



Development Of Pitch, Tempos, And Dynamics Learning Materials In Music Learning Based On Dalcroze Eurhythmics

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Abstract

This study aims to produce a product in the form of learning materials for pitch, tempo, and dynamics with eurhythmic-based mp3 format. The theory used is music learning and Dalcroze Eurhythmics. This research is a research and development with ADDIE (Analysis-Design-Develop-Implement-Evaluate) learning design model. The trial subjects were 40 students who were taking Diatonic Music Theory courses in the 2020/2021 school year. Collecting data in this study used a questionnaire which is used to measure the feasibility of the product by material experts and product users. The data analysis technique used is descriptive statistics to determine the extent to which the product is feasible for use in the wider community. The result of this research is to produce a product in the form of teaching material about pitch, tempo, and dynamics based on eurhythmics which is measurable its feasibility. Based on field trials, the product achieved an eligibility percentage of 93.3% with the category very feasible to use from the user's point of view, namely students as prospective teachers of cultural arts.

INTRODUCTION

A music learning method offered by Jacques-Dalcroze can be an option for music education teachers in teaching their students. Eurhythmics is a method of learning music through motion created by Dalcroze. One of Dalcroze Eurhythmics' goals is to establish a definite connection between mind and body. It is not enough only to train the mind or the ear or the voice, the whole human body must be trained because the body contains all the essentials for sensitivity development, sensitivity, and sound analysis, feeling, and music.

One of the competencies that high school students are expected to master is the ability to sing (Wulandari et al., 2020). Singing requires skill to make music for getting the maximum results. Eurhythmics is an approach that also sharpens musical sensibility. To support music learning by using eurhythmics, it is necessary to prepare the best possible teaching materials. In a preliminary study in some formal schools or music schools applying eurhythmics are found that the obstacle which reduces the effectiveness of learning is the absence of special music for learning eurhythmics. If the teachers play the instrument themselves, then the teacher cannot fully focus on the students either in giving instructions, helping, or giving examples. However, if we use the existing music, it is not following the elements of the music that will be taught because learning with eurhythmics tends to focus on every element of the music. Therefore, it is necessary to have music supporting eurhythmics-based music learning so that learning objectives can be achieved properly by using time as efficiently as possible.

A study in 2015 explains that by eurhythmics, students visualize musical movements through body movements (Sri Utomo, 2015).

Second, Jason D. Jones' research in 2018 developed the Dalcroze approach with three core branches, four characteristics, and five games. The Dalcroze approach can be adapted to each student's needs (Jones, 2018). Third,

research in 2020 proved that 85,01% of eurhythmics is effective for improving the ability to read rhythm in block notation (Heldisari, 2020a). Therefore, it is necessary to study the application of eurhythmics on other musical elements, such as pitch, tempos, and dynamics. The results of the three previous studies provide benefits for applying the eurhythmics method on the ability to sing and read rhythmically. However, development research is needed to produce products that can support the application of the eurhythmics method in learning music to be more efficient.

In education, music takes the highest position because there is no single discipline that can penetrate the soul, and accompany with tiered abilities beyond rhythm and harmony (Djohan, 2009). Music education has a characteristic distinguishing from other subjects in the presence of aesthetic experience, aesthetic perception, aesthetic response, aesthetic creation, and aesthetic expression (Sumaryanto, 2000). Music has six basic elements, namely melody, harmony, rhythm, tempos, dynamics, and timbre (Machlis, 1970). In connection with this research, music learning will be focused on several elements, namely pitch, tempos, and dynamics. Pitch is the element of the melody, namely the relative high or low that we hear in a sound.

Learning pitch starts from pitch and intervals so that students can have a good understanding and sensitivity about high and low notes. Roger Kamien in "Music: An Appreciation" defines tempos as the speed of the beat - the basic speed of music (Kamien, 1976). A person's ability to follow the tempos and guess the tempos is one of the indicators in determining musical ability (Heldisari, 2020b). Therefore, it is necessary to have a basic understanding of very slow, slow, medium, fast, and very fast tempos as a basis for building sensitivity to a rhythm. Meanwhile dynamic is the loud and soft way of playing music, which is expressed in various terms such as *p* (piano), *f* (forte), *mp* (mezzo-piano), *mf* (mezzo-forte), *cresc* (crescendo), etc. The degree of

hardness or softness in music is called dynamics.

Emile Jacques Dalcroze based the development of his method on his observation that the body tends to respond to music by moving. Rhythm in music often produces a response in the body, whether it be tapping fingers, nodding head, tapping feet, etc (Schnebly-Black et al., 1992). Dalcroze suggested that to train musicality students need to notice three things. First, eurhythmics trains the body's sensitivity to rhythm and dynamics. Second, solfeggio trains the sensitivity of the ears, eyes, the ability to sing the tones, melody, and the right harmony. Third, improvisation trains students' abilities in mastering the basic elements of music such as rhythm, dynamics, tones, and form through students' discoveries, using motion, sounds, and instruments. Motion can help students understand the elements of music so that the students can understand dan translate the music elements (Nainggolan, 2017).

