



MODEL OF CONSTRUCTIVE LEARNING IN LEARNING ARTS CULTURE OF MUSIC MADRASAH TSANAWIYAH 1 SEMARANG

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Abstrak

Pelaksanaan pembelajaran seni musik di kelas VII A Madrasah Tsanawiyah Negeri 1 Semarang menggunakan pendekatan konstruktivis berjalan secara terorganisir, hal ini dibuktikan dengan pembelajaran sudah menggunakan model pembelajaran penangkapan yang memiliki tiga tahap antara lain (a) penyajian advance organizer, pendidik memberikan gambaran umum mengenai istilah-istilah penunjang tentang musik (b) penyajian materi atau tugas belajar, membuat diskusi antar siswa dan di evaluasi oleh tenaga pendidik dan (c) memperkuat organisasi kognitif, tanya jawab dan pendalaman materi. Pembelajaran dilaksanakan dalam waktu 2x45 menit dengan pembagian tahap penyajian advance organizer berdurasi waktu 15 menit, tahap penyajian materi atau tugas belajar dilaksanakan dalam waktu 60 menit, dan tahap memperkuat organisasi kognitif berdurasi 15 menit. Saran yang dapat penulis sampaikan antara lain: (1) pendidik hendaknya dapat memanfaatkan media pembelajaran seperti alat musik maupun proyektor yang di miliki sekolah secara maksimal.

Abstract

Implementation of learning the art of music in class VII A MTs Negeri 1 Semarang using the approach of constructivism run organized, this is evidenced by learning already using model arrests have three stages are (a) presentation of advance organizer, educator provides an overview of the terms of supporting about music (b) the presentation of the material or the learning task, create discussion among students and evaluated by educators and (c) strengthen the cognitive organization, frequently asked questions and a deepening of the material. Learning implemented within 2x45 minutes with the distribution phase advance organizer presentation lasted 15 minutes, the stage presentation of the material or the learning task carried out within 60 minutes, and the stage of cognitive organization strengthen lasted 15 minutes. Suggestions can author to convey, among others: (1) educators should be able to take advantage of instructional media such as musical instruments and projectors which is owned schools maximally.

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INTRODUCING

Art education as a subject in school, because art education has the nature of multilingual, multidimensional, and multicultural. Multilingual means the art aims to develop the ability to express themselves in various ways such as through visual language, sound, motion and its combination. Multidimensional means the art of developing students basic ability competencies which includes perceptions, knowledge, understanding, analysis, evaluation, appreciation, and productivity in balancing the functions of the right and left brain, by combining the elements of logic, respect local and global cultural diversity as the formation of respect, tolerance, democracy, civilization, and harmonious life in a variety of societies and cultures (Ministry of National Education, 2001: 7).

Art education, as stated by Ki Hajar Dewantara (Bastomi; 1993: 20), is one of the determining factors in shaping children's personalities, because art education in school can be used as a basis for education in shaping souls and personalities. In line with this, Plato's statement (Rohidi, 2000: 5) also revealed that art education can be used as a basis for education, because it can be used to form good personalities. Because art education is an important element in the process of forming the character of each individual, the existence of art education as a subsystem in national education cannot be ignored.

Various obstacles experienced by SMP/MTS teachers in learning music art include: (1) the limited ability of teachers to translate curriculum content in the education unit level (KTSP) competency based music art, (2) the limited ability of teachers to optimize the potential of children's music art (children become creative and active) (3) limitations of teachers in applying the methods used in learning music art, (4) limitations of teachers in utilizing music learning tools and media (5) limitations of teachers in utilizing the potentials of the surrounding cultural and natural environment in music learning, and (6) the limitations of teachers

in developing forms of music art learning assesment (Utomo, 2010).

