# DEVELOPMENT OF LEARNING MEDIA *MACAPAT* WITH SOLFEGIO TECHNIQUE IN ANDROID APPLICATIONS

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This paper is an implication of research and development. The purpose of this learning paper to develop learning media *tembang macapat* with solfegio techniques in android applications for junior and senior high school students in Yogyakarta. This needs to be done supported by the conditions in the field, namely: (a) lack of learning media *tembang macapat* in junior and senior high schools; (b) teachers have difficulty developing *tembang macapat* material by reading *titilaras* and cakepan; (c) teachers have difficulty in packing learning materials with *macapat tembang* media mobile; (d) students' ability to sing *tembang macapat* low; and (e) the need for the development of learning media *macapat* song with solfegio techniques in applicationandroid.

To realize the development of learning *macapat* using selfigio techniques in android applications implemented in two stages. This year is the first year with the following stages: (a) needs analysis by looking at aspects of the Java language curriculum especially on *macapat* song material, teachers, and junior and senior high school students in Yogyakarta; (b) designing media design and *macapat tembang* material with solfegio techniques; (c) develop *macapat tembang* learning media in the form of a titillas and harmonized reading videos which are harmonized with saron in android applications; (d) analysis and assessment of products by experts (expertjugdment); and (e) product revisions. Stage applications and editing in android apps. Performed after paying attention to the advice of media experts.

*Keywords:* selfigio, macapat, android, and learning.

## INTRODUCTION

This article intends to provide an overview of the development of *macapat* learning media using selfigio techniques in the form of android applications. It is also at the same time to complement the research conducted Sutiyono, published in the international journal scopus indexed in 2015, but has not used selfigio techniques and android applications. Moreover, his research is only limited to *macapat* called barrel madya, which is associated with aspects of Islam, so it has not been specializing in aspects of learning.

More specifically, Suwarna (2014) has also been researching the development of learning media *tembang macapat* web-based is made with the help of software Moodle 2.1.2 + and XAMPP Control Panel v3.2.1 for web server configuration in SMP 5 Depok. However, this kind of *macapat* learning media is considered not much motivate students who want to learn *macapat*. *Macapat* who originally berbabsis oral literature, full of memorizing it is necessary to be taught using a new model, among others with android-based solfigio. In this way, students will easily learn *macapat*, either as oral literature or literature.

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From these two studies, it is necessary to develop *macapat* learning media at junior and senior high school level, which is able to motivate students to learn *macapat* more easily and fun. So this article provides an understanding how the ins and outs of learning *macapat* selfigio model with android application, which pragmatically will facilitate the communication of oral literacy *macapat* on students. Because many students still need the intensity of *macapat* learning more interesting. *Macapat* learning that rely solely on memorizing oral literature, without *titilaras* (selfigio) alone and accompanied by android applications, may be less interesting students.

It is given that the *tembang macapat* material taught in the competence melagukan and *tembang macapat*. Meskipun so, based on observations and discussions in the MGMP forum Java language junior and senior high school in Yogyakarta was the ability of students listening and melungkukan *tembang macapat* still low.Hal is due to student motivation to learn *tembang macapat* low.Siswa consider *macapat tembang* material is a difficult material.In addition, students also lack the learning facilities independently.Hal is not independent of the ability of teachers to manage material *tembang macapat* still limited. Teachers have difficulty in packing material *macapat tembang* into learning media. The condition is worsened by the fact that there are still many teachers who are unable to develop the *macapat* song in accordance with the existing *titilaras*. Various problems indicate the need for the development of media that packs learning materials *macapat tembang* in junior and senior high schools, especially in terms of reading or melungkukan *tembang macapat*.Media learning is very helpful for students to master the material studied. This is in accordance with research Suwardi (2014: 8) which stated that the learning media helps students to understand, explore, and reconstruct the material through various senses. Development of instructional media needs to be done in line with the development of technology and information so that there is no distance between the material with the students. Furthermore, the way to learn *macapat* as oral literature that tends to be memorized, will be further reduced. *Macapat* as oral literature has been often staged in various rituals, but in this global era clearly required a variety of interesting tricks and techniques for many *macapat* variations.

