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## Optimization of Piwulang Text Learning by Using Media of Powerquiz Game

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### Abstract

Powerquiz game is a learning media based TI with the employment of Power Point application. This media can optimize Javanese learning, especially basic competency of *piwulang* text. This study aims to describe (1) feasibility of powerquiz game in optimizing *piwulang* text learning, and (2) evaluation responses of expert in learning material, expert in learning media, Javanese teacher and responses of junior high school students at eight grade toward powerquiz game usage in teaching and learning process. The method was R&D (Research and Development). Sources of data included 100 students, expert in TI, teachers and document. The data obtained were analyzed through descriptive qualitative and quantitative analysis to describe and to explain the feasibility of powerquiz game for *piwulang* text learning on junior high school students at eight grade. The result shows that: (1) powerquiz game can optimize *piwulang* text learning, and (2) powerquiz game usage get positive responses from expert in learning material with average score of 89.7, categorized as a very good score; expert in learning media with average score of 89.5, categorized as a very good score; Javanese teachers with average score of 96.6, categorized as a very good score.

**Keywords:** learning, *piwulang* text, learning media, powerquiz, junior high school

### 1. Introduction

One of Javanese learning materials for Junior High School at eight grade in the second semester based on 2013 curriculum is *Piwulang* text (*Serat Wulang Reh Pupuh Gambuh*). Competency standards for this material are "to analyze *Piwulang* text (*Serat Wulang Reh Pupuh Gambuh*)" and "to respond *Piwulang* text (*Serat Wulang Reh Pupuh Gambuh*)". Besides, teaching and learning process aims to make students able to understand *Piwulang* text, to write main points of *Piwulang* text and to report the result of *Piwulang* text analysis orally. Integrating culture in learning is absolutely required to improve students' knowledge and motivation [1]. Students' motivation in appreciating literary works especially *tembang* (Javanese term for song), even literary works containing in old manuscript, is still low. A major reason of this is the lack of comprehending material and using learning media. Consequently, teachers have to be creative and innovative for more interesting learning. The use of interactive learning media will create positive environment [2]. Additionally, learning media in terms of game will make students happy and easier to understand materials. In Javanese language learning, the use of new and interesting learning media still shows a small amount. The media mostly used are

Javanese textbook and conventional media like sheet of Javanese script, printed serial pictures, power point, or flash card. Beside the small amount Javanese learning innovation, those conventional media show some weaknesses including inefficiency of space, time and cost. Still, each subject needs innovative learning media to develop students' knowledge [3].

Various applications provided in computer ease its users in creating innovative learning media and Microsoft Office Power Point application is one of them. Generally, Microsoft Office Power Point is an application used to design an interesting presentation by adding some animations in each slide. Application based presentation is frequently used to present material in teaching and learning process due to its effectiveness and efficiency [4]. However, the limitation of users' skill in operating Power Point application make them difficult to create a new interactive media. This becomes a major reason why the writer proposes to create a new learning media by utilizing Microsoft Office Power Point application based quiz. This learning media is developed in terms of CD (Compact Disk). Besides, Javanese subject is truly rare to utilize this kind of game media. Based on the explanation above, this study aims to develop learning media in terms of Microsoft power point application based quiz. Learning media development was conducted by analyzing product development. The analysis stage



in developing product is a very beginning stage before creating [5]. The activities in this stage included observing curriculum and different students' skill. Observing curriculum or developers' competences has to consider curriculum competencies through reading, comprehending and measuring competencies level required to achieve. Comprehending curriculum and material are conducted to ensure the appropriateness of learning product and students' need [6].

Based on curriculum observed, it shows that text *Piwulang* material is given to Junior High School students at eight grade in the second semester. Basic Competencies (BC) are "to analyze *Piwulang* text (*Serat Wulang Reh Pupuh Gambuh*)" and "to respond *Piwulang* text (*Serat Wulang Reh Pupuh Gambuh*)". *Piwulang* letter (*serat*) or literature is a Javanese literature in terms of songs which contains a good message and education. Those basic competencies (BC) are explained into three indicators. They are (1) to translate difficult words in *piwulang* text (*Serat Wulang Reh Pupuh Gambuh*); (2) to answer questions about *piwulang* text (*Serat Wulang Reh Pupuh Gambuh*) in Javanese high speech level (*Jawa Krama*); (3) to write main point of *piwulang* text (*Serat Wulang Reh Pupuh Gambuh*). After that, Javanese teachers of eight grade in SMP Kristen 3 Surakarta and SMP Negeri 2 Karanganyar conducted the discussion. The result shows that there are some problems appeared in *piwulang* text learning. Firstly, some of students pay less attention of what teacher is explaining. Consequently, they slightly understand about *piwulang* text material. Secondly, the explanation given by teacher is still conventional and seems only to explain or to tell a story. Moreover, teacher do not implement various methods. However, the subject needs a comprehensive learning media role to achieve subject objective [7]. Based on that matter, Javanese teachers definitely support learning media development in terms of powerquiz game with the employment of Microsoft Office Power Point application, for the use of that media can improve students' interest and attention and also can be used as an alternative learning media for *piwulang* text in teaching and learning process conducted in class and home (self-learning).