When movement is added to musical concepts such as rhythm, dynamics, etc, children are more likely to understand the relationship between elements of space, time, and body balance (Jones, 2018). This challenges music educators to consider that music learning can take advantage of the body experiences and the body complicity can facilitate the development of types of musical knowledge (Juntunen, 2016). From this description, it can be concluded that eurhythmics is one of the main keys in learning music with movement and emotional expression through the body.

METHODS

The development used in this research is the ADDIE Learning Design Model (Analysis-Design-Development-Implementation-Evaluation) with the basic consideration that the model is applied to develop system-oriented products to produce directed, effective, dynamic learning. The design of the ADDIE model serves as a guide in building an effective, dynamic learning program and supports the learning

performance itself (Molenda, 2003). Products developed in the teaching materials of pitch, tempos, and dynamics to support eurhythmics-based music learning packaged in mp3 format. The research subjects are 30 students who are prospective teachers of arts and culture.

Data collection of this study used a questionnaire with a rating scale used to measure the feasibility of the product by material experts and product users. A questionnaire for experts contains an assessment from the aspect suitability of the learning materials and a questionnaire for product users contains an assessment of the product suitability with learning objectives.

The analysis technique used in this study is descriptive statistics by analyzing the data obtained from the review questionnaire of material experts and student learning outcomes. Descriptive analysis was conducted to measure the feasibility of the product through the comparison of the ideal score. The ideal score is a score determined with the assumption that each respondent on each question answers with the highest score. Furthermore, it can be done by dividing the total score of the research results by the ideal score. Teaching materials developed will be said to be suitable for use as learning media if the percentage obtained from the validity process is more than 61%.

RESULTS AND DISCUSSION

The product used in this research and development consists of 5 steps, namely: 1) Analysis; 2) Design; 3) Development; 4) Implementation; and 5) Evaluation. The design of the ADDIE model serves as a guide in build learning programs that are effective, dynamic, and support the learning performance itself (Molenda, 2003). The results of the initial product development consist of analysis to development steps. The results of the analysis through field studies to determine the condition of students, facilities and infrastructure also analyze the needs of teachers and students in the learning process, namely students of the Department

of Performing Arts 2020 have taken 2 semesters with general courses, drama, dance, and education. Twenty-one percent of students have had skills in a music field obtained on the previous level and sixty-four percent of students are interested in music although they don't have skills to play musical instruments.

Based on the results of the literature study, it was determined that the material to be used in this research and development was the song "Do-Re-Mi". This song was chosen because it contains notes with short intervals and there are sequential melodic motions. The steps in making arrangements include: 1) Determining the songs be arranged; 2) Processing rhythm pattern/ tones price/rhythm/duration of notation; 3) Determine the Chord; 4) Write a melody; 5) Chord Progression (chord motion); and 6) Time signature, while the format of the instrument to be arranged adjustably (Kusumawati, 2016). For learning needs, the results of the arrangement will be equipped with various intervals, tempos, and dynamics that are packaged in an orchestra format.

The results of the analysis are used as the basis for making a design which is a step second. Development planning consists of competencies to be achieved and infrastructure. The competence that will be achieved in this music lesson is that students can analyze auditive the differences of tones, tempos, and dynamics in a song. The result of the initial product design is the arrangement of the song "Do-Re-Mi" by Richard Rodgers and Oscar Hammerstein II which is packaged with a piano instrument, string family instruments such as the violin, viola, cello, contrabass, woodwind family instruments such as the flute, clarinet, oboe, brass family instruments such as the French horn, trumpet, trombone, tuba, and percussion namely the xylophone in figure 1.

DO RE MI - Sound of Music

♩ = 120 Arr. Hana Permata Heldisari

The image shows a musical score for the song "DO RE MI - Sound of Music". It is arranged for a full orchestra. The score includes parts for Piano, Flute, Clarinet, Oboe, French Horn, Trumpet, Trombone, Tuba, Violin 1, Violin 2, Viola, Cello, Contra, and Xylophone. The tempo is marked as ♩ = 120. The arrangement is in 4/4 time. The piano part provides harmonic support, while the woodwinds (flute, clarinet, oboe) play the main melody. The brass and strings provide harmonic fill, and the xylophone acts as a rhythmic filler.

Figure 1. Instrument used

This arrangement consists of 137 simple quadruple bars or 4/4. This song arrangement work aims to be a teaching material in pitch, tempos, and dynamics with a eurhythmic Dalcroze approach. Using this approach, students are allowed to create and think artistically for themselves, instilling the belief that everything they need is already within them (Daly, 2021). Bar 2 in Figure 1 shows the use of the 8th perfect interval with an allegro starting tempo at 120 bpm. The main melody is played consecutively in a group of woodwind family instruments such as the flute, clarinet, and oboe. A piano, brass, and string fill in the harmonization, while the xylophone fills in the filler.