Oral literature such as *tembang macapat* pocung, often become memorized the students. However, students often experience difficulties when replacing other *tembang* pocung. Therefore, the presence of learning *macapat* selfigio model and android application is expected to overcome the problem. It is remembered that, the real *macapat* including cultural treasures that can still be utilized up to now. Through *tembang macapat*, both oral and written literature, will facilitate the seeding of character education. *Tembang macapat* often used by the Javanese poets to convey the teachings, piwulang, advice about the tatacata live life in order to become the main human. Banyak oral literary works in Javanese culture are composed in

the form of *tembang macapat*. It is one way for authors to keep the person who is advised not to feel patronized.

The role of *tembang* as a form of Javanese culture in the present life is also still relevant. This is in accordance with the results of research Suwardi (2009: 1) that *tembang* has an important role in conveying moral values. *Tembang macapat* is one of the materials taught in learning Javanese language as a mandatory local content in Daerah Istimewa Yogyakarta.*Tembang macapat* in the curriculum subjects of Java language are taught in the competence of reading and listening *tembang macapat*. Competence of reading *tembang macapat* in this case reading cakepan or *tembang macapat* poem in accordance with *titilaras*. Thus the competence of reading *tembang* is synonymous with singing *tembang macapat*. For students in Java, especially in Yogyakarta, the competence of reading *macapat* song is very important to master.Magagukan *tembang macapat* or nembang is the main competence that must be possessed by learners of Javanese subjects as a skill.Thus learning melagukan *tembang macapat* expected to produce students who have nembang *macapat* skills in accordance with the *titilaras*nya. That is why the learning effort of selfigio model with android application becomes an offer that deserves to be put forward.

Through the self-centered model of android, students will develop *macapat* as oral literature into literature. At this level literasi *macapat* increasingly reliable. Students who master the competence of nembang *macapat* with selfigio model android applications, in turn these competencies will be utilized on various occasions. In relation to the learning process students have provision of skills to teach nembang, or follow various traditional events held with the form nembang *macapat*. Furthermore, if viewed from the content of moral values contained in the song, then nembang can be used as a means of character building (character building) for students.

The problem, is (1) How to develop learning media *tembang macapat* with solfegio technique in android application for junior and senior high school students in DIY? And (2) How is teacher and student response to learning media *tembang macapat* with solfegio technique in android application for junior and senior high school students in DIY? The second answer to this problem, can provide assertion that one form of development of *macapat* media with solfegio techniques in android applications will open opportunities for student interest in *macapat* either as oral literature or literature. The use of solfegio techniques in teaching *tembang macapat* material guides students to practice gradual notation from simple difficulty level to the most difficult, ie from syllables with two notations, three notations, and so on. If the students have mastered the notation or *titilaras* then when faced with various *tembang* students can melagukannya appropriately.

The application of material in android allows students to learn independently. This is important because singing *tembang macapat* is a skill that requires intensive

practice to be able to sing songs according to their titillas. The time available for learning Java in school is also limited to an average of just 40 minutes per week . Android app allows students to learn and practice nembang independently anywhere, whenever not limited to learning in the classroom. Teachers as facilitators can also facilitate students with multimedia learning that contains how to read *titilaras* (notation), both berlarasslendro and pelog with various variations of the barrel (basic tone). These conditions will enable the emergence of student motivation to learn *tembang macapat*. For teachers who have limited ability in terms of developing *tembang macapat* also more easily by utilizing the media *tembang* in android application to guide students melondukan *titilaras* and then followed his cakepan.

## DEVELOPMENT OF *MACAPAT* LEARNING MEDIA

The word media according to Sadiman, *et al.* (2007: 6) comes from the Latin "medius" and is the plural of the word medium which can literally be interpreted as an intermediary or introduction. Media in the learning process refers to an intermediary or messenger message delivery with the recipient of the message, stimulating thoughts, feelings, attention and willingness to be encouraged and involved in learning. The term of learning media according to Fleming (Arsyad, 2009: 3) is a tool that connects the two parties of teachers and students to occur an effective relationship with the content or learning messages in the learning process. Learning process is basically also a communication process, so the media used in learning is called learning media.

Learning media according to Arsyad (2009: 5) relating to everything that people use to channel messages or information by utilizing technology not only present as a learning tool but also related to attitudes and deeds related to the application of science. Some of these exposures indicate that learning media is a component of learning resources or physical vehicle (hardware) that contains instructional materials (software) to stimulate student learning activities. The development of existing technology and curriculum cha*nges* require teachers to be more creative. Teachers as professionals must quickly adjust and reposition their roles. Teachers should be able to become learning facilitators and managers of learning resources for their students. Learning resources categorized materials (matterials) and tools (devise) known as soft ware and hard ware in learning. Unification of soft ware and hard ware in learning is a form of learning media. *Macapat* learning can be done with multimedia, among others with android applications.

