Kasetsart Journal of Social Sciences

journal homepage: http://kjss.kasetsart.org

Learning experience on salendro scales for students having a musical culture gap

Diah Latifah

Music Education, Music Education Department, Art and Design Education Faculty, Indonesia University of Education, Kota Bandung, West Java 40154, Indonesia

Abstract

This study analyzes the learning experiences of six students from different areas within Indonesia and with different music cultures where none of them had any prior experience of the *salendro* music scale as their previous music experience was limited to Western-style music. Narrative Inquiry was the research method employed to analyze the meaning of *salendro* scale music culture. The results show that after the students had learned the *salendro* scale they succeeded in mastering it by the practice of singing and sight reading *salendro* music.

© 2020 Kasetsart University.

Introduction

This study examined the musical education of six non-Sundanese students, who had never been exposed to the *salendro* scales, to study, learn and comment on them. Bledsoe (2014) stated that traditional music education study is still limited today. This study was conducted to bridge the musical cultural gap of the participants of *salendro* tone instruction. Theoretical and practical musical proficiency can be improved through experience of learning about it. Jones (2010) stated that the involvement of the auditory, visual, cognitive, affective, memory and motor systems were evidence of the musical experiences multimodality.

The learning experience was aimed at assisting the students in their understanding and in their ability to apply it to the practice of music. The main aspects in the learning stages were the tonal and rhythmic tones of the language of music which formed the motif of harmony and melody to the composition as a whole. Azzara (2010) affirmed that the audiation of tonal and rhythm patterns were vital components of the music learning theory. Because of the syntax of the music, the students needed to be able to audiate the patterns of tonal and rhythm. The main aspects in the learning stages were the

tonal and rhythmic tones of the language of music which formed the motif of harmony and melody to the composition as a whole. The audiation of tonal and rhythm patterns is one of the vital components of music learning theory.

Salendro scales are one of the ranks of tone that can be interpreted within the bounds of musical language. Studying *salendro* tones through listening has its own independent learning stages. Furthermore Sundanese music, as one of the *salendro* tones, possesses unique learning sequences which are in line with the introduction of traditional sound applied (Latifah, 2016). Learning *salendro* scales can be quite difficult for new students, especially for students from different music cultures. The *salendro* scale has a unique inter-tone interval resulting in a typical *salendro* sound line, so those accustomed to listening to other cultures faced a challenge.

The positive value gained when students study the different cultures of music is that they learn to connect the various problems encountered in the sound language they are learning. "Drawing on methods from ethnomusicology, studying multiple kinds of music in context helps students make connections between sounds and the relevant relationships and issues that surround it" (Przybylski & Niknafs, 2015, p. 106).

Salendro scales in Indonesia spread in both the islands of Java and Bali. The problem of mastering the language of music in cultural differences is not a problem of communication and cultural exchange but a cognitive problem. Gruhn and Regelski (2006) reported the existence of the culturally diverse cohorts with little or no contact or exchange. However, it is mostly a cognitive problem and not an ethnic or social problem.

In Indonesia the music department in tertiary education equips its students with local music nuance, such as the *salendro* tone. Within Java and Bali the local music theory is titled *titi laras*. Students who attend from all over Indonesia studying within Java and Bali generally have a Western-based musical ability but they tended to be new to *salendro* sounds.

Students learned how music symbols directed them on how music flows as a language of sound even although this approach could be time-consuming. The practical experience was an important aspect of the learning process (Dawn, 2015). Sundanese people learn about their traditional music by way of oral tradition, recognizing sound through imitation activities that have existed for generations. Latifah, Karwati, and Kusmawardi (2016) reported that the spread of cultivated Sundanese musical languages was through the sensitivity of hearing works of oral tradition from generation to generation

Literature Review

Learn Music through Experience

Learning is the activity of both perceiving and of mastering the material consciously and efficiently to a higher level. Pinzino (2007) who suggested that when learning takes place spontaneously and when we are aware of what we have learned, we have stretched learning to a higher level.