The third step is the development of teaching materials. Before the product assessment instrument is used by material experts and users, it must be validated by the instrument validator. The validation of the assessment instrument is carried out on all instruments that will be used to assess the product itself and the product output in the form of cognitive and psychomotor. The specific content validity study on the performance test was not carried out by statistical analysis but by rational analysis. The validator assesses the assessment instrument based on 3 aspects, namely the instructions for filling out the instrument,

the content, and the language used. The validation results show that all product assessment instruments can be used to assess the product being developed. The details are in table 1.

Table 1. Instrument validation results

Material expert	3,7	Good
User	4,29	Very good

Instruments that have been validated and the products that have been developed are given to material experts. Material experts assess the product based on 3 aspects, namely the feasibility of the content, the suitability of the presentation, and the suitability of the purpose. The validation results are 4,21 or good criteria with notes to add special creative ideas to each material. Therefore, it can be concluded that the product is in a good category so that it can be used for music learning materials such as pitch, tempos, and dynamics.

The next step is the implementation done by a way of a limited trial. The limited trial in this development was applied to 10 foreign students who took the Diatonic Music Theory course. The product trial was carried out in two meetings with a duration of 45 minutes at each meeting. Evaluation based on the results of the limited trial can be revised, namely (1) it needs to be given a tempo change so that it doesn't just slow down or speed up but sounds contrast so that various tempos can be learned with this song; (2) it also needs to show the composition of scores so that the students understand dynamic symbols and their auditive results.

Next, the last step is evaluation. According to the material expert's advice at the time of validation, in the pitch material, there are various intervals for students to understand the distance between low and high notes. From the main melody, the students can improvise on the results of the arrangement which helps students to express pitch (Daly, 2021). In addition, there is a very clear up and down melodic motion to be used as an example in learning. Figure 2 is an example of a rising melody motion.



Figure 2. A rising melody motion

In terms of tempo, there are 3 tempos in the arrangement of the song "Do-Re-Mi" namely slow, medium, and fast. The details are andante tempo (100 bpm) from bars 20-29, andantino (105 bpm) from bars 30-36, moderato (110 bpm) from bars 17-19 and 37-45, allegretto (113-bpm) from bars 46-52 and 74-89, allegretto (115 bpm) from bars 90-98, allegro (120 bpm) from bars 1-16 and 53-60, allegro (125 bpm) from bars 61-72 and 99-117, and allegro (130 bpm) from bars 118- 137. In addition, there are rit at bar 18, and accelerando at bars 68 and 133. Meanwhile, for the dynamics, there are p, pp, f, ff, sforzando, crescendo, and decrescendo.

After revision, the resulting product was tested more broadly to analyze the feasibility of the product. The field test was conducted in the Department of Performing Arts Education with 32 subjects. At this step, the product users provide an assessment in the form of a questionnaire where four aspects are assessed, namely learning objectives, material suitability, learning stages, and time allocation.

Table 2. Field test result

Resoponden	Jumlah Skor
Pengguna 1	110
Pengguna 2	115
Pengguna 3	111
Jumlah Skor Total	336
Skor Ideal Uji Coba Secara Lebih Luas	360
Kelayakan (%) = $\frac{\text{Jumlah Skor Total} \times 100}{\text{Skor Ideal}}$	93.3%

Table 2 shows the total score of each user as a respondent obtained from the sum of the scores from several statements on the questionnaire sheet. The results of the score for each user are the first user with a score of 110 with a very decent category, the second user with a score of 115 with a very decent category, and the third user with 111 with a very decent

category, where the maximum score is 120 so that the total score obtained is 336 from the maximum score of 360. Based on the total score, the percentage of eligibility results obtained is 93,3% which can be interpreted in the range of eligibility categories based on rating scale then as we can see in figure 3.



Figure 3. Product feasibility result

Based on the calculation results, the resulting product is declared very feasible to apply. Thus, the purpose of this research has been achieved, namely to produce a product in the form of an arrangement of the song "Do-Re-Mi" as many as 137 bars with the instruments such as piano, violin, viola, cello, contrabass, flute, clarinet, oboe, French horn, trumpet, trombone, tuba, and xylophone. In addition, the product is declared very feasible so that it can be used in the music learning materials of pitch, tempos, and dynamics with the eurhythmics approach.

CONCLUSION

The resulting product is in the form of mp3 teaching materials for learning pitch, tempos, and dynamics that can be used for 4 face-to-face meetings. The feasibility of this product is 93,3% with a very decent category. The feasibility of this product is assessed very feasibly by the teacher to be applied to middle-level students in arts and culture lessons in the field of music. By the nature of art learning, the purpose of art learning is to grow a sensitivity to musical aspects so that it can improve students' musical abilities. This product can be used as an alternative learning material that can be used in educational institutions both formal and informal to provide knowledge and sensitivity to music, especially for middle-level students. Suggestions for further research, the product development can be continued on other musical elements.

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