

Interactive Multimedia to Learn Reading Geguritan of XI Graders

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Abstract

Learning to read Geguritan needs joyful situation, adjusted level of skill and competence of the students, creativity and re-creativity using interactive learning media. The purpose of the study is to describe the needs and the effectiveness of the use of interactive learning multimedia in learning Geguritan reading. This R & D research uses data such as the analysis of necessity test, validity, and media effectiveness shows the development of interactive multimedia to learn Geguritan reading of the IX graders is learning media needed. The trial test shows the development of interactive learning media to learn it is effectively used to improve Geguritan reading skill.

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INTRODUCTION

Reading Geguritan is to appreciate the read Geguritan. The interest of the students in reading or writing geguritan is very low. It is caused by the difficult learning material to understand and follow. Therefore, its delivery needs to be planned and packaged to attract the students.

The condition requires teacher to think more innovative finding out or inventing more interesting learning media to attract their learning interest to support learning process. It is also stated by Hernowo (2005) when someone does not have passion to teach or learn about the being taught materials or learnt, then the learning environment inside lacks of happiness. Learning Javanese language in classes is packaged into creative and re-creative using learning media functioning as learning tools.

Less giving chance learning activity for the students must be changed to get better achievement. It is stated by Mulyasa (2004) inside of learning activity, teacher does not role as the main actor or actress because learning can be done by empowering various learning sources. Mulyani (2010), in line with progressive understanding of John Dewey, states that students will learn well when they learn something familiar, then the process of learning will be more productive when they are actively involved. The learning process based on Mulyani (2016) is more able to be activated by developing design and learning media effectiveness.

One of the examples of practical learning sources used in learning is CD. The current condition, the available CD is provided by various materials: puppets, *tembang macapat*, drama, *geguritan*, news. However, the nature is still linier multimedia because it is not supported by any controlling device for the users to operate. The current multimedia is continuous and full of sequence, so it is only can be watched.

To grow motivation to read geguritan and to train their independency, interesting and having appropriate student characteristic media are needed. Psychologically, learners aged 11-14 tend to like new, modern, and sophisticate thing.

This characteristic becomes the milestone to find the appropriate media. The appropriate media to students' characteristics is *audio-visual* media in the form of interactive CD. This media may be more tempted for the students compared to lecturing method. This media uses interactive CD containing learning packages of geguritan reading packaged attractively for the students and giving more freedom to control the speed. The CD is an interactive media meaning that it has accommodation ability of the users' responses. It is independent because it gives accessibility and content equipment to let the students using it without guidance.

Considering those things, then a study to offer the development of the media is needed. Through this research, it is intended to improve the quality of Javanese geguritan reading learning.

The media is a computer based media. It has collaboration with various media embodied through application system of computer so it results into interactive media in the form of text, voice, and figures. Computer with its facilities is able to facilitate various learning model demanded by teacher.

The combination from various media allows the students actively involved to develop creativity and learning independently. It is also stated by Koesnandar (2003) the purpose of learning aided by multimedia is to involve the students actively, communicate effectively, facilitate the forum, and attract students' learning motivation.

The use of *audio-visual* media in the form of interactive CD is useful to help communicating process between teacher and students effectively. Audio-visual media can be defined as every tool used in learning room or situation to ease both written and spoken meaning of the uttered and intended words (Suleiman, 1985).

Hardjito (2003) says the use of multimedia learning is purposed to strengthen response of the users as quickly and frequently as possible, to give chance for the learners controlling the speed of their learning, to pay attention on the coherent and controlled flows followed by the students, to give chance of participating from the users in the

form of response both answers, choices, decision, trials and so on. Furthermore, Muhammad Yaumi (2011) explains learning using *offline* learning program of the computer, and not depending on the internet connection, has been developed by basing interactive and computerized tool to study by the students with very minimum aids.

The needs are the gap among ability, skill, and students' natures expected. From the gaps can be noticed what is needed in developing learning media according to teacher and students' perception. Thus, in creating the program must be adjusted to the needs based on their perception.

Every group of students naturally has different needs. Therefore, it is important to determine specifically their characteristics of them being served by the media. After determining the target, then their characteristics must be investigated. Characteristics are earlier knowledge or skills before joining the learning activity. Besides that, it is important for the society to know what must be mastered by the students before using the media. The knowledge gained through assumption related to knowledge and skills of the requirements of the students and their knowledge which are expected to be had earlier.