Kielczewski (2011) described music learning theory as a theory of how children understand musical skills and content most efficiently. Therefore, the effective learning of music fulfills the character of content, based on musical sensitivity, affective nuance, hearing based sensitivity, continued learning music practice and music theory. It is believed that learning the musical scale improves auditory perception (Brown & Palmer, 2012).

Experience-based learning needs to be built first in the music experience. Long (2013) asserted students experience physical beat from the very beginning, they are able to express themselves through these elements and instruments. It may highlight the importance of experiential learning systems.

Learning activities have to target differences in the cultural and language backgrounds of the students. Cultural differences in music languages are different from sociological ones. Teachers need to prepare the learning process to match the students' cultural gap and their *salendro* tone sensitivity.

Latifah (2016) revealed that students' difficulty in learning *salendro* came from a lack of sensitivity or unfamiliarity of the sound of *salendro* tones. It is necessary to be familiar with the *salendro* scale in order to apply it. The most basic project to familiarize the sense of the tones can be done to the aural and oral activity (Latifah, 2016).

Knowledge, understanding and practical ability to read music notation are some of the achievements required to master the *salendro* scales. There is a belief that learning scales will improve the competence of reading music notation. The improvement of reading notation competency is also affected by the music scale learning (Greenberg, Cohen, Stillwell, Kosinski, & Rentfrow, 2015; Perham & Currie, 2014). Music teachers must teach students how to recognize and comprehend music notation when designing an instructional activity.

According to Kielczewski (2011), the usefulness of sight singing is that the students need to pay attention to the following aspects:

a. Note the key and time signature;
b. Determine the starting pitch;
c. Examine the direction and degree of the change in successive notes;
d. Determine rhythmic values; and
e. Process expressive markings.

It is also a task that requires a singer to sing or perform written or notated music without preparation or prior acquaintance.

Salendro Scales

Salendro scale is one of the musical cultures to be found in Indonesia, Widodo (2015) affirmed that in Indonesia either *laras pelog* or *salendro* (*pelog* or *salendro* scale) are karawitan systems that are the local indigenous musical and cultural system. The *laras* in music science terminology are scales that have a certain tuning system. Widodo (2015) described laras, or the tone, as the direction and goal of *pelog* and *salendro* scales, and tuning system in *salendro* and *pelog*. The *salendro* scales, or *laras salendro,* have a range of intervals and different tones with reference to Western tonality. The magnitude of frequency of the intervals according to Machjar in Hermawan (2001).

Salendro Scale

1	5	4	3	2	1
Da	La	Ti	Na	Mi	Da
217.5	255	289	327.5	385	435 Hz

| < 275.38 > | < 216.68 > | < 216.51 > | < 280.03 > | < 211.39 > | Cent |

The difference in the terminology of the *salendro* scales with Western tonality produces a different character of the tone sounds. Krumhansl (2004) stated that tonality takes on different meanings within diverse musical periods, cultures, and theoretical traditions. The terminology of a scale in a particular music area is culturally appropriate, bringing the uniqueness of the language of the sound of the scales with different theories. *Salendro's* is capital-intensive, unlike Western tonality, which has a sense of tone concentration, from Tonic, Sub Dominant, Dominant and back to level one Tonic. The capital tone is more flexible, in the sense that if you want to end a melody of a song, it does not have to go back to a first-degree chord but it can end in any tone. Latifah et al. (2016) claims it happened because *salendro* scales have no Western tonality, for example, Tonic's acting movement, Sub Dominant, Dominant, Tonic.

The traditional *salendro* scale, according to Zanten (2014) cypher is given to a specific tone that depend*s* on the function of the tone in the modal theory. In different modes the name da (≡ 1) is given to a different tone. Furthermore Koesoemadinata's (1969) relative cypher system runs from high or 'small' (*alit, leutik*, cypher 1), to low or 'great' (*ageung, gede,* cypher 5) notes.

From this exposure, it is revealed that *laras salendro* (*salendro* scale) has a different tone of sound when compared with Western tonality. The *salendro* scale moves more flexibly following the melodic flow of the music.

