results, using various techniques and valid assessment instruments, so that it can prove that students have truly mastered the competencies set. Rusdiyana and Joharudin (2020) explained that authentic assessment is related to achievement and learning outcomes of real-life skills in performance or work results. Furthermore, Maruf and Rahim (2013) explained that authentic assessment is an assessment that is carried out comprehensively, starting from input, process, and output. Meanwhile, according to Samsul and Mutmainnah (2018), an authentic assessment is carried out comprehensively. This assessment aims to obtain a picture of learning outcome competencies in the form of knowledge, attitudes, and measurable skills that are carried out comprehensively. Authentic assessment is carried out to measure attitude competencies, knowledge competencies, and skills competencies. The instruments used for observation, self-assessment, and assessment between students are checklists or assessment scales accompanied by rubrics, while in the journal, they are in the form of educator notes.

Furthermore, educators assess written test knowledge competencies, oral tests, and assignments. Skill competencies are achieved through performance assessments requiring students to demonstrate competence using practical tests, projects, and portfolio assessments. Nahrowi (2019) explained that authentic assessment is an objective assessment of student learning outcomes, namely assessments that do not focus on the final learning outcomes alone. However, assessments begin with the process and can take various forms. Sylvia et al. (2019) explained that authentic assessment is a form of assessment in which students are asked to present assignments in real situations that demonstrate the application of meaningful essential skills and knowledge. Based on the expert opinions above, authentic

assessment is closely related to the involvement of teachers and students, which is carried out with a comprehensive, complete device. This authentic assessment can describe the comprehensive activities related to performance guidelines. This performance is indeed a picture of cognitive, affective, and psychomotor.

According to Darling-Hammond and Snyder (2000), authentic assessment involves three aspects of students: input, process, and output. Teachers conduct assessments by considering student input. Their activities, performance during the teaching and learning process, and the results achieved in attitude, knowledge, and skills after participating in learning. In this assessment, students are assessed based on established criteria, such as minimum completion, determined by each educational unit at the beginning of the school year. Authentic assessment techniques are chosen in various ways to suit the characteristics of the competencies to be achieved.

Authentic assessment techniques include written, oral, product, portfolio, performance, project, observation, and self-assessment (Darling-Hammond & Snyder, 2000). It is essential to note in implementing authentic assessments: (1) the instruments used must vary according to the characteristics of the competencies; (2) assessment of student abilities is carried out comprehensively, covering the cognitive, affective, and psychomotor domains; and (3) assessment is conducted on initial conditions, processes, and outcomes, including attitudes, knowledge, and skills as input, process, and output of learning. Tasks are considered authentic if (a) students are asked to produce their responses, not just choose from available options, and (b) the task reflects challenges similar to real situations.

Types of authentic assessment: Based on the Regulation of the Minister of Education and Culture of the Republic of Indonesia No. 81, authentic assessment can be selected according to the characteristics of the competencies to be achieved. This research includes four types of authentic assessments: performance assessment, project assessment, written assessment, and portfolio assessment. Performance assessment is related to direct practice. According to Mahardika (2018), student performance can indicate achievement in educational units, such as music ensembles, where teachers can assess students' skills in playing musical instruments. Project assessment measures students' understanding of music ensemble by creating reports involving student groups. Mahardika (2018) stated that group projects involve students working together to solve complex problems that require planning, research, discussion, and presentation, which are also related to performance assessment. Written assessments include multiple-choice or written exams.

Portfolio assessments include all aspects of the evaluation carried out by students, such as performance assessments, projects, written self-assessments, and peer assessments (Sargeant et al., 2011). In art, a portfolio is a collection of selected works to be exhibited (Mahardika, 2018). Therefore, portfolio assessments include all activities carried out by students, including performance, project, and written assessments. Based on experts' opinions, authentic assessment is a comprehensive assessment consisting of four main types: performance assessments, project assessments, written assessments, and portfolio assessments. Teachers must develop and implement these four types of assessments in an integrated manner when assessing music ensemble learning.