Understanding multimedia in learning is simply presented by Arsyad (2009: 170) that multimedia is a medium that is a combination of two or more types of media that use the main control through the computer as a driver of the overall merger of the media. The use of multimedia in learning according to Mayer (2009: 21) not only activate the students understanding through the presentation of the

material that kohenren in the presentation of various media. Multimedia presentation in learning is intended to present information and guide how to process the information presented.Multimedia must direct the things that must how to recognize it mentally, and how to relate it to previous knowledge. Thus multimedia is used to help students construct knowledge. Multimedia helps students not only develop an understanding of the material but also finds and uses it. Media provides student facilities for exercises and applications knowledge.

Multimedia commonly used in learning according to Arsyad (2009: 172) is usually a combination of graphics, text, sound, video, and animasi.Berbagai combination is a unity that together display information, messages, or learning content.Use of multimedia in learning aims to present information in a form that is fun, interesting, easy to understand, and clear. Information will be easier to understand because multimedia allows many senses to engage in absorbing information, especially the ears and eyes.

The use of multimedia in learning to achieve meaningful learning according to Mayer (2009: 80) includes five steps, namely as follows: (1) choose words that are relevant for processing in verbal work memory; (2) selecting relevant images for processing in visual working memory; (3) organizing selected words into verbal mental models; (4) arranging selected images into visual mental models; and (5) integrate verbal and visual representations with pre-existing knowledge. In this case the multi media will be developed is to use adobe flash.

The use of multimedia in *tembang macapat* learning can have a positive impact. This is in accordance with the results of research Prihandoko (2013: 6) states that learning *tembang macapat* using multimedia to provide a conducive learning impact.Siswa feel interes learn *tembang macapat* with the existence of various facilities in multimedia. The development of *macapat* learning media with selfigio techniques and android applications, will attract more students. Android is a Linux-based operating system designed for touchscreen mobile devices such as smart telephones and tablet computers. Android allows software to be freely modified and distributed by device makers, wireless carriers and app developers (http://en.wikipedia.org/wiki/Android) .Android apps can be used in learning. This is supported by the availability of applications that can be used as multimedia. Utilization of android in *macapat tembang* learning can be done with the support of the feature to sing (*http://aplikasiandroid.com/multimedia/*).

Utilization of android in learning Java language has been done by Arismadhani, *et al.* (2013: 1). The research is applying android to learn to write Java script. Java and XML programming has been able to apply Java script in handheld android device.

In relation to the design of learning media especially those using the software need to pay attention to the various criteria of the quality of instructional media. According to Walker and Hess (Arsyad, 2009: 175) the quality of media can be reviewed from several aspects, namely:

1. Quality of content and purpose, including: (a) accuracy, (b) interests, (c) completeness, (d) equilibrium, (e) interest and attention;

2. Instructional quality, including: (a) providing learning opportunities, (b) providing assistance for learning, (c) motivational qualities, (d) flexible instructional, (e) relating to other learning programs, (f) the quality of tests and assessments , (g) can have a positive impact on students, and (h) impact teachers in learning;

3. Technical quality, including: (a) legibility, (b) easy to use, (c) display / display quality, (d) quality of response handling, (e) quality of the program's processing, and (e) quality of documentation.

## DEVELOPMENT OF LEARNING MEDIA *MACAPAT* SELFIGIO MODEL

This paper is a dissemination of research results development of learning media *macapat* selfigio model through the implementation of several stages. Currently has come to the development of products. The definition of product development is the making of story board, validation, recording, and editing. Through seligio techniques and android applications, will enable students to sing *tembang macapat*. But also need to pay attention to standard rules *tembang macapat*. The *macapat* song is governed by certain rules called as follows.

First, the *Panca purba. Panca Purba* it must be followed, to make it more comfortable melagukannya. *Purba tembang macapat* there are five things are standard, then called the ancient *Panca*, which includes. (1) *Laras* (barrel), sound barrel which remains vibration and high low (Atmadarsana1956: 10). The barrel is a steady order of sound. The barrel is also called the tone. The barrel is divided into two, namely: (a) Slendro (more) and (b) pelog (young), but this opinion is uncertain, still need to be traced again. If in the gamelan can be distinguished between the barrel slendro pelog funds, for example saron wilahan clearly different. The barrel if played will be different. As for *tembang macapat* for those who have not been able to understand will bother. The barrel will control the rhythm. The rhythm is the speed, the short length, and the steady state of the sound. Rhythm is similar to tempo.

