

Conceptual Framework for the Development of Etude Piano Based on *Degung* Scale

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Abstract—This conceptual framework of piano etudes is arranged in accordance with the phenomena that occur today, that there are still many students which study piano both in music schools and in international standard music courses in Indonesia, not sensitive to the musical sense of Indonesian traditional music, especially Sundanese. This is due to the lack of piano teaching materials based on Sundanese scale. In addition, the tendency of children, even teenagers and adults, are less interested in learning traditional music. In fact, Sundanese music has its own uniqueness that can be seen in its musical instrument, namely gamelan *degung*, *laras* or scales, and structure of *degung* music which is different from other gamelan. Therefore, this study using piano to introduce the scales of *degung* and some piece that are designed so the students can understand the tune that resembles *degung* which is adapted to the Western music approach. It is because students tend to find it easier to learn the piece with media conventional music background, one of them is the piano. This research used a literature review analysis that produces a conceptual framework to develop the piano etudes based on *degung* scale. From the result of the research, four ideas of piano etudes were produces, each of which has different levels of difficulty.

Keywords—conceptual framework; *degung* scale; piano etudes; development of teaching materials; Sundanese

I. INTRODUCTION

During this time, piano piece based on Indonesian cultural traditions are still lacking in the community. The main problem is that there are still many piano students which are familiar with Western works, although it can be realized that Indonesian traditional music has aesthetic value which is different Western music, including *degung* music. The problem encountered today is that the younger generation, especially those who learn piano, do not understand and recognize traditional music, especially Sundanese traditional music. In Sundanese music, there are also advantages and uniqueness that can be used as piano learning, including the scales of *degung*, and some rules of Sundanese music structure that are different from Western music.

The development of gamelan music is very rapid and global. From several works, such as Balinese Ceremonial Music by Colin McPhee [1], Ligeti with etude entitled Galamb Borong [2], and many other works from various composers from many countries which are very inspired by gamelan,

where some of this works used piano instrument. However, these works are not specifically used as teaching materials, but for an expression the composer's works in expressing the sound of the gamelan with piano. The demand for the composition of etude piano that can make piano more accessible by teaching techniques, and emotional parts on the piano, is the first step for the development of piano etudes. Etude can present the pianistic technique in a musical statement that is characterized by formal, interpretive, and aesthetic values [3].

Therefore, the aims of this study is to formulate a conceptual framework for the development of piano etudes based on *degung* scale which generally consists of technical and pianistic aspects of piano playing. This study proposes how to combine one element of Sundanese traditional music, and Western traditions, in this case represented by a sense of tones that resembles of the scales of *degung* and Western musical instrument, such as piano, used as piano learning material, and the development of skills and abilities in playing piano in university level. The scope and limitation in this study is use of the term "*degung* scale" which meant is the tone of Western music that resembles and adapts from *degung* scale. This is because the piano cannot produce pitch of *degung* scales correctly. Here, the piano etudes which are designed emphasizes the sense of the scale of *degung* on piano, and it is not applied to the rules of *degung* music, but is applied to the rules of Western music.

II. THE CONCEPTUAL FRAMEWORK OF ETUDE PIANO

The conceptual framework is a logical construction structure that is set to explain the variables studied [4], and as an important reference to show how to develop piano etudes based of *degung* scale as piano learning materials in university-level in Indonesia.

The purpose of the conceptual framework is to describe the stages of the ideas of etude piano based on *degung* scale which formed from various analyzes. From the ideas designed, several piano etudes are created where there are several aspects that can be learned and developed in piano learning. In addition, piano etudes also inspired by several varied textures, and rhythms on *bonang*, *kenong*, and *saron*, the rhythmic used in this etudes with quarter, eighth, or sixteenth notes, depending on the context of each etude which are different.

To remember that piano cannot produce pitch of gamelan precisely, so the tones used approaches the tuning *degung* in piano with basic tones G=Da, with the tones G, B, C, D, F#, and G for numbering 1, 5, 4, 3, 2, and 1 [5] (Da – La – Ti – Na – Mi – Da) on the *damina* scale for playing one *gembyang* or octave. The use of different scales with ordinary diatonic, where the interval used on *degung* scale are 1st. 3rd. 4th. 5th, and 7th with the formula major 3rd – half – whole – major 3rd – half ($2 - \frac{1}{2} - 1 - 2 - \frac{1}{2}$).