Methodology

The research method used Narrative Inquiry, which describes and explains the events and processes of the *salendro* scale learning experience. Craig, You, and Oh (2012) defined narrative inquiry as an appropriate research method especially for studying "the exigencies of practice."

The learning experience of the *salendro* scale requires robust and effective reinforcement in the form of strengthening the sensitivity of the *salendro* scale music. Increasing the *scales* based on musical taste involves clarity of information that is quite detailed. Initially, information was obtained about the knowledge levels and condition of the students. This was followed by requiring them to study various aspects of the *salendro* tone including by listing activities, sight singing tunes using the *salendro* scale interval at a basic difficulty level and finally by a question and answer session in order to reinforce a basic understanding of the *salendro* scale.

The students' ability to understand the *salendro* process and their initial ability to learn and interpret its meaning, or completeness, was used to help determine those who experienced a musical cultural gap.

Data Collection

The process of collecting data was done through observation techniques. Murgan (2015), observation techniques were selected to obtain information on how the learning experience of the *salendro* tone was implemented. Progress, stagnation, and other obstacles that could cause the learning process not to work were recorded and presented as an event report of the learning process.

The data were collected by observing and recording the process of the learning experience based on musical experience. This was based on hearing sensitivity and reading ability of the *salendro* scale. Indicators of achievement of the most basic level of *salendr*o scaling sensitivity were;

a. Students had the ability to be able to distinguish *salendro* scale sounds with other scales;

b. Students ability to sing all the intervals on the *salendro* scale, either stepping motion or jumping up or down direction;

c. Students ability to read and sing *salendro* scales with the width of one *gembyang* tone region;

d. Sight-singing at a fundamental level a *salendro* song; and

e. Understanding the most fundamental theoretical aspects of the *salendro* scale.

Student experienced a cultural gap with a culture of *salendro* tone music, Mackellar (2013, p. 4) affirmed; "The analysis of the observational data is a critical step, which may be taken in various ways in a search for patterns and theme. Data analysis comprises a detailed sequential process that begins with an overview of the cultural scene and a search for cultural domains – categories of meaning that often contain subcategories".

The research instruments utilized were observation sheets.

Research Context and Participant

This research instilled the *salendro* scale through both the experience of reading and listening. Ethnic Sundanese tend to have a musical culture aligned with *salendro* as well as Western music in their daily lives. One of the Sundanese musical languages is *laras*, or scales, that have *salendro* tones, such as *pelog, degung, madenda* or *sorog*.

This study only analyzed the learning experience of the *salendro* scale for six non-Sundanese students. There were two female and four male students. One of the students came from Papua, two from East Nusa Tenggara, two from North Sumatra and one from South Sumatra. The students were between 18 to 20 years old. None of them had any previous experience of the *salendro* scale. As all the students were Christians their musical experience from their churches was singing Western tonal hymns and psalms.

Data Analysis

Data analysis was done by examining the various incidents experienced by the students when they studied the *salendro* scales. Every progress, stagnation or obstacle to mastering the *salendro* scale was looked at and recorded according to what happened.

All of the analysis results refer to the reference of the learning achievements of the *salendro* scale, i.e.

a. The ability to recognize and differentiate the *salendro* scale with other sensitivity-based scales,

b. The ability to sing *salendro* charts,

c. The ability to sing variations of the *salendro* scale interval of movement up or down in step or jump intervals,

d. The ability of sight singing etude to tackle *salendro* scale; and

e. The simple sight-singing of a song on *salendro* tones.

Interpretation

The interpretation was made by examining the process and reflection on the learning of the *salendro* scale based on experience as well as by analyzing the meaningfulness of learning the different students' *salendro* scales of musical culture.

Results

Observation Report

The students were observed during their initial practices with regards to listening, singing and reading *salendro* charts. The results showed that the students had difficulty in practicing *salendro* scale in singing activities. This resulted because they were not yet familiar with the *salendro* scale which was caused by the different cultures of their mother language in music. The six students had a mother of music language approaching Western tonality.

This introduction to the *salendro* scale was followed by providing a learning-based experience.