Another important problem is the effort to reduce the gap in learning achievement between students with high academic ability (AA) and students with low academic ability (AB). Most people believe that AB students are forever underachieving. Vygotsky in Suparno (1997) states, AB students can achieve in line with AA students if they are helped to enter their potential development zones through scaffolding by teachers and peer tutorials. Carrolin (Ozsen, 2008) states, AB students can achieve learning parallel to AA students if given an allocation of study time according to their needs. Learning achievements is not solely determined by one's talents. Learning achievements is more determined by the allocation of time given to students to study. AA students need shorter study time to master the subject matter than AB students. AB students can master the subject matter like AA students if given time to study according to their needs. Meanwhile, schools allocate uniform learning time for all students, resulting in a gap in learning achievement between AA and AB students. The development of learning models to reduce the thinking gap between AA and AB students is needed.

The learning model that will be developed to solve these problems must meet the following shifts in the paradigm of music art learning. (1) Learning the art of music is not only oriented to the product aspect but more oriented to the process aspect. (2) Assumption of knowledge can be transferred in full from the mind of the teacher to the mind of the student, into learning that empowers the full potential of students. (3) Teacher-centered learning becomes student-centered learning. (4) Learning to memorize concepts, become learning to construct concepts. (5) Individual competitive learning becomes collaborative learning which is proven to be able to facilitate mutual learning activities between students.

The learning model that is in line with the paradigm shift above is a constructivist-based learning model. The

constructivist-based learning model is based on Piaget's theory. The constructivist-based learning model views learning as an organic process for constructing knowledge, not a mechanical process for gathering or memorizing knowledge. Students in the process of constructing knowledge are required to be able to formulate hypotheses, test hypotheses, manipulate objects, solve problems, dialogue, research, seek answers, express ideas, express questions, hold reflections, and others. The demands of constructivist-based learning models have the potential to empower critical thinking skills and increase mastery of students' musical art competencies.

The constructivist-based learning model is partially developed. The development of a constructivist learning model is partially considered to have a maximum effect on the empowerment of critical thinking skills and mastery of biological competencies in AB students. For example, developing a constructivist-based learning model by eliminating collaborative characters will produce a syntax of learning that is nuanced by individual competition. Learning that nuanced individual competition resulted in scaffolding activities not going well. AA students are reluctant to share knowledge with AB students through peer tutorials, for fear that their learning achievements will be rivaled by AB students. AB students lose the opportunity to enter their potential development zone, because AA students' scaffolding has the potential not to occur during learning activities. Learning with nuances of individual competition causes the gap in learning achievement between AA and AB students to widen.

The constructivist and collaborative character needs to be integrated into the new learning model that will be developed. The new learning model of the development product is called the constructivist-collaborative-based SMP / MTs music learning model. The constructivist-based SMP art learning model is an innovation in learning music art. The constructivist-based middle school music learning model has constructivist

and collaborative characters that complement each other. The constructivist character in constructivist-based middle school music art learning models requires students to be able to formulate hypotheses, test hypotheses, manipulate objects, solve problems, dialogue, research, look for answers, express ideas, express questions, and hold reflections. The constructivist character in the learning model has the potential to be able to practice critical thinking skills and increase the mastery of students' scientific potential.

According Wafa (Wafa, 2016) collaborative character of constructivist-based middle school music art learning models requires students to learn from one another through discussion and dialogue, so that it can potentially empower critical thinking and improve the mastery of students' scientific competencies. Discussion and dialogue activities in collaborative learning have the potential to reduce learning achievement gaps between AA and AB students.

The lack of research on the application of constructivist principles in actual learning is also closely related to the limited research on the learning process. It is true that in recent years the number of studies on the phenomenon of learning in the classroom has shown an increase (White, 1997), however, only a few studies have observed and examined how the teaching and learning process takes place (Stigler, Gonzales, Kanakawa, Knoll, & Serrano, 1999). Because the information we have about how learning activities (one of which is constructivist-based learning) is still very limited.