The research process was carried out in several stages, starting with ideas from developing etude, followed by analyzing literature review, such as, *degung* scale, piano etudes, pianistic techniques [6], music composition techniques [7], such as techniques for developing motifs, periods, phrases, etc. [8], and piano teaching materials that used in university level in Indonesia. It aims to adjust in the piano etudes design stage based on *degung* scale as teaching materials. The conceptual framework is formed in figure 1.

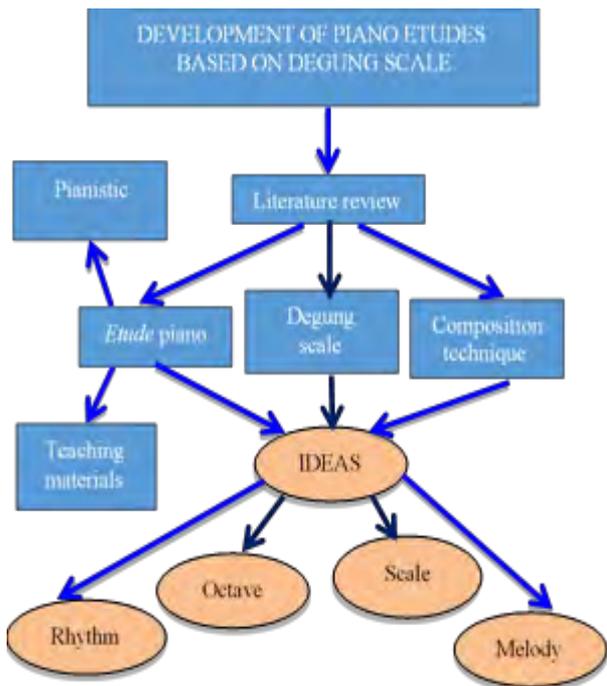


Fig. 1. Conceptual framework of etude piano based on degung scale.

From the results of the conceptual framework in developing piano etudes based on *degung* scales, four main ideas were created, including rhythm, octave, scale and melody, with different difficulties. There are four concepts of piano etudes based on *degung* scale entitled *Atikan Nomer 1*, *Atikan Nomer 2*, *Atikan Nomer 3*, and *Atikan Nomer 4*. *Atikan* is Sundanese which means education, where etude piano is a part of the emphasis that focuses on the development of abilities, techniques, and knowledge in music, especially in piano.

III. IDEAS

The ideas of developing piano etudes based on *degung* scale can explained as follows:

A. *Atikan Nomer 1*

Atikan Nomer 1 is inspired by the rhythmic pattern of *degung* in some parts of the “*Catrik*” song, which is a combination of the rhythm of the *bonang* and *kenong* or *jenglong*, where it is played on the left hand. In Notation 1 shows the *damina* notation on the *bonang* in one *wilet*.

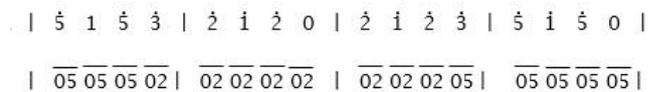


Fig. 2. Notation 1 Bonang’s *Damina* notation in one *wilet* on the “*Catrik*” song.

It can be seen in Notation 1 that *bonang*, which is played in the right and left hand on the *bonang* instruments, played alternately where the right hand plays the crotchet notes, while the left hand plays the quaver notes which starts with the quaver rest. As seen in the Notation 2, which uses a tone that resembles *degung* scale with the basic tone G = *Da*. Overall, *bonang*, *kenong*, or *jenglong*, *saron 1* and *2* on Western notation can be seen in Notation 2.



Fig. 3. NOTASI 2 Western notation on “*Catrik*” song in one *wilet* from basic tone G = *Da*.

The rhythmic pattern that becomes the idea of *Atikan Nomer 1* is rhythmic *bonang* and *kenong* on one *wilet* in bar 1-4. Overall, there is a stable rhythm on *bonang* and *kenong*, can be seen in figure 4.

Bar	1								2								3								4								
Quaver	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
Bonang 1	x	x	x	x	x	x	x	x	x	x	x	x	0	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0
Bonang 2	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Kenong	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	0	x	0	x	0	x	0	x	0	x	0	x	0	x	0	x

Fig. 4. *Bonang* and *kenong*’s rhythms on “*Catrik*” song bar 1-4.