The students' learning experience started with listening activities using the *salendro* scale followed by singing *salendro* scales up and down with notation *Da, Mi, Na*. The range of scales sung was: *Da-Mi-Na-Ti-La*-Da. This was repeated to familiarize the sensitivity of *salendro* tones through auditory sensitivity. After the students were quite familiar with the *salendro* scale they were competent to sing the interval from stepping motions and then to jump. The intervals sung were, *Da-Mi, Da-Na, Da-Ti, Da-La, Da-Da* (one *gembyang*). The students learning activities included singing the entire interval jump practiced with up and down motions until they smoothly sang all the interval jumps and were familiar with the *salendro* scales interval from one note to another. As a result of this learning activity, the students succeeded in the hearing sensitivity of the *salendro* scale, which was detected from the students' learning ability and their ability to sing the *salendro* scales and sing the interval on the *salendro* scale with a variation of stepping and jumping movements.

The next meeting was the experience of learning how to look for the tone independently through the leap of the tone from the *Da* down to *Ti*, which is commonly termed as *kempyung*. A *kempyung* provides a sense of movement interval which is typically used as a reference to find the first note of the song to be sung. The first introduction began by singing the *Da* tone to the *Ti* tone. From this exercise, the students were then led to singing another tone; either up or down.

For the next move the interval was used as a reference to look for another tone on the *salendro* scale using both the step or jump tone. All the activities at the start of this students' meeting were conducted with *ngabeo* activities or where the students imitated what was sounded, or sung, as demonstrated by the lecturer. Learning the interval movement of *Da* down to *Ti* took a long time. At this time the students were still having difficulties and could only look for a tone on the movement of interval stepping. The interval was felt to be not far from the tones of *Da* or *Ti*. At this meeting the students looked for their own tones with respect to the stepped interval movement and distance.

The next meeting was to experience reading a simple song's notation. The song was a *kakawihan barudak* (children's song) titled *"Orai-oraian".* This song was selected as it allowed the students to read the movement of the tone of a simple song so that they could practice the *Da, Mi,* and *Na* when singing. At this stage the experience of reading notation was guided by the lecturers who assisted them to both read and sing using this notation. The *"Orai-oraian"* song was chosen as it has a linear flow so that the students smoothly progressed as they searched for their own tones using the *kempyung* movements.

A question and answer period based on the *salendro* scale's sensitivity followed. The students were asked their opinion about the differences of the *salendro* scale's sound when compared to other scales; such as the *pelog* scale. The students believed that there were differences in the sound sense between the various scales. This was followed by another question and answer session, this time regarding the sensitivity of the *salendro* scale. Students were asked about their opinions about what different sounds they could detect when using the *salendro* scale against other scales. Generally, the students expressed the view that "there are differences in the sound sense and interval between the types of scale."

The lecturers explained that the basis of the *salendro* scale was different when compared to others, such as the *pelog*. The frequency of each note of the scales differs and that there is a difference between the low and high tones between the scales. The distance of the sound, the inter-tonal interval of the *salendro* scale, is closer to each other than on the *pelog* scale. The students stated that they had a better understanding of the differences between the various scales both perceptually and auditory.

During the next class, the students learnt to read by singing *salendro* scale songs *"Lagu jalan-jalan"* (Take a walk) and *"Kaulinan barudak" (Song for children to play)* because they were musically involved with the movement of their tone steps and jumps with its intervals moving up and down. The songs used the *gending, kenongan* and *goongan* patterns, where:-

Kenongan is a rhythm ruler.

Goongan is the end of the song's sentence.

Kenong is not just for rhythm but also has a tone pattern that follows the sentence in the melody of the song.

The students were then invited to experience the sense of *kenongan* and *goongan*.

After the song *"Lagu jalan-jalan"* had been understood the students were able to sing the notation using the *salendro* notes with good tonal accuracy. They then learned the song *"Niron tentara"* (Army Movement Imitation). This is quite a difficult song for beginners because there is a leap of one *gembyang* interval in the *salendro* tuning area.