Based on the reality, the analysis of needs of the media must be based on some principles of learning material selection criteria. According to the Center of Documentary (2004), some components related to the criteria of learning material selection are basically grouped into four aspects: (1) content, (2) presentation, (3) language and readability, and (4) graphic format. Those aspects are interrelated.

According to Munandar (in Suyono 2011) states that learning is situated to motivate the whole creativity of the students, to create them active, to achieve effectively, and to proceed in joyful situation.

The surrounding situation influences toward their creativity. When they feel comfortable, then the purpose of learning will be easily achieved.

Winataputra (2007) states the meaning of learning is action done to initiate, facilitate, and improve intensity and quality of students' learning.

Based on that one, learning is a systematic and systemic effort to initiate, facilitate, and improve learning process. Therefore, because learning activity is strongly connected to learning natures, types, and achievement.

Aqib (2013) states learning process is a systematic effort done by teacher to realize effective and efficient learning process started by planning, acting, and evaluating.

Based on the theories, it can be concluded learning is an interactive process between teacher and students with whole learning sources to achieve the demanded objectives to change students' thought and behaviors.

Related to reading *geguritan* learning, it is important to understand reading *geguritan*, and its meaning. Reading is a process to gain message intended to deliver by the writer through written language. The purpose of reading is to find out the information, content, and meaning of the text.

Geguritan is a form of development from *macapat* literature works. *Macapat* is Javanese literature works containing educational and philosophical values in life. The poetry of *macapat* is strongly bind to rules, by considering the number of *gatra* (stanza), *guru wilangan* (syllables in each stanza), *guru lagu* (the sounds in the end of stanza). In literature review of modern Javanese literature works, there are some terms referring to *guritan*, *guguritan*, or *geguritan* containing free poetry (Hutomo, 1975).

To understand deeper about *geguritan* (modern Javanese poetry) as a literature works, the use of literature approaches are taken. This approach based on Teeuw (in Aminuddin, 2013) covers expressive, mimic, objective, and pragmatic or receptive approach. Expressive approach emphasizes on the role of the poet as subject of expression. The objective sees someone looking the literature separated from the real word, the writers or even the readers. Supriyanto (2008) explains the basic aspects cover topics, sentences, and context, used as learning language

tool. Content aspect is used as literature learning tool.

The construction of poetry can be seen or observe visually from its formative elements. The elements are (1) sounds, (2) words, (3) lines, (4) stanza, and (5) typography. Poetry also has hidden elements named meaning overlaps. The element is difficult to understand before understanding the construction (Aminuddin, 2013). The process of understanding also considers stylistic used. Supriyanto (2011) explains in the literature works, metaphorical extension is used. Many of them are comparison, metaphors, metonymy, synecdoche, and personification.

METHODS

The approach used in the study is R & D. The study begins with analysis of theory and practices by finding literature sources and relevant research report. The second step is analyzing media needs based on teacher and students' perceptions. Then the third step is drafting or designing product, planning, and arranging. The fourth step is product validity test by reviewing draft and judging done by experts. The fifth step is revising the draft. The sixth step is limited trial run. The last step, seventh step, is describing the product of the study.

The data of the research is grouped into three: learning geguritan reading necessity development by using the multimedia, expert judgment, and limited trial run. The research also uses additional data such as interviews.

The data is taken from three schools accredited A in Central Java region. The schools must utilize 2013 curriculum and are National Standard School. Those three schools are Public Junior High School 1 Patebon Kendal, Public Junior High School 1 Sayung demak, and Public Junior High School 1 Jepara. The second data is from expert validation: lecturers and educational practitioners having role to revise the draft of the proposed multimedia.

The instruments used are questionnaire of necessity and trial run test results. The data analysis is done by testing the effectiveness of the

multimedia by using *one-group pre-test – post-test design*. The data of the research is analyzed using descriptive qualitative and quantitative.

RESULTS AND DISCUSSION

The findings and discussion of the research cover characteristics of the developed multimedia, the principles of the multimedia development, and the effectiveness test of the multimedia.

The Characteristics of the Necessity of the Multimedia Development

The analysis result of the necessity using the questionnaire is classified into two categories: the necessity of the multimedia development both from students' and teacher's perceptions.