Design stage was conducted to design learning media product developed. A good learning media product is based on competency standard and indicator which is relevant with the need [8]. Based on the investigation result over curriculum and teachers' discussion, designing learning media product based on basic competency and indicator formulated was conducted, followed by organizing learning material. After that, it was needed to determine learning strategy or method and evaluation category related to learning media. Strategy and method designed is a tutorial learning which involves teacher as a control and an informant in teaching and learning process in the class. Next, developer determined learning material and learning evaluation. Material refers to a brief knowledge about *Serat Wulangreh pupuh Gambuh* while evaluation deals with two model of games, including blank word and matching word game. Moreover, in learning media development stage, developer must collect literature source used for learning source of *Serat Wulangreh pupuh Gambuh* material. Collecting literature source was done by conducting discussion with Javanese teachers of Junior high school at eight grade, related to textbook of *Serat Wulangreh pupuh Gambuh* material. *Serat Wulangreh pupuh Gambuh* material becomes a consideration in arranging learning media with reference to electronic book or e-book from <http://ruhচিতra.wordpress.com> website. After material was arranged, it was continued with creating flowchart, referring to a diagram of learning media development process to ease media program designing. Flowchart gives a description about presentation of learning media menu from slide presented one after another (see attachment). Flowchart was then explained in learning media manuscript which contains a brief description of *Serat Wulangreh pupuh Gambuh* material and menu on learning media.

Validation and experiment stages for this learning media involved expert in learning material, expert in learning media and Javanese teachers. These experts function as evaluators and advisors on learning media development implementation. Then, Javanese

teachers function as evaluators and advisors in the last evaluation process of learning media.

Validation sheet from expert in learning material included two evaluation aspects. The first one is learning aspect. This contains 9 indicators, including an appropriateness of indicator and basic competency, an appropriateness of learning material and basic competency, a learning material validity, a learning material series, an unambiguousness of material description, an appropriateness of giving example in helping students to understand materials, an appropriateness of question and indicator, an appropriateness of language use and spelling in giving exercise, and an appropriateness of using certain terms. The second aspect is content validity. It contains 8 indicator, including a sufficient material to achieve learning objective, a clearness of delivering material, an appropriateness of example and material, a language use which is easy to understand, an appropriateness of question and basic competency, an appropriateness of question and indicator, an appropriateness of question difficulty level and expected competency to achieve [9]. Validation result of two aspects shows average score of 89.7, categorized as a very good evaluation. It indicates that material containing in learning media of *Serat Wulangreh pupuh Gambuh* has been appropriate with competency, giving example is useful for students in understanding material, and the use of certain terms is easy to understand.

Validation of media quality conducted by expert in learning media dealt with two aspect of evaluation. The first is appearance aspect. It contains 8 indicators, including an unambiguous instruction of media program usage, a readability and an accuracy of media text or script, an accuracy of color selection and composition, a consistency of media button placement, a quality of picture, animation, background support and screen resolution. The second is programming aspect, dealing with a clearness of navigation, consistency, button usage, an unambiguousness of instruction, usage easiness, a layer usage efficiency, a text efficiency, a program speed, a media conspicuousness, and a language use appropriateness. Validation result of two aspects shows average score of 89.5 with evaluation category of very good. It implies that this media has a good quality in accordance to a clear usage instruction, usage easiness of navigation button, program speed, media conspicuousness, and media appearance and animation which is able to improve students' interest and to become learning central in the class.

Validating learning media quality conducted by Javanese teacher dealt with two evaluation aspect. The first aspect is pedagogy aspect. It contains 7 indicators including a visual illustration harmony, an understandable description, an evaluation appropriateness of game media and indicator containing in lesson plan, an interaction between game media and user, an information validity about material in game media, a picture validity on game media, an appropriateness of material and competency, and containing learning goal. The second aspect is appearance quality. It contains 8 indicators including a media portability, an easiness of synchronization, an easy-working media, a completeness of usage instruction, an media content consistency (layer, button, navigation and color), a clearness of media appearance (color, size and type), a harmony of text color and background, and an illustration quality (picture and animation video) in terms of placement, size and color. Validation result of two aspects shows average score of 96.9 and has fulfilled a good criteria.