METHOD

Research used a qualitative descriptive approach, which explains the process of constructivist learning models. Qualitative because the problem-solving procedure is done by analyzing, describing, the state of the object, using a qualitative descriptive approach to study the constructivist learning model in MTs 1 Semarang. Data retrieval is done through observation techniques, interviews, and documentation. Observation is used to observe the learning process of music in the

classroom, interviews are used to clarify and prove data, and documentation to strengthen data. Data analysis techniques are carried out through data collection techniques, data reduction, data description, and conclusion making. This is done to systematically compile data obtained from observations, interviews and documentation by organizing data into categories, describing units, organizing into patterns, and making conclusions that are easily understood by oneself or others.

RESULT AND DISCUSSION

Implementation Stage / Learning Process

The results of research conducted by researchers that at this stage, learning cultural arts is divided into 3 activities, namely opening activities, core activities, and closing activities. Learning material that will be delivered is the Scales and Chords, with the aim that students are able to understand Major Scales, Minor Scales, and students can understand the major, minor and augmented chords.

Opening Activities

In the opening activity the educator starts learning by praying together and then opens the learning with greetings. At the beginning of learning, educators encourage students to focus more on what will be delivered by educators. Then proceed with the educator explaining that learning music must pass through the stage of understanding the scales followed by understanding the chords. Then educators invite students to give their opinions on the notion of Ladder and Chord understanding. Two students expressed their opinions about the notion of scales and chords. Filippo Fergysanto argues "The scales are do, re, mi, fa, sol, la, si do". While Bella Andin believes that "the scales are a series of notes that underlies people playing music". After two students express their opinions, there are no more students who have an opinion about the notion of scales. Then the educator explains that the notion of scales is a tiered arrangement of the main notes of a tone system, starting from one of the basic tones to the octave tones. This is in accordance with the statement of Hasibuan, et al (1988: 117).

Which states that opening a lesson is an activity carried out by the teacher to create an atmosphere of mental readiness and to arouse student attention so that it is focused on the things being learned.

Educators ask students a second question about the understanding of the chord. 3 students give statements. Ulvi Stating that "chords are accompaniment when playing a song". Thohir Stating "chords are a combination of notes that are sounded." Ulvi Stating that "chords are c aminor dminor" After students give their opinions, educators explain that the meaning of chords is a collection of three sounds. or more tones which when played together produce a harmonious sound.

According to educators supporting music art subjects, question and answer at the beginning of learning aims to measure students 'knowledge and to increase students' enthusiasm for further involvement in Learning.

After a short question and answer activity, the educator forms a group of students based on the seat of the students during the learning process. A map of group formation during learning takes place in the following figure.

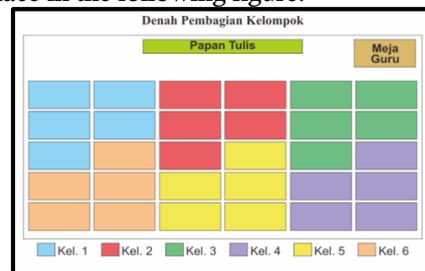


Figure 4. 9 Plan of Forming Groups Based on Seats

In Figure 4.9 explain from 30 students of class VII A formed 6 groups with each group consisting of 5 students. The names of students with the division of groups based on the seat can be seen in the following table.

The initial stage is 15 minutes. In the initial stages, students have shown symptoms of high enthusiasm for music art subjects, evidenced by 5 students who are willing to give a statement or answer the questions raised by educators.

Core Activity

The core activity is a learning process to achieve competence, which is carried out interactively, inspirational, fun, challenging, motivates students to participate actively, and provides sufficient space for initiative, creativity, and independence in accordance with students' talents, interests and physical and psychological development (Mahanani, 2014).

In the previous activity, it ended with 30 class students divided into 6 small groups. After the group was formed, continued with the educator drawing the piano keys on the board, then giving a position statement the notes on the piano keys are shown in Figure 4.3 below.