Music ensemble learning is a learning process related to the existence of a single musical instrument, such as a guitar music ensemble, a music recorder, a piano, a rhythmic musical instrument, or a violin. The final target of this music ensemble learning is that

students are required to be able to understand, practice, analyze, and create to produce musical work in one musical unity, namely, a music ensemble. Authentic assessment is a real assessment with (1) performance assessment, (2) project assessment, (3) written assessment, and (4) portfolio assessment, which is complemented by self-assessment and peer assessment. Teachers and students carry out this authentic assessment in collecting information about the development of music ensemble learning and changes in behavior that students have had or competencies after the ensemble music teaching and learning activities end. This assessment is carried out to find out whether there are changes in behavior in students, whether students have learning experiences, or whether they do not know whether the teaching and learning process that has been carried out has a positive value or not. The objectives of music ensemble learning are for students to be competent to play various instruments, such as brass, woodwind, string, percussion, and mixed. Ihsan and Putra (2022) explained that ensemble music learning aims to foster musical skills, engage students with instruments, and develop responsibility, cooperation, and discipline. Wellplanned, effective, and optimal music ensemble learning facilitated by educators will help students receive and understand the lesson material better. Maintaining a stable tempo is essential for instilling discipline in students to ensure a cohesive and enjoyable music ensemble performance. Shaw (2018) explained that several factors must be considered in music ensemble learning, including ensuring that the song selection matches the students' abilities. Students must select appropriate instruments and maintain them carefully to ensure their longevity. The theoretical material of music, which includes melody, rhythm, harmony, and expression, is essential, as the overall performance must be impressive enough to captivate the audience. In general, a music ensemble consists of three parts: the introduction (the melody played at the beginning of the song before starting the main piece), the central theme (the song), and the coda (the melody played after the theme/song).

Pano (2003) explained that a music ensemble consists of several musical instruments containing rhythmic, melodic, and harmonic elements. Saputra and Kadir (2022) explained that a music ensemble is a collaborative performance of small instrumental units. According to Sanjaya et al. (2019), an ensemble is a group of people who play similar or different musical instruments and perform together. However, according to Evasanti (2015), a music ensemble is performed together in a group that is formed based on the purpose and method. The organizing committee determines the presentation, song material, and number of players. Then, according to Nugroho et al. (2018), a music ensemble is a form of music played by a group of people playing several instruments.

Furthermore, Hudha (2014) stated that a music ensemble is a performance with an almost unlimited combination of instruments. The word "ensemble" comes from the French ensemble, which means "together". Usually, a music ensemble performance is carried out as a form of cooperation between the musicians under the direction of a coach. Therefore, the compactness between the musicians is necessary to create a harmonious musical work. Instructions and suggestions from a coach must be considered to maintain harmony (Sanjaya et al., 2019). Etymologically, a music ensemble also refers to a music group.

Methodology

This research used the R&D (Research and Development) method with the ADDIE approach. The ADDIE model comprises analysis, design, development, implementation,

and evaluation. This stage must be carried out to obtain valid and reliable products. Data collection in this research was conducted using various instruments. The instruments used in this research were 1) instruments for analysis (observation and interview). Observation guidelines are used to get a clear picture of the learning carried out by a music art teacher; 2) an instrument for validation. It is an evaluation instrument based on authenticity in learning music ensembles, and 3) an effectiveness model with a test for the instruments, which has been developed. The data analysis techniques used were (1) qualitative data analysis (descriptive) and (2) quantitative data analysis (numerical). First, qualitative data is descriptive data in argumentative form linked to related theories to obtain results corresponding to the research target. Second, quantitative data is collected through questionnaires in the form of score values (numbers). In addition, the data processing was carried out using SPSS version 22.