Explanation:
 x = beaten part 0 = rest sign

As an idea of *Atikan Nomer 1*, rhythmic on *bonang 1* is played for the right hand, while *bonang 2* and *kenong* are played on the left hand on the piano, assuming the *bonang 1*’s tone is higher than *bonang 2* and *kenong*.

It can be seen in bar 1-4 in the Notation 3, there is a repetitive pattern on the *bonang* and *kenong* where each can act as the main melody played simultaneously, which can produce a harmonization on the *degung* scale. As an idea, repeated rhythms are used on the left hand, which is illustrated in Notation 3.

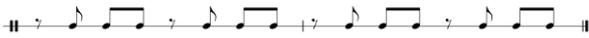


Fig. 5. Notation 3 Repetitive rhythms on the *bonang* and *kenong*

Here, the tone of *Atikan Nomer 1* does not follow the concept of the tone and rules of music from “*Catrik*” songs, but follows the repeated rhythm of the *bonang* and *kenong* because it adapts to etude, fingering, and pianistic techniques, but still the design uses tones that resembles the *degung* scale.

B. Atikan Nomer 2

Atikan Nomer 2 is inspired by “*Karang Kamulyan*” song on *bonang* and *kenong* in periods B and C, because in that section, the rhythm of the song plays a different octave tone. This can be seen in the figure 6.

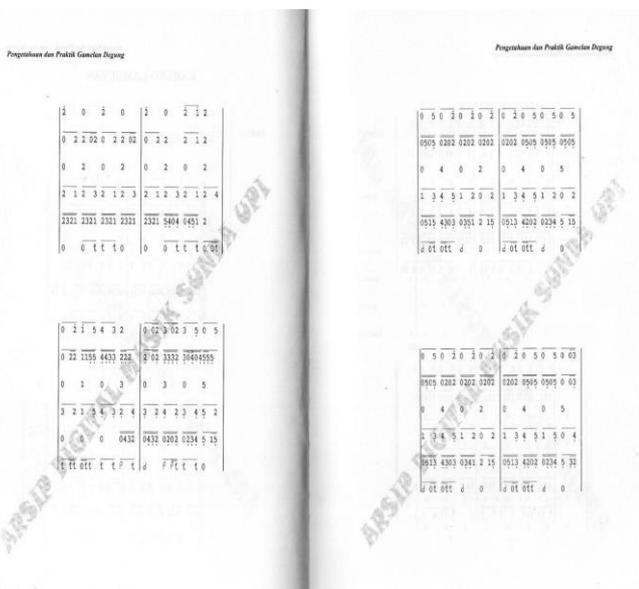


Fig. 6. *Damina* notation on “*Karang Kamulyan*” song in bar 6-13 [9].

“*Karang Kamulyan*” song is one of the *ageing* songs consisting of *opat willet* with *goong* sounded once on 64 beats.

It can be seen in figure 6 there is an octave tone that is played which starts at end of bar and so on in the *Karang Kamulyan* song. For example, there is tone 2 (*Mi*) on the *bonang* at the end of bar 5 which alternates with a tone of 2> at the beginning on bar 6, with the distance of the two tones is 1/4 beats, and continued with tone 2 on the *bonang* that is played together with tone 2 on *kenong*. It can be seen that tone 2 (*Mi*) alternates with tone 2> (*Mi*) yang which is lower note on the *bonang*, and tone 2 (*Mi*) on the *bonang* is played simultaneously with tone 2 (*Mi*) on *kenong* where the voice character of *kenong* produces a sound that is lower than *bonang*. There is a repetition of *Mi* tones. It is repeated

throughout the repetition the bar 6. On the next birama, the ideas of *Atikan Nomer 2* is on rhythmic pattern that coincides and concurrently on *bonang* and *kenong*, where the rhythm can be seen in Notation 4.