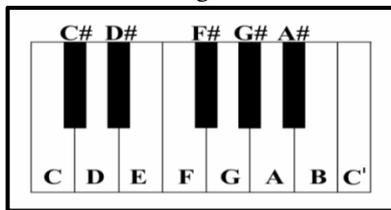


Figure 4. 11 Piano Keys
(Source: Arief, 2008)

The picture above explains that there are two colors of piano keys, white and black. The notes on the piano keys are white, including C-D-E-F-G-A-B-C'. While the notes on the piano keys are black, such as C # -D # -F # -G # -A # or in certain rules have the name Db-Eb-Gb-Ab. In addition, underneath the piano keys the teacher writes two notes, the first series is CDEFGAB-C' called the C scale, and the second series is GABCDEF # -G' which is called the G scale. On the piano keys or series C notes and G scales listed on the board, educators do not provide information about the interval or distance of the tone. After writing down the C scale and the G scale, the educator invites each group to discuss and observe everything written on the board. The time given by educators for group discussion is 2 minutes.

After the time provided by the educator has expired, the educator appoints 2 groups to represent all groups to present the results of the discussion. The group that gets the opportunity to present the results of the discussion is group 1 and

group 2. Fillipo is trusted by the group members to deliver the results of group discussion 1. The results of group 1 discussion are the first series is the C scale because it starts with the C and the second is the G. After group 1 has finished delivering the results of the discussion, group 2 continues to deliver the results of the discussion. The results of the group 2 discussion are the same as group 1, but there are those who tickle group 2 about the tones of the G. Scales as a group 2 representative to submit the results of the discussion asking 2 questions The first question is "why is there a fence (#) in the series G? ", The second question is "is it possible there are some hash marks (#) on a scale? "

After group 1 and group 2 present the results of the discussion, educators provide explanations and answer questions. Educators explained that what was conveyed by group 1 and group 2 about the existing tones in the correct writing board, namely the first series is C scale and the second series is G scale, each of which is 1 Octave.

Then the educator answers questions from group 2 about the fence mark (#) that is on the G. scales. The hedge mark (#) in music is called a quiz which functions to raise $\frac{1}{2}$ tones of the note that gets the quiz. In the G scale the note marked with a fence (#) is the F note, then the F note becomes F # which when pronounced is Fis, and on a piano or pianica instrument the F tone is on the white key (the educator shows the location of the F note on the image on the blackboard), and the F # note is on black keys. Educators answer the second question with the explanation that the tone of G can also be called "scale 1 #" because there is 1 mark in the series, it is very possible that a scale has more than 1 mark (#) in the tone series, such as the scale The following D (Educator writes the D scale notes on the blackboard). The D scale consists of the D-E-F # -G-A-B-C # -D' notes.

Then educators again invite students to discuss with each group with 3 rows of notes that are listed on the blackboard that

are the C scale, the G scale, and the D scale. The time provided for the second discussion is 2 minutes.

After the second discussion time is over, the educator appoints group 3 and group 4 to deliver the results of the deduction from each group. Group 3 presents the results of the discussion represented by Vianda. The result of group 3 discussion is that the last note written by the educator on the blackboard is the D scale and can be called the "2 # scale" because there are 2 quiz marks on the D scale, namely the F and C. The Group 2 asks the question " Why is scale # 2 a scale D? and why is the C mark? Group 4 represented by Febriani conveyed the same thing and the same question, but group 4 asked another question on the doubt of the results of the discussion of all group members 4. Group 4 found a pattern in the arrangement of the scales 2 #, that what was given the mark was the seventh note. the scales are arranged, but group 4 still does not know the basis of determining the D note as the beginning of the # 2 scales.

The results of group discussions 3 and 4 show that the quiz marks are still a concern that needs to be discussed. Educators congratulate group 4 and justify the discovery of the marking pattern of the quiz marks in composing the cradle note scale (#). Educators explain that the cruising scale (#) from the scale of # 1 to the scale # 7, and the educator provides a way to arrange the quiz scale (#). Educators explain to compose a cruising scale (#) using the formula 5-7, which means the 5th note to determine the initial note on the next quiz scale and the 7th note is the note given by the quiz mark (#) as conveyed by group 4. Educators add that the notes that have been given the mark of a quiz still carry the mark of the quiz to the next scale. Educator's explanation about how to compose a cruising scale (#) can be seen in the following figure.