Results and Discussion

Steps or processes for developing authentic assessment instruments in music ensemble learning

The steps for developing authentic assessment instruments in ensemble music learning refer to the ADDIE model, which includes analysis, development, design, implementation, and evaluation. Each step carries out procedures ranging from needs analysis to evaluation. Each stage has a significant impact on product perfection. In the initial stage of needs analysis, it was found that the instruments used by teachers needed to be more suitable for assessing ensemble music. This analysis is based on a) an assessment of the needs and characteristics of the instruments, identification, and learning objectives. b) Analysis of the needs of the assessment process that has been carried out previously. c) Identify existing assessment problems. d) Analysis of assessment instrument planning, including determining objectives, materials, learning resources, media, evaluation tools, and approaches/methods used. e) Analysis of the process for learning assessment instruments. f) Technical analysis of follow-up assessment instruments.

Having assessment instruments appropriate to learning characteristics is necessary to achieve learning objectives. Previous research, such as Rosidah et al. (2021), showed that developing test assessment rubrics significantly improves the quality of music assessment. These results illustrate that tests and non-test assessments can better assess student competency. The findings from these studies are the basis for researchers to evaluate whether the instruments currently used are effective. Through initial observations, the researcher realized that the relevance of the instrument to the learning objectives needed to be more clearly visible, and the indicators that explained the relationship with the material were also less obvious. The instruments currently used only come from the K13 guidelines provided by the education office.

After the researchers analyzed this instrument, the initial draft's preparation showed several areas for improvement, such as the lack of precise specifications and the tendency for the instrument to be general. In this instrument, details regarding students' competency standards and basic competencies need to be detailed. Regarding this instrument, the results of observations and interviews with heads of study programs admit that they had difficulty

developing it due to several problems, such as the large number of teaching hours for teachers, a lack of references, and students' perceptions of teachers who teach monotonously.

The product development process for performance, project, written, and portfolio assessments refers to the curriculum and Competency Standards/Basic Competencies in music ensemble learning. Content is developed by reviewing the curriculum, identifying instrument development needs, and refining existing instruments so that new, valid, and effective instruments emerge. The development of musical ensemble assessment instruments needs to be carried out to facilitate the achievement of learning objectives by the expected final competencies.

Researchers analyzed the curriculum, materials, techniques, methods, and assessment processes to develop this music ensemble assessment instrument. This work forms the basis for creating an authentic assessment model. Hindrasti et al. (2020) explained that authentic assessment significantly impacts students' creativity. Product quality criteria include validity, practicability, and effectiveness. In the development stage, revisions were carried out to assess validity and reliability. Validity is measured from the idealism of a product, practicability is measured from the conformity of expectations with reality, and effectiveness is measured from the conformity of expectations with the results achieved.

Validity and reliability of authentic assessment instruments for music ensemble learning that are relevant for use

The assessment results of the validity of the authentic assessment instrument show a high level of validity for the authentic assessment instrument. Three validators, Dr. Irwan, M.Pd, Dr. Iswan, M.Pd, and Dr. Mulyadi, M.Pd, assessed the appropriate content categories, language, and instrument design. The appropriateness of the instrument's content was evaluated as very valid, with an average of 4.2 for each statement, covering aspects such as the suitability of Kl to music ensemble, more specifically, Basic competencies related to music ensemble, and the objectives of learning music ensemble. Validity and reliability values range from 0.769 to 0.797.

The validation results show that the instrument developed is by the music ensemble material, and the curriculum is based on the basic competency standards that apply at SMP Negeri 15 Dumai. The final form of authentic assessment instruments in ensemble music learning includes performance assessment formats, project assessments in the form of assessment formats, written assessments in the form of objective questions and essays, as well as portfolio assessments in the form of questionnaires filled out by students to assess themselves and the student's assessment by friends. The ADDIE model has guided the development of these products, including performance assessments, projects, written work, or portfolios.

The overall ICC (agreement between validators) value (Average Measures) is 0.819, or 81.9%. However, if only one validator is used (Single Measures), the ICC value will be low, namely 0.288 or 28.8%. This shows that using several validators increases the instrument's validity value.

Data analysis on the validation of authentic assessment instruments in music ensemble learning involves five validation results. The performance assessment obtained a result of

4.2, the project assessment obtained a result of 4.5, the written evaluation obtained a result of 4.1, and the portfolio assessment obtained a result of 4.3. All these values indicate that the instrument developed has a high level of validity according to the results of the expert questionnaire validation.