(2) *Titilaras*. For the barrel to be easily controlled, does not change at any time, then t*titilaras* is made. Titi barrel, that is how to write *tembang* using a barrel. Titi barrel is useful for: (a) writing *tembang*, (b) aligning a crook, (c) learning *tembang*. Titi barrel also exist which call Java notation or solemization bot. It will be useful to lift the height of the sound. Titi barrel is also called a notation. *Titilaras* were used to continue poetry *macapat*. *Titilaras* was held so as not easy to happen exchange of voice that is not barrel (blero);

(3) *Pedhotan*, is a place of dismissal (andheging song) to rest (breathing, respiration), so as not to impressed krenggosan. Good *pedhotan*, falling sound at

the end of the gatra, or not forcibly breaking the word, so as not to easily tucked, and its meaning is more intact. *Pedhotan* is divided into two forms: (a) kendho *pedhotan*, the *pedhotan* which is at the end of the word, and (b) *pedhotan* kenceng is *pedhotan* in the middle of the word is not intact;

(4) *Andhegan* is the final *tembang* ing gatra stop. *Andhegan* is also divided into two, namely: (a) *andhegan cilik*, meaning if the stopping of a voice on a certain gatra, can one gatra or two gatra, even more important meaning has been understood, (b) *andhegan ageng*, meaning the dismissal of *tembang* at the end of the stanza . In addition, there are also distinguishes into: (a) *andhegan wantah*, namely the dismissal of *tembang* at the end of gatra whose meaning is not yet intact, (b) *andhegan alit* (*seleh*), meaning the cessation of the song at the end of gatra and its meaning has been clear, (c) *andhegan ageng* (repeat), is the dismissal of the *tembang* at the end of the stanza;

(5) *Pathet* is a small, low in height, in tone order. *Pathet* as a benchmark of the barrel or tonika (raras tuntunan) *tembang*, to determine the high and low sound. Ups and downs, punctuated by *pathet*. So the *pathet* put a song / song. *Pathet* is the key in singing song. *Pathet* is associated with the *tembang* barrel. While the Javanese voice experts consider that the *pathet* is a good benchmark of *tembang*. *Pathet* is the voice limitation. *Pathet* as a means of "lift" (miwiti) sound If erroneously raised the sound, usually unfinished in song *tembang* often not strong.Not voiced because it may be too high or too low raised the voice.

The ups and downs of the song are determined by the *pathet*. So the *pathet* as a benchmark intone. Prawiradisastra (1988: 316-317) concludes that the *pathet* is a means of: (a) determining the height of the song's order based on tonics. Tonika is the parent's voice (the basic tone); (b) determines the rise and fall of the tone region (ambitus), (c) every slendro and pelog barrel order there are three *pathet*: *pathet* nem, *pathet* sanga and *pathet* manyura. The order of the *pathet* can be observed in the following example.

| No | Laras slendro | | | Laras Pelog | | |
|----|----|----|----|----|----|----|
| 1. | pathet sanga | : | 5 6 1 2 3 5 1 2 • • | Pathet barang | : | 6 7 2 3 (4) 5 6 |
| 2. | pathet nem | : | 2 3 5 6 1 2 3 5 6 | Pathet lima | : | 5 6 1 2 3 (4) 5 |
| 3. | pathet manyura | : | 6 1 2 3 5 6 1 2 3 | Pathet nem | : | 2 3 (4) 5 6 1 2 |

Second, *Panca Gupita* are the five rules for melagukakan gupita (*tembang*). The beauty of people singing songs at least if it is woven into five things called *Panca gupita*:

(1) *Cengkok. Cengkok* means different colors of songs. Each type of song has a variety of crooked. The crook is a song song, so it is free to assemble *titilaras*,

which is important beautiful. If a developer controls one to two crookes, it would be enough. Crooked with each other sometimes there are similarities. Some *cengkok tembang macapat*, eg *Dhandhanggula Sida Asih, Dhandhanggula Penganten Anyar, Dhandhanggula Pasowanan, Dhandhanggula Lik Suling. Dhandhanggula Kanyut, Dhandhanggula Semarangan* and so on. *Cengkok* will create more beautiful song (moncer). According to Marwanto and Mawardi (1995: 28) the crook is volatile (rongeh). There is also a mention of crook as a sanggit or improvisation. If there are people without a crook called *tembang* innocent (plain, milah, mbalung), whereas if using a crook called *tembang sengsem* (working on). Short of *cengkok* is a form of creativity of song art. The crook will decorate the song.