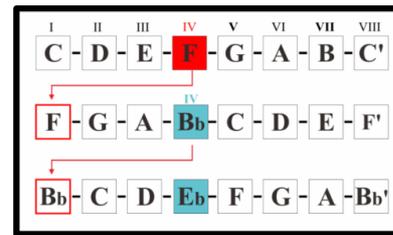


Figure 4.15 Formulas 5-7 for Arranging Quiz Scales

After the educator explains the 5-7 formula like the picture above, the educator invites to arrange the 3 # scale. All students are very enthusiastic as a sign that students have understood how to compose a cruising scale. The results of students' discussions with educators that the scale # 3 is A-B-C # -D-E-F # -G # -A. After the educator and students together solve one problem about how to arrange the scale # 3, the educator explains that besides the cruising sign (#) or in English music terms is sharp, there is also a mole sign (b) or flat which decreases the value of 1/2 notes in notes that are given the mole (b) note. Mole scales (b) there are 7, namely 1b, 2b, 3b, 4b, 5b, 6b, and 7b. On a piano or piano instrument the location of the mole sign (b) is the same as the location of the quiz mark (#). In addition to explaining the mole mark (b) to students, educators also arrange and provide information about the distance in the arrangement of notes on the piano. If the white keys and black tutsi on the piano are arranged sequentially, each note will be spaced 1/2. As in the following picture.

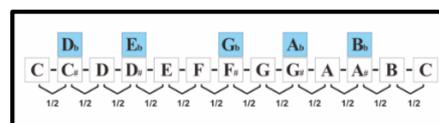


Figure 4.16 Tone interval
(Source: Arief, 2018)

In Figure explains that the location of the mole sign (b) is the same as the location of the cruising sign (#). For example C # = Db, which means C # is a C note that goes up 1/2 note and Db is a D note that goes down 1/2 tone, so it's the same location. After explaining the

interval or distance in each note the educator writes the scale 1b on the note C note that is printed on the blackboard. Mole scales (b), i.e. F-G-A-Bb-C-D-E-F'. Then the educator directly appoints group 5 to express their opinions on tone 1b.

Group 5 expressed their opinions represented by Bella. Bella said that "if the composition of the cruising scale uses the formula 5-7, then in the preparation of the mole scale uses the formula 4-4". Educators spontaneously give a thumbs up as a sign that what is conveyed by group 5 is true. Educators explain that to arrange the mole scale the formula 4-4 is used as conveyed by group 5, which means the 4th scale is used as the initial note on the next mole scale and the fourth note is given the mole mark. An overview of educators' explanations regarding formulas 4-4 can be seen in Figure below.

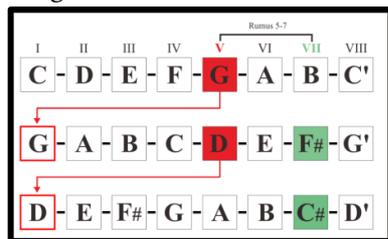


Figure 4.18 Formulas 4-4 for Arranging the Mole Tone Ladder

After all students understand what is conveyed by the educator, the educator immediately appoints one member of group 6 to arrange the scales 2b and 3b on the board. Ulvi who was given the opportunity by educators to demonstrate their ability to carry out the duties of the educator, and managed to arrange the scales 2b and 3b correctly. The 2b scale is F-G-A-Bb-C-D-E-F' and the 3b scale is Bb-C-D-Eb-F-G-A-Bb'. Then the educator explains that the scale 2b begins with the Bb tone, so it can be called the "Bb scale". In addition, if the note marked with a quiz (#) in the mention gets an affix -is, for example C # is read Cis, the tone that gets the mark mole (b) gets the suffix -es or -s. For example the B tone marked with a mole becomes Bb or Bes is read, except the E becomes Eb reads Es and the A is Ab which when pronounced As.