"Niron tentara" is a song with a marching rhythm, mimicking a military movement, where many tone intervals jump far enough for some of the students to sing them using an incorrect pitch. First the lecturer demonstrated the tone of this song with a slow tempo and then gradually increased the pace until the students could fluently sing and feel the song's tone jump. All of the students mastered the notation of the song's tune, albeit at a slightly slower tempo.

Media used to deliver the *salendro* scale was a *waditra* (musical instrument) *saron*.

Discussion

The process of learning the *salendro* scale was to strengthen the perception of hearing by listening and applying the practice of *kempyung* leap of the tone from the *Da* tone down to *Ti* followed by looking for another tone independently, either up

or down. Reisenweaver (2012, p. 51) reported that: "Therefore if these little letters which we accept as a musical notation are placed above or near the customary notes, sound by sound, there undoubtedly will be on view a full and flawless record of the truth, the one set of signs indicating how much higher or lower each tone is placed, the other informing one about the aforementioned varieties of performance."

This introduction was an affective-cognitive process based on the sensitivity of the *salendro* scale which began with the listening process of the *salendro* scale and practicing by singing *salendro* scale intervals. The students then tested their understanding with the question and answer activities about the *salendro* scale when compared to other scales.

The arrangement of the learning experience was tailored to the *salendro* music culture. Woolfolk in (Zhou & Brown, 2014, p. 30). Vygotsky is best known for being an educational psychologist with a sociocultural theory. This theory suggests that social interaction leads to continuous step-by-step changes in children's thought and behavior that can vary greatly from culture to culture. It requires social communication in the classroom that supports the process and the results of the music learning experience. This means the achievement of musical ability is a situational cognitive experience. Scribner and Cole (1973 as cited in Mas, Pozo, & Scheuer, 2015, p. 1192), studied whether differences in the social organization of education had consequences on cognition, that is, whether differences in the organization of education (formal or informal) in turn promoted differences in the scope and nature of learning and therefore in thinking skills. Christmas, Kudzai, and Josiah (2013) stated that according to Vygotsky, in a social interaction, a knowledgeable participant can create by means of speech and supportive conditions in which the student can participate, encouraging them to use their current skills and knowledge to improve their level of competence. The student's competence in the understanding and appreciation of the *salendro* scale was found be improved as a direct result of cultural interaction with the lectures and other students.

Conclusion and Recommendations

The *salendro* scale learning experience had a positive impact on the hearing sensitivity of non-Sundanese students. By the end of the course, they were shown to have the ability to read and understand the *Da-Mi-Na* notation on the *salendro* scale. The ability to read the *salendro* scale begins with the experiential learning of *kempyung* in the form of *Da*-to-*Ti* tone interval leap followed by another tone search either up or down interval movement.

An important research finding into this study was that one movement instilled a sense of the *salendro* scale through the introduction of the downward intervalist movement of *Da* to *Ti* from which the tone was continued to look for another tone, with the interval either rising up or down. This finding was a leap for the science of *karawitan* especially *titi laras*, where the hearing sensitivity is conditioned by hearing interval movement based hearing perception.

The conclusion of the study showed that the students had gained the experience and knowledge to master the *salendro* scales as a result of this course. In general, the students could

be taught to have the ability to read and listen to the *salendro* scale and to identify the interval range on the *salendro* scale by singing.

More support and understanding are required from musical theoretical departments with a view to the study of atypical types of music structures. It should be recognized that the basic musical scale that some children are first exposed to is not do, re, mi, but rather a local cultural scale, such as *salendro* from some Sundanese, Javanese and Balinese cultures in Indonesia.

Conflict of interest

There is no conflict of interest.

Acknowledgments

References

Azzara, C. (2010). Audiation, improvisation, and music learning theory. *The Quarterly, 2*(1), 106–109.

Bledsoe, R. N. (2015). Music education for all? *General Music Today*, *28*(2), 18-22.

Brown, R. M., & Palmer, C. (2012). Auditory-motor learning influences auditory memory for music. *Memory & Cognition*, *40*(4), 567–578.

Christmas, D., Kudzai, C., & Josiah, M. (2013). Vygotsky's zone of proximal development theory: What are its implications for mathematical teaching? *Greener Journal of Social Sciences, 3*(7), 371-377.