(2) *Gregel. Gregel*'s the easy thing that creates a mentuling sound bending. *Gregel* can also be called a embat. Through *gregel*, the sound can feel more dhekung and ngungkung. *Gregel* will gradually embellish *macapat*, will be deeply embedded in the heart. If chanting *gregel*, preferably on *andhegan* and dhong-dhinging sound. *Gregel* is an additional voice, which will bring up the flavor of the song. *Gregel* ra*nges* up to three sound waves, if too much less good. *Gregel* must also be limited, not all gatra use *gregel*.

(3) *Nges. Nges* are better *gregel* sung. *Nges* it will create sound ngeres-kleses and hard soft voice. *Nges* including cloth macahan duck. *Nges* means the beauty of the sound, the wrenching. Sound *nges*; will be affected by the parent vote. The important thing, *nges* not ngelik once. Then the sound of dhadha can be reduced, down to the sound of the stomach. *Nges* can be worked from vocal.

(4) *Sengsem. Sengsem*, it will appear through a smiley, charming face. Sound that matches *macapat* (cakepan), can cause a sense of emotion. *Sengsem* that will touch the taste, not bland, not light, spicy salty, tasted.

(5) *Luk*, is the sound waves influenced by the concoction of titillas. *Luk* has more than three titillas. But the most, *luk* less than three. *Luk* will decorate the song. Songs that play a lot of *luk*, will be nice to hear. There are three kinds of *Luk*; namely: (a) *luk* nduduk, meaning the paint which *titilaras*nya sequence (adjacent, for example: 23, 45, 61: (b) *luk* niba, meaning from *titilaras* high to low, eg: 53, 54, 76; (c) paint tangi , means the paint of low titillas to high, eg 256, 367, 135, etc. (d) paint njeklek, is a paint that jumps from low to high titillas or vice versa, for example: 2567, 7532,

Noteworthy in melalgukan *tembang macapat* solfigio techniques and android applications require step.

**METHOD**

This article is preceded by research and development (learning and development) *macapat* learning media selfigio model and android applications. The steps taken using R & D are in accordance with the theory developed by Borg & Gall through Mulyatiningsih (2011: 147). The steps are as follows: (1) research and information

collection; (2) planning; (3) develop preliminaryform of product; (4) preliminary field testing; (5) main product revision; (6) main field testing; (7) operational product revision; (8) operational field testing; (9) final product revision; and (10) dessemination and implementation.

Through the first year stage includes the following steps: (1) Needs analysis by looking at aspects of the Java language curriculum, especially on *macapat tembang* material, teachers, and junior and senior high school students in Yogyakarta; (2) Designing media and material designs in *tembang macapat* with solfegio technique begins with a simple titi barrel reading to read titi *macapat* tunas in 2.3.4 titillas and ½, titillas; (3) Developing learning media *tembang macapat* in the form of alignment video titillas "notation" with the reading. Titial alignment using saron. Further alignment is also performed when singing *tembang macapat tembang*; (4) Pack media *tembang macapat* in the form of video melagukan *tembang* in android applications. The results of this packaging are referred to as the initial product of the media; (5) Analysis and assessment of the initial product by the expert (expert jugdment); (6) Product revisions. Subsequent stages are required to be tested. Trial is limited to junior and senior high school students in DIY as users are required for the development of this targeted media.

Data collection in this study using several methods, namely: observation, questionnaires, interviews, tests, and documentation. Observations are made to observe the application of media in the classroom. Skills and interviews are needed to find out the responses of students and teachers in media usage. The tests are conducted to measure the effectiveness of the developed media. The research instruments used in this study include: test grilles, interview guides, and observation guidelines. The various instruments are carefully prepared to produce accurate data.