Group 1 to group 6 had the opportunity to present the results of their discussions. Furthermore, educators give students 10 minutes to work on the questions by discussing with their respective groups. Students are asked to arrange the scale 4 #, 5 #, 6 #, 7 #, 4b, 5b, 6b, and 7b.

After the allotted time is over, the educator asks each group to appoint a representative to write the results of working on the questions given by the educator to the blackboard. Group 1 wrote the scale # 4, group 2 wrote the scale 5 #, group 3 wrote the scale 6 #, Group 4 wrote the scale 7 #, group 5 wrote the scale 4b and 5b, and group 6 wrote the scale 6b and 7b. The results of the group discussion encountered no obstacles, everything was correct, and the educator wrote scales 1 # through 4 # and scales 1b through 4b, so that on the blackboard scales 1 # up to 7 # and scales 1b through 7b as in table 4.6 below.

After the scales # and scales b are complete listed, educators convey that C is a natural scales, then the educator invites students to conclude that the scales D = scales 1 #, scales E = scales 4 #, scales F = scales 1b, scales G = scales 1 #, scales A = scales 3 #, scales B = scales 5 #, and tells students that the scales mentioned earlier are "major scales". Then the educator invites students to find out the interval of the major scale using one example of the scale, the C major scale. The intervals of the C major scale can be seen in Figure 4.21 below.

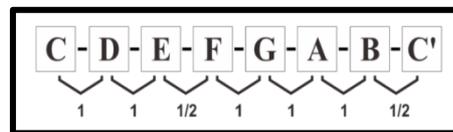


Figure 4.21 Major Ladder Interval (Source: Arief, 2018)

Based on Figure 4.7, the C 1/2 note interval is 1 - 1 - 1/2 - 1 - 1 - 1 - 1/2. After explaining the major scale intervals to the students, educators write down the C minor scales series C-D-D # -F-G-G # - A # -C, and invite students to find out the minor scale intervals. Minor scale

intervals are 1 - ½ - 1 - 1 - ½ - 1 - 1. Next, the teacher writes examples of major, minor, and augmented chords. For example educators write Chords Cmajor = C-E-G, C minor = C-Eb-G, Caugmented = C-E-G #. Learners are used to calculating intervals so students can conclude that the major chord interval is 2-1½, the minor chord interval is 1½-2, the augmented chord interval is 2-2.

Closing Activity

Closing activities are carried out after the initial activities and core activities have been carried out. In closing activities, educators evaluate learning outcomes. To begin the evaluation phase, educators disperse groups that are formed at an early stage. Group dissolution means that at this final stage students apply to individuals. Educators set the final stage to be 30 minutes long. Educators give students the task to work on the questions, and answer sheets are collected when the allotted time is over. After finishing with the educator, asking students the questions, the educator invites students to ask questions.

DISCUSSION

Music learning in class VII A Madrasah Tsanawiyah Negeri 1 Semarang uses a constructivism approach. The learning method used is the lecture method. Deconstruction approach to music learning in class VII A Madrasah Tsanawiyah Negeri 1 Semarang using the group method.

Rifa'i and Anni ((2012: 196) state that learning that influences the principles of constructivism is discourse, capture and assisted learning or scaffolding. In music learning in class VII A Madrasah Tsanawiyah Negeri 1 Semarang using arrest learning , with stages which according to Ausubel in Rafi, and Anni (2012: 197-198) include (a) the presentation of an advance organizer, (B) the presentation of material or learning tasks, and (c) strengthening cognitive organization.