Craig, C. J., You, J. A., & Oh, S. (2012). Why school-based narrative inquiry in physical education research? An international perspective. *Asia Pacific Journal of Education*, *32*(3), 271–284.

Dawn, J. (2015). We did the how to teach it: Music teaching and learning in higher education in Australia. *Australian Journal of Teacher Education, 40*(7), 1–14.

Greenberg, D. M., Baron-Cohen, S., Stillwell, D. J., Kosinski, M., & Rentfrow, P. J. (2015). Musical preferences are linked to cognitive styles. *PLoS ONE, 10*(7).

Gruhn, W., & Regelski, T. A. (2006). Music learning in schools: Perspectives of a new foundation for music teaching and learning. *Action, Criticism, and Theory for Music Education*, *5*(2), 1–27.

Hermawan, D. (2001). Tangga nada music Sunda: Antara kenyataan teoritis dan praktis. *Panggung Jurnal Seni STSI Bandung*. Nomor XXI th 2001.

Jones, A. (2010). Music and cognitive process student perceptions. *Polyglossia, 19*, 143–150.

Kielczewski, N. M. (2011). The effect of Music Learning Theory on sight-singing ability of middle school students (Master's Thesis, University of Toledo). Retrieved from http://utdr.utoledo.edu/cgi/viewcontent.cgi?article=1629&context=theses-dissertations

Krumhansl, C. L. (2004). The cognition of tonality–As we know it today. *Journal of New Music Research*, *33*(3), 253–268.

Latifah, D. (2016). Sundanese traditional tone sensitivity-based audiation model of salendro musical scale. *Harmonia: Journal of Arts Research and Education, 16*(2), 172–181.

Latifah, D., Karwati, & Kusmawardi. (2016). *Audiasi Sebagai Pengantar Rasa Laras Salendro* (Research Report). Bandung, Indonesia: LPPM UPI. [in Indonesian]

Long, A. (2013). Involve me: Using the Orff approach within the elementary classroom. *Awards for Excellence in Student Research & Creative Activity*, No. 4.

Mackellar, J. (2013). Participant observation at events: Theory, practice and potential. *International Journal of Event and Festival Management*, *4*(1), 56-65.

Mas, A. C., Pozo, J. I., & Scheuer, N. (2015). Musical learning and teaching conceptions as sociocultural productions in classical, flamenco, and jazz cultures. *Journal of Cross-Cultural Psychology, 46*(9), 1191–1225.

Murgan, M. G. (2015). A critical analysis of the techniques for data gathering in legal research. *Journal of Social Sciences and Humanities*, *1*(3), 266–274.

Perham, N., & Currie, H. (2014). Does listening to preferred music improve reading comprehension performance? *Applied Cognitive Psychology*, *28*(2), 279–284.

Pinzino, M. E. (2007). Audiation – Another way of knowing. *Letters on music learning. From the Come Children Sing Institute,* (12)*.* Retrieved from http://www.comechildrensing.com/pdf/selected_articles_ music_teacher_page/1_Audiation--Another_Way_of_Knowing.pdf

Przybylski, L., & Niknafs, N. (2015). Teaching and learning popular music in higher education through interdisciplinary collaboration: Practice what you preach. *IASPM@ Journal*, *5*(1), 100–123.

Reisenweaver, A. J. (2012). Guido of Arezzo and his influence on music learning. *Musical Offerings*, *3*(1), 37–59. doi: 10.15385/jmo.2012.3.1.4.

Widodo. (2015). Laras in gamelan music's plurality. *Harmonia: Journal of Arts Research and Education, 15*(1), 34–45.

Zanten, W. (2014). Encounters in the context of inspiring Sundanese music and problematic theories. In B. Barendregt, & E. Bogaerts (Eds.), *Recollecting resonances: Indonesian Dutch musical encounters* (pp. 203–230). Leiden, the Netherlands: Brill/KITLV Press.

Zhou, M., & Brown, D. (2014). Educational Learning Theories. *Open Textbook Dalton State College.* Retrieved from http://creativecommons.org/licenses/by/4.0/