The practicality and effectiveness of authentic assessment instruments in music ensemble learning

The practicality of authentic assessment instruments in ensemble music learning has also been proven to be very good. The practicality test results show an average value of 87.4%, a very practical category. The overall ICC value shows a very high category, namely 0.874 or 87.4%, but with one validator (Single Measures). It shows an ICC value of 0.514 or 51.4%.

The effectiveness of authentic assessment instruments in music ensemble learning is proven because they are based on development objectives. This instrument makes it easier and more systematic, and allows fast and precise evaluation during performance, project, written, and portfolio exams. Comparison with instruments before development shows significant differences. This instrument accurately targets learning objectives. Cheng (2022) viewed effectiveness as carrying out work correctly, as well as other theories that emphasize that effectiveness can be seen from achieving goals or objectives.

In the context of this assessment, the effectiveness of authentic assessment instruments is proven through the results of performance, project, written, and portfolio assessments, which show that students' abilities are in the medium category. Ningsih and Wahyumiani (2020) discovered the effective use of authentic assessment instruments in high school English learning. Thus, the results of developing an authentic assessment instrument model in ensemble music learning show that it is based on experts' theories and views and can positively contribute to increasing the effectiveness of music ensemble learning in schools.

Results of the development of the authentic assessment instrument model

The result of research into developing an authentic assessment instrument model is a model called "accarezevole." This model is the product of a previous research of conventional and authentic models. The researchers used the traditional model to design the authentic model. The development process involves a series of stages, validation, and revision, according to the development steps to produce a product that is better and different from previous instruments.

This research results in the birth of an authentic assessment model called Authentic Accarezzevole. This model means assessing with the whole soul and using empirical or real facts carefully, systematically, and with good truth. Although there is nothing new in developing this authentic assessment, this model will provide a new contribution to the music learning community, especially for teachers who are not yet familiar with it. The focus of assessment is correctness and suitability to learning objectives. The correspondence theory of courage employs a factual criterion known as empirical truth, which is based on

actual experiences and events. The development of authentic assessment instruments is an effort to address problems in the educational environment.

In research attempting to evaluate music faculty in higher education, faculty evaluation methods involve student perceptions of instruction, peer evaluations of teaching, instruction self-assessments, and student progress measures. Suggestions for this area involve further research into the steps administrators consider appropriate for student progress, achievement, or growth. Other research on students' attitudes toward music courses and self-evaluations of playing and singing skills show students' insecurity about playing and singing independently. Learners also expressed uncertainty regarding their respective music teaching competencies.

Conclusions and Recommendations

This research successfully developed an authentic assessment instrument, "Accarezzevole," for music ensemble learning at SMP Negeri 15 Dumai. Based on the results of the analysis, it can be concluded as follows.

- High validity: This instrument shows a perfect validity score, averaging 89.3. This indicates that the instrument is based on the learning objectives and relevant teaching materials, ensuring that the assessment accurately reflects students' abilities.
- Good practicability: The practicality score reached 87.4, indicating that this instrument is easy for teachers to implement. This is important to ensure that teachers can carry out assessments without feeling burdened by complex procedures.
- Significant effectiveness: With an effectiveness score of 89.4, this instrument has been proven to provide systematic and objective assessments. This instrument can improve the evaluation quality and students' learning experiences compared to the previous conventional assessment method.
- Implications for learning: Developing this authentic assessment instrument can improve music education practices, providing a better framework for teachers conducting assessments oriented towards the learning process.

Overall, this research recommends using the authentic assessment instrument to assess students' musical performance. It encourages further development in the context of music education in schools. Further research is recommended to explore the application of this instrument in other educational contexts and to improve teacher training in its effective use. The principal and deputy head of curriculum have an important role in facilitating teachers' consistent use of this instrument, especially in the context of music learning and in assessing music ensembles.

Furthermore, it is hoped that teachers can further develop this instrument for use in assessing the field of musical arts in general, and link it with assessing other aspects, such as aspects of creativity, morals, and so on.

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