The analysis of the multimedia development necessity adjusted to the students' needs cover (1) aspect of real learning, (2) aspect of material, (3) aspect of presentation, (4) aspects of language and readability, (4) aspect of graphic, (5) aspect of interactive learning multimedia, and (6) aspect of expected development.

Real learning aspect is grouped into (1) the habit of learning geguritan reading, (2) the way of the teacher teaching, (3) the demanded learning, (4) the characteristics of demanded media, (5) the learning format, (6) the demanded learning material, (7) media availability, and (8) the use of interactive learning media. The habit or reading geguritan of the students is actually only listening to the teacher's reading. The reality of learning related to the way of teacher reading geguritan is done through lecturing. Meanwhile, the demanded learning is using more various method and interesting learning media. The characteristics of the media demanded is visible, understandable, independently operated. The formation of demanded learning is interactive, done by the students themselves. The learning material demanded are containing material, examples, vocabulary, exercises, and evaluations. The availability of the media are rarely available. The use of interactive learning media is needed to improve active, creative, and independent learning activity.

The aspect of learning necessity consists of four indicators: (1) learning material, (2) learning supplementary, (3) learning material forms, and (4) learning material theme. Therefore, the indicator of theme in the material demanded by the readers is about education, social life, and activities related to students. The learning materials needed are the definition of geguritan, the types of geguritan, the techniques of reading geguritan, reading geguritan, geguritan exercises, and complete evaluation needed such as new words. The material forms are expected to be full and detail explanation systematically attached by examples. The theme of the material demanded is about education, social life, and activity related to students.

The aspect of presentation consists of five indicators: (1) concept of the learning media, (2) preface of the media, (3) systematics of the media, (4) the placement of evaluation in media, and (5) the demanded evaluation form in the media. The concept of material in the media is initiated by how to operate core, basic competence, and learning purpose programs. The preface form needed in the multimedia is completed by direction to use it. The systematics of material explanation arrangement are preface, materials, examples, summary, exercises, and evaluation. The ideal placement of evaluation in media is in the last learning material interface. The form of evaluation demanded is multiple choices.

The language and readability aspects consist of four indicators: (1) language variety used, (2) diction, (3) the language used in the learning media, and (4) the sentence structures demanded by the language variety used in the multimedia. The language variety used in the multimedia is Ngoko. The diction of the demanded multimedia is daily life according to reading geguritan material using the interactive learning multimedia. The language used in the writings uses letter and punctuations based on the standard spelling, using appropriate, effective, and clear sentences. The structures of the sentences are brief and effective.

The aspect of graphic consists of five indicators: (1) interesting learning material,

(2) illustration appearance, (3) illustration coloring, (4) font size demanded, and (5) the font style demanded. The learning material demanded is interesting and appropriate material to the students under educational theme. The learning material is also attached by illustration having figures, music, and videos needed for each interface. The colors of the illustrations are expected to be colorful and fit on the theme. The font size and style are Arial 16.

The interactive learning multimedia aspect consists of four indicators: (1) attractiveness, (2) creativity, (3) operational usage, and (4) interactivity. The attractiveness is in invoking learning motivation side. The creativity grows reasoning and creative action. The operational media usage uses simple and interaction button. The interactivity can check the speed of the button, reasoning thinking, and accuracy of the answers in answering independent evaluative exercises.

From the characteristics above, there is an expectation for teacher and students toward the development. They are (1) the existence of interactive learning media, (2) the learning of reading geguritan using simple, portable, and usable media, (3) the learning media consisting educational, social life, and activity relevant to the students, (4) interesting appearance, (5) the attached examples in the learning multimedia, (6) being able to motivate the students, (7) interactive, (8) usable anytime and anywhere, and (9) interesting cover of interactive learning CD.

The Principles of Interactive Learning Media Development for the Learning

According to the analysis need results, the principles of the development are applied into each learning material development aspects: (1) content, (2) presentation, (3) language and readability, and (4) graphics. The principles are explained below.

The relevancy, sufficiency, adaption, and innovation principles are used as the basic of the learning material arrangement. Relevancy means the learning material should meet the standard competence, core competence, basic competence,

and learning purposes demanded. The types of learning materials are types of geguritan, geguritan reading techniques, indirect vocabulary exposures through animation, figures, and video in the interactive CD.