## RESULT AND DISCUSSION

From the development of learning media *macapat*, can be obtained significant results. The theory used to provide a framework for developmental assessment is the concept of *macapat*. *Tembang macapat* by Suwarna (2008: 70) is a *tembang* whose way of reading four- four (maca papat-papat); meaning the pause of reading every four syllables of the initial syllable of the line, followed by the next syllable, on each line. The example can be observed in the following Pocung song.

| | |
|---|---|
| *bapak pocung/ dudu watu/ dudu gunung/* | *: 4- 4- 4* |
| *asal saka/ plembang/* | *: 4- 2* |
| *ngon- ingone/ sang bupati/* | *: 4- 4* |
| *yen lumampah/ si pocung lam/ beyan grana //* | *: 4- 4- 4* |

*Tembang macapat* is a Javanese *tembang* and belongs to Javanese cultural tradition which way of melagukannya based on barrel and titi barrel which boils

down to Javanese gamelan sound. As in the gamelan, rhythm or *cengkok tembang macapat* based on sound or barrel Slendro and pelog. What is meant by crook is a certain type of style or type of song. Each *tembang macapat* has several variations of their respective *cengkok*, for example in pucung *tembang*, there are pelae tunjung seta that larasslendro *pathet* sanga, dhengklung pucung barrel slendro *pathet* manyura, gliyung puri melas pelog *pathet* nem, and so on. Thus pula*tembang-tembang macapat* other, such as Sinom, Dhandhanggula, and so forth also have variations of their respective *cengkok* (Widayat, 2011: 142-146).

In this study the *cengkok tembang* that will be developed media is chosen based on the existing curriculum. It does not entirely restrict the probability of achieving students' abilities, limited to mediated songs only, as the media to be developed begins with a reading of titi laras (notations), both slendro and pelog, either slendro sanga, manyura, pelog goods, pelog nem, and so on. With the guidance of reading this titi barrel, if the student has mastered it, then surely he will be able to read titi tunas *tembang* tunes other songs, even for all Java *tembang* sourced on titi barrel gamelan.

### *Macapat* Learning Development Step with Android Application.

This article is a development research which implementation through several stages. Currently has reached the stage of product revision post expert judgment or expertjugment. The details of the research results obtained are as follows.

(1) Development of learning media macapat tembang with solfegio techniques in android applications for junior and senior high school students in Yogyakarta, covering the following stages.

   (a) Need analysis by looking at aspects of junior high school curriculum of junior high and high school in DIY known that tembang material taught include Asmaradana, Kinanthi, Maskumambang, Pangkur, Dhandhanggula, and Sinom. The material was subsequently adopted to be developed in the learning media macapat tembang with solfegio technique. Needs analysis on the aspects of teachers and students is known that: teachers difficult to teach tembang macapat, many teachers who can not sing tembang macapat, students need instructional media as a means of independent learning, and teachers need learning media to teach tembang macapat. In relation to the tools used in learning, singing tembang macapat is limited to power points, and audio media. Teachers tend not to use instructional media, or often use lecture methods. Based on these conditions it is necessary to develop learning media melagukan tembang macapat with solfegio techniques in android applications for junior and senior high school students in Yogyakarta.

   (b) Designing media and material designs in macapat songs with solfegio techniques begins with a simple titi barrel reading to read titi macapat

tunas macapat in 2, 3, 4 titillas and ½, titillas. The song material is divided into two: macapat tembang simple and tembang macapat complicated. The tembang macapat material is simple, including: Asmaradana, Kinanthi, Maskumambang, Pangkur, Dhandhanggula, and Sinom. Tembang macapat material is complicated, including: Asmaradana, Pangkur, and Sinom.

(c) Developing learning media tembang macapat in the form of alignment video titillas "notation" with the reading. Tune alignment using gender thinthing. Further alignment is also done when singing tembang macapat song.

(d) Pack media tembang macapat in the form of video melagukan tembang in android application. The results of this packaging are referred to as the initial product of the media;

2. Analysis and assessment of the initial product by the expert (expert jugdment). The experts who assess the resulting product are: Dr. Purwadi, M. Hum. He is a lecturer in Maek Maek Language Schools Department of Language Education FBS UNY, and also practitioners of Javanese culture. Assessment of the quality of media conducted includes 3 aspects, namely: sound quality, media display quality, and programming quality. The details are as follows.

(a) The result of sound quality assessment is 100% with very good category. The details are: sound alignment with titilaras get score 4 with very good category; sound alignment with barrel get score 4 with very good category; and the harmony of the future with titilaras get score 4 with very good category.