At the advanced organizer presentation stage, the educator provides a general description of the chord and supporting terms in arranging the chord,

including the tone, scale, and interval. The next stage is the presentation of learning material or assignments. Educators use the lecture method at this stage, in addition educators use the experimental method with group discussions, namely educators ask students to compose a quiz tone (#), mole scales (b) to recognize intervals, so there is a curiosity in students themselves. is it about another scale. Then the students arrange the major scales and minor scales, to find out the level of understanding of the students to understand the interval. Once accustomed, students can easily arrange chords, both major and minor. The next step is to strengthen cognitive organization. At that stage, educators ask students to ask questions to educators to find out the level of understanding of the major and minor chords.

Learning the art of music using the constructivism approach has an impact on increasing the interest of students in learning music and it is easier for students to understand the material with the freedom to understand in their own way. According to the interview with one of the students named Wildan on January 29, 2018, which states:

"Learning in this way makes it easier for me to understand, and more willing to ask questions, I'm usually embarrassed to ask. Besides learning more feels fun".

In addition to having an impact on students, it turns out the constructivism approach also has an impact on educators. In accordance with an interview with Agus Trisnoto as an educator, on January 29, 2018, which stated:

"It is easier for me to deliver the material, by utilizing the delivery of a little material as a trigger for students to find their own way of understanding. In addition, I give more time for students to discuss groups, because in my opinion the source of knowledge is not only from me (educators) or books, but from the thought of peers can be taken into consideration, even from the experience of each student's self also can be a reference of knowledge. But with more time for discussion,

maintaining the focus of the students' attention becomes not easy. Therefore, it is not uncommon for me not to be in accordance with the steps in the lesson plan (lesson plan) that I compiled, or even I did not compile the lesson plan. "

Based on the discussion, that music art learning is more effective in terms of students to understand the material, and educators are easier to convey the material, as well as organizing the material and students.

CONCLUSION

The implementation of music art learning in class VII A Madrasah Tsanawiyah Negeri 1 Semarang using the constructivism approach works well, is organized, and the goals are achieved. Broadly speaking, the learning of art, culture, and art material, music using the method of constructivism in class VII A Madrasah Tsanawiyah is divided into 3 stages. The stages are between the planning stage, the implementation phase, and the evaluation phase. But at the implementation stage the teacher divides into three activities namely initial activities, core activities, and closing activities. Learning uses Arrest learning that has three stages including (a) the presentation of an advance organizer, (B) the presentation of the material or learning task, and (c) strengthening of cognitive organization.

The 15 minute advance organizer presentation stage educator starts learning by conveying to students the objectives of the learning material to be discussed; educators provide short questions that aim to determine the level of ability of students to the material to be taught and increase the enthusiasm of students to engage in learning, educators form discussion groups for students.

The presentation stage of the material or learning task is carried out within 60 minutes. The core stage in learning the art of music in class VII A is a series of discussion activities between students in groups, and discussions between groups and educators. Before heading towards the Major and Minor scales. Learners are brought to an

understanding of the Quiz Scales and Mole Scales so that the students understand about the Quiz and Mole marks. Then the students are explained about the tone intervals, aiming to shape the students' experience of the tone intervals. The core stage concludes with the unification of the students' experience of Kruis and Mole, and the learner's experience of intervals, then in understanding the major and minor scales easier, and in more easily understanding the differences in major, minor, and augmented chords based on tone intervals.

The stage strengthens cognitive organization with a duration of 15 minutes. Educators provide opportunities for students to measure their level of understanding by creating and asking questions to educators.

SUGGEST

Based on the results of research on the constructivism approach in learning the art of music in class VII A Madrasah Tsanawiyah Negeri 1 Semarang, researchers submit suggestions, among others: (1) educators should be able to utilize learning media such as musical instruments and projectors that are owned by schools at maximum because in addition to theory students need practice directly using musical instruments to better understand the material that has been delivered in applying the constructivist learning model; and (2) for schools, educators should not only be required to be able to carry out learning and be required to submit learning outcomes, educators should be given understanding training relating to constructivism and training in its implementation in learning.

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