According to the analysis of need based on students and teacher's perceptions, there are: (a) the definition of geguritan, (b) types of geguritan, (c) geguritan reading techniques, (d) geguritan reading, (e) clause negation, (f) exercises, and (g) scoring. The material content is presented implicitly in each interface.

Based on the analysis need results from students and teacher's perception, the learning material contains reading geguritan learning, geguritan definition, types of geguritan, technique of reading geguritan, geguritan reading, exercises, and evaluation. The demanded supplementary of the material by respondents are about new word (clause negation). The learning material demanded by the respondents are about education, social life, and activity related to the students.

From the analysis need results from teacher and students' perception, the learning material demanded contains materials and exercises of reading geguritan. The respondents also want to have clear preface about the materials. The preface is begun by how to operate core and basic competence, as well as learning purposes, apperception, types of geguritan, reading geguritan, exercises, and evaluation programs. The form of the preface demanded is provided by preface with directions to use the media. The arrangement of material explanation is started by preface, materials, examples, summary, exercises, and evaluation. The ideal position of evaluation is in the last learning interface. The form of the evaluation demanded in the media is multiple choices.

Language aspect and readability are based on consistency and relevancy principles. Consistency is applied into the presentation of the material, layout, and the use of language variety. The consistency is useful to support readability and students' understanding. The learning material uses interactive learning multimedia and ngoko language to ease students' understanding.

The dictions are daily life words using standard letter and punctuation. The dictions are accurate and use effective and clear sentences. The structures of the sentences are effective and brief.

The consistency and relevancy principles are also applied in graphic aspect. Based on the analysis, the learning material is supplemented by relevant illustrations. The colorings also consider the relevancy principle toward the students' psychology condition. The consistency principle becomes the base of font size and type usages demanded by the respondents.

The presentation of the material must be appropriate with the students, with educational and near to students' surrounding themes, with illustration. The appearances of illustrations, music, videos in the learning media is needed in each illustration appearance. The colorings of the illustration, figures, music, and video must have appropriate color to the theme. The font size and style are Arial, 16.

The analysis of the learning media aspect demanded is used to find out the students' understanding toward the multimedia and the needs of the multimedia demanded by both teachers and students in the media development. The analysis results show attractiveness to motivate learning, creativity to trigger powerful and creative reasoning, attractiveness and simplicity of the button, interactivity of the characters to check speed in operating the button, reasoning, and answering accurately.

The Profile of the Interactive Learning Multimedia Development

The profile is categorized into two sub-topics: (1) the description of products generally and (2) the description of product after validation and revision. Based on the characteristics and the principles, the data gained becomes references and consideration to arrange learning material. In line with the principles, then the profile of the learning material is also presented based on two structures: content and presentation.

The learning multimedia has seven appearances. Here are the description from whole part of the multimedia: (1) home page

appearance, (2) material appearance, (3) example appearance, (4) exercise appearance, (5) evaluation appearance, (6) reference appearance, and (7) profile appearance.

Based on the principles of the arrangement, the profile developed is grouped into three main presenting principles: (1) language, (2) writing, and (3) graphic.

The Validation of the Interactive Learning Multimedia

It can be concluded generally the multimedia has been appropriately created and been reliable to test as suggested by the revision.

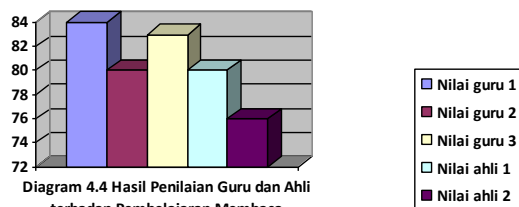


Diagram 4.4 Hasil Penilaian Guru dan Ahli terhadap Pembelajaran Membaca Geguritan dengan Menggunakan Multimedia Pembelajaran Interaktif

The data shows teachers' and experts' judgments categorized well. The average of teachers is 82, categorized well and the experts, 78, categorized well. However, there are some points to fill and revise. Here are some revisions and additional information based on the suggestion from teachers and experts.

The data analysis from the experts is grouped into two: content and learning aspects. The analysis is done by comparing each indicator with the minimum scores. The minimum score is 3.0. When it is below 3.0, then revision is needed. The data analysis of quality from learning aspect shows the appropriateness of the material and its order are having highest average, 5, categorized very high, followed by reading geguritan material. The appropriateness with successive indicators with basic competence, and the accuracy of material explanation are in high category. The analysis done gets score from the expert of materials and media are above 4.00, categorized as very high.