(b) Results of media display quality assessment of 81% with very good category. As for the details, namely: the color composition get a score of 3 with good category, image suitability or animation get score 3 with good category, text clarity get score 3 with good category, and suitability of video get score 4 with very good category.

(c) Results of programming quality assessment of 100% with very good category. The details, namely: media use flexibility get score 4 with very good category, clarity of usage guidance get score 4 with very good category, and material meaningful get score 4 with very good category.

Overall total score obtained is 37, with an ideal score of 40. Thus the percentage of final assessment results of 37/40 x 100% = 92.5% with very good category. The final result of the product assessment by the expert gets very good category and is worthy of trial with revision. The revisions include: spelling mistakes on the forehead of the Asmaradana tembang row to five less one wanda.

**CONCLUSSION**

Based on the above discussion it can be concluded that solfegio is a technique for reading tone or tone sequences, gradually from the simplest to the most difficult degree, from syllables to two notations, three notes, and so on. On this occasion the theory will be used to pack *macapat* song material based on the difficulty level of reading gamelan music notation, which is slendro or pelog tone, ie from the simplest, harder, to the most difficult.

*Tembang macapat*, which mostly pauses in four-four syllables, most of which also consist of only four pitches (titi barrel). For example, in the first row of slatsro *pathet* sanga pachung sanga: 5 5 3 2/6 6 6 i / 5 5 3 2, which can be distinguished difficulties with other parts, for example in *tembang-tembang* which contains two, three or four barrel, which in the *macapat* song is a smoothing of *tembang*, It shows that *tembang macapat* can also be sung by solfegio technique. The composition can be sung by a solfegio technique by reading two tones first to four tones or four syllables in the whole notation until the line finishes. Therefore, in this media development research will be designed the development of reading titillas ranging from two tone two beats, three tones three beats, and so on up to the tone that one tap contains several tones, according to the needs of *tembang*, but with the variations that menyahai, and will be continued by reading titi barrel on *macapat tembang* lines intactly. The development steps taken are:

First, preliminary study in the field. Results of field studies found curriculum 2013 and KTSP applicable. Based on the curriculum then adopted *tembang macapat* material include: Asmaradana, Kinanthi, Maskumambang, Pangkur, Dhandhanggula, and Sinom;

Second, the needs analysis in the field (SMP) of Sleman, Kulon Progo, Bantul, Gunung Kidul, and Kota.Kegiatan is done to collect data related to: (1) Java Language Curriculum in junior high, (2) choose the types of *tembang* taught, (3) difficulties encountered in learning, and (4) needs analysis in schools in relation to learning *tembang*, (5) analysis of equipment needs that help learning *tembang*. The results of the needs analysis in the field at the junior high level, namely: teachers difficult to teach *tembang macapat*, many teachers who can not melungkukan *tembang macapat*, students need learning media as a means of independent learning, and teachers need learning media to teach *tembang macapat*. In relation to the tools used in learning, singing *tembang macapat* is limited to power points, and audio media. Teachers tend not to use instructional media, or often use lecture methods;

Third, the needs analysis in the field (SMA) Sleman district, Kulon Progo, Bantul, Gunung Kidul, and Kota. This activity is conducted to collect data related to: (1) Java Language Curriculum in SMA, (2) choosing the types of *tembang* taught, (3) difficulties encountered in learning, and (4) needs analysis in school in relation with learning of *tembang*, (5) needs analysis of equipment that helps

learning *tembang*. Hasil needs analysis in the field at high school level, namely: teachers difficult to teach *tembang macapat*, many teachers can not melungkukan *tembang macapat*, students need instructional media as a means of independent learning , and teachers need learning media to teach *tembang macapat*;

Fourth, the composition of the song (material) song Selfigio: peyusunan materials with respect to the curriculum and materials *tembang* taught. *Titilaras* made more simple, in order to facilitate learning *tembang* with selfigio.

Fifth, FGD Javanese Junior High School Curriculum, teaching material *tembang*, and selfigio preparation. FGD Curriculum of Javanese High School of Java, teaching material of *tembang*, and preparation of selfigio. FGD story board creation to be validated on material experts and media experts.

Sixth, revised Story board and revamping titillas. Recording of *tembang* with solfigio. Setup of media validation tools (currently planned). Media Validation (currently planned). Setting up dat and trial analysis (currently being planned).

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