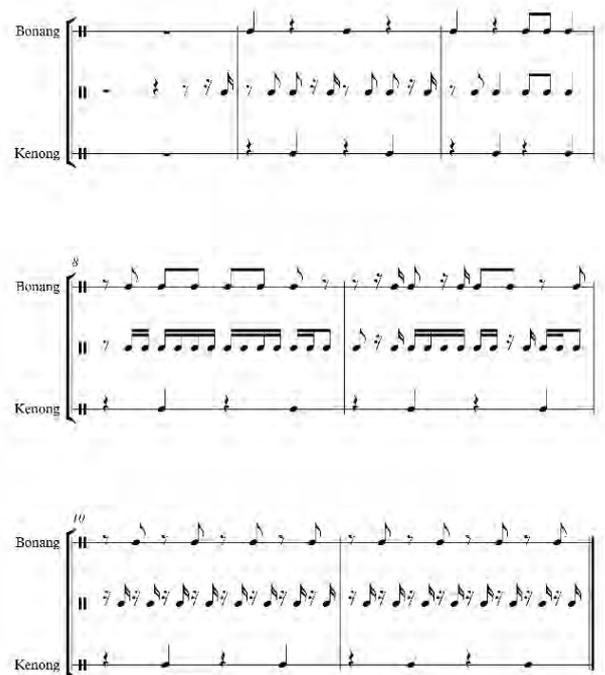


Fig. 7. Notation 4 Rhythm *bonang* and *kenong* in *Karang Kamulyan* song bar 5-11.

Atikan Nomer 2 focuses on the octave technique of the left and right hand on the piano, and the rhythmic pattern. As a note, the ideas developed did not see the purpose or history of the song, and the rules of the song, but the tones produced in *Karang Kamulyan* song that can be adapted to the learning techniques of piano.

Karang Kamulyan song that can be adapted to the learning techniques of piano.

C. Atikan Nomer 3

The ideas of the *Atikan Nomer 3* is the scales, plays the motifs and triplets, referring to etudes in the Graded Pianoforte Studies Books Grade 3 and 4 published by the Associated Board of the Royal Schools of Music.

There are several general techniques used to adjust the Grade 3 ABRSM. For example, in some parts of *Atikan Nomer 3*, there is a unifying feature, where the right and left hand placement are played alternately.

In addition, it can be seen in Notation 5, there is a major scale in the first and second bars, that is played in triplets from the beginning to the end of the piece. Bertini’s work is the one of the inspiration for *Atikan Nomer 3* for playing triplet notes.

Trills with sustained bass notes



Fig. 8. Notasi 5 Trills with sustained bass note, Op.100 No. 2 by Bertini [10].

D. Atikan Nomer 4

The idea of *Atikan Nomer 4* was inspired by Etude Op. 10 No. 4 by Chopin, can be seen in figures 2 and 3, where the piece is played alternately on the right and left hand. At first, the right hand becomes the main melody while the left hand plays the accompaniment, and then moves the lower main melody that play in the left hand, and the right hand plays the accompaniment. With this etude, students can learn the technical problems in each hand with a fingering on *degung* scale.



Fig. 9. Etude Op. 10 No. 4 karya Chopin, beginning of periods A



Fig. 10. Etude Op. 10 No. 4 karya Chopin, beginning of periods B.

IV. RESULTS

The results of this study are four main ideas of piano etudes with different levels of difficulty for each number by adjusting to the conceptual framework. And from this conceptual framework, will produce design of piano etudes that will be

applied in future research. Table 1 show the focus of the ideas for piano etudes.

TABLE I. FOCUS OF THE IDEAS FOR PIANO ETUDES

Title	Focus ideas
<i>Atikan Nomer 1</i>	Rhythmic repetition of the left hand
<i>Atikan Nomer 2</i>	Rhythmic repetition of octave as melodies with alternating of two hands
<i>Atikan Nomer 3</i>	Scale, contrary motion, imitation, motifs, and triplet
<i>Atikan Nomer 4</i>	Semi-quaver motifs and alternating of two hands

V. CONCLUSION

The conceptual framework in this study is a ways of elements from Sundanese traditional music, in this case a tone that resembles *degung*, and the use of Western musical instruments, namely piano, can be combined into an idea in piano learning, developing skills and abilities in playing the piano and new knowledge about the scale of *degung* in piano. In addition, the conceptual framework emphasizes the importance of the adaptation of Western teaching material methods, namely etude, and one of the elements that representing the Sundanese traditions, namely the scale of *degung*, in order to introduce the scale of *degung* with piano instrument, and to understand the scale of *degung* by studying piece of etude piano.

The purpose of a conceptual framework is to illustrate how the stages that can created an idea of composition from piano etudes based on the scale of *degung* which is arranged according to several analyzes, such as literature review, aural analysis, various other analyzes. From the ideas that are arranged, will create several piano etudes based on *degung* scale where there is the development of learning aspects of etude and pianistic techniques. In addition, it can learn music concepts related to skills in aural perception, cognitive development, concertation by training etude begins by listening to the results of etude that has been designed.

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