The Effectiveness of Interactive Learning Multimedia Development

The effectiveness of the learning media uses *t* test, covering normality test, homogeneity test, and average comparison test.

Normality Test

From normality test of control group is gained $\chi^2 = 7.2477$. Meanwhile from frequency distribution list of chi square is gained $\chi^2_{(0,95,3)} = 7.81$. Thus, it can be concluded normal because of $\chi^2_{\text{value}} < \chi^2_{(0,95,3)}$. From the test, the experiment group is gained $\chi^2 = 6.7557$. Meanwhile, from the frequency distribution list of chi square is gained $\chi^2_{(0,95,3)} = 7.81$. From the test can be concluded the experiment group is normal because of $\chi^2_{\text{value}} < \chi^2_{(0,95,3)}$. The calculation of complete normality can be seen in appendix 27 and 28. The normality result can be seen in table 1.

Normal because $\chi^2_{\text{value}} < \chi^2_{(0,95,3)}$. Normality test result can be seen in table 1.

Table 1. Normality Test Result

Category	χ^2_{value}	dk	χ^2_{table}	Criteria	Conclusion
Control	7.2477	2	7.81	$\chi^2_{\text{value}} < \chi^2_{\text{table}}$	H_0 accepted
Experiment	6.7557	2	7.81	$\chi^2_{\text{value}} < \chi^2_{\text{table}}$	H_0 accepted

Homogeneity Test

The test has purpose to find out whether the final class data having same homogenous or not. Based on the calculation from both groups is gained $\chi^2_{\text{value}} = 10.983$. The score χ^2_{value} is compared by χ^2_{table} . Based on the chi square distribution list with $\alpha = 5\%$ or worthiness level 95% and $dk = 2$ is gained score $\chi^2_{(0,95,1)} = 3.481$. Therefore, it can be concluded both of them having same or homogenous variants because $\chi^2_{\text{value}} < \chi^2_{(0,95,1)}$. The calculation can be seen in table 2.

Table 2. Homogeneity Test Results of Control and Experimental Groups

χ^2_{value}	dk	χ^2_{table}	Criteria	Conclusion
10.983	2	3.481	$\chi^2_{\text{value}} < \chi^2_{\text{table}}$	H_0 accepted

The Differences of Averages

From the tests show that the results from both teams are normal and homogenous. The test of average differences uses one party *t* test, the

right party because the variants between groups is same.

The test done is pre-test and post-test of the experiment group, the pre-test and post-test of control group, and the difference test of pre-test of experiment and control group, the difference test of post-test of experiment and control groups, the difference test of gaining of both groups. The calculation of the test can be seen below.

Table 3. Test Results of Experimental and Control Group Differences

Type of difference test	Difference test results	t _{table}	Explanation
Pre-post experimental	15.51637	1.9910	Significant
Pre-post control	2.185733	1.9910	Significant
Pre experimental-control	-0.195862	1.9910	No significant
Post experimental-control	16.85704	1.9910	Significant

Based on the table can be concluded as follow. The difference test results (right party test), the post-test scores of both team is $t_{\text{value}} = 15.51637$. Based on t table, the significant level is $\alpha = 5\%$ and $dk = n_1 + n_2 - 2 = 62$ gaine the score $t_{(0.95 \times 76)} = 1.9910$. Therefore, it can be determined that $t_{\text{value}} > t_{(0.95 \times 76)}$. It means the average of post-test of the experiment group is better than the post-test result of control group without using the media. With the same initial and relative ability, experimental group improves significantly. The control group also improves but not too significant. The control group also improves after learning but not significantly as experiment group. It is strengthened by the gain of both teams. The calculation of gain of the pre-posttest of experimental group is 0.541667. The result is categorized sufficient. The calculation of gain of pre-post of control group is 0.116819 categorized very low. Therefore, the interactive learning media for the material is proven effective for the graders.

CONCLUSION

Learning to read geguritan using the interactive learning media for IX gradres of Junior High School is needed. The principles of learning reading geguritan by using the media are: (1) content, (2) presentation, (3) language

and readability, and (4) graphics. The learning uses interactive learning media for the students and is designed appropriately to the characteristics and principles of the learning media development.

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