## 2. Methodology

This study deployed research and development method, referring to research method used to produce certain product and to assess its effectiveness. Data analysis utilized descriptive qualitative a quantitative. Source of data were students, teachers, expert in learning material and learning media, expert in TI and documents. Students were 100 students from SMP Kristen 3 and SMP Negeri 2 Karanganyar. Javanese teachers who become a sample were

Nopriyantri Dahlia Dewi, S.S as Javanese teacher in SMP Kristen 3 Margoyudan Surakarta and Sulistyowati, S.Pd as a Javanese teacher in SMP Negeri 2 Karanganyar. Document utilized as source of primary data was material in curriculum. Methods of data collection were interview, test and observation.

### 3. Results and Discussion

#### 3.1. Preliminary Field Testing

Preliminary field testing was conducted in SMP 5. Based on preliminary field testing, it reveals that the use of powerquiz game can improve students' ability understanding piwulang text and appreciating piwulang text as presented in the following table

Table 1.: Average Score of Pretest and Posttest

No	Pretest Score	Posttest Score
1	76.25	80.15

Based on observation in preliminary field testing, it indicates that students do not do quiz maximally. As a result, it is required to conduct media revision.

#### 3.2. Main Field Testing

Main field testing was conducted after media revision. It was held in SMP Kristen 3 Surakarta and SMP Negeri 2 Karanganyar. The samples selected were eight grade students of class B and C in SMP Kristen 3 Surakarta as experimental class and eight grade students of class D and E in SMP Negeri 2 Karanganyar as control class. Based on the analysis, it shows average score of students' achievement as follow.

Table 2.: Average Score of Students' Achievement in Main Field Testing

Variable	Control Class	Experimental Class
Students	48	52
Average score of pretest	78.24	75.80
Average score of posttest	92.94	94.12
$\Delta$ i (difference of pretest posttest score)	14.71	11.76

The average score of students' achievement in experimental class has lower pretest score than control class. However, the average score of posttest shows that experimental class has higher score than the control one. This indicates that powerquiz game can optimize teaching and learning process.

#### 3.3. Effectiveness Testing

The result of powerquiz game effectiveness can be seen from significance test of competency difference in appreciating text with and without using powerquiz game. Moreover, T test was conducted to know the significance difference. The result is presented in the following table.

Table 3: T test

	t	Df	Mean Dif	Lower	Upper
Pre	141.925	88	80.797	79.66	81.92
Post	166.710	88	83.101	82.11	84.09

Based on table 3 above, there is a significant difference of students' achievement with and without using powerquiz game on piwulang text material learning. Hence, the use of powerquiz game as a learning media can improve students' achievement. The use of learning media with game model generally can help students [10]. This media helps students easier to understand learning material because it directly stimulates their interest and gives them a new learning environment. Their interest can be seen from students' activeness to involve learning process when media is implemented.

#### 3.4. The Result of Learning Media Quality Evaluation and Students' Responses toward Learning Media Product

Learning media quality evaluation includes validating expert in learning material, expert in learning media and Javanese teachers. This interactive learning media of powerquiz game has been developed and tested to eight grade students of Junior High School through preliminary field testing, main field testing and effectiveness testing. Then, the media evaluation was conducted to answer second problem. It is shown in the following table.

Table 4: Result of Expert Judgement

No	Learning Media Quality Evaluation	Evaluation Percentage	Category
1	Expert of Learning Material	89,7	Very Good
2	Expert of Learning Media	89,5	Very Good
3	Javanese Teacher	96,6	Very Good
	<b>Average Score</b>	<b>91,93</b>	<b>Very Good</b>

Students' responses about learning media quality shows that most of them like learning media of powerquiz game. This is supported by the suggestion and impression of students from I class in SMP Negeri 2 Karanganyar and interview result from representative of students from eight grade of class B in SMP Kristen 3 Surakarta and I class in SMP Negeri 2 Karanganyar. According to them, learning media can stimulate students' interest particularly in learning Serat Wulangreh pupuh Gambuh material and generally in learning Javanese material. They admit that they feel comfortable in piwulang text learning with using a new method and media because other learning process, especially Javanese subject, rarely uses that kind of media.

#### 3.5. Learning Media of Powerquiz Game Strengths and Weaknesses

The strengths of powerquiz game are the followings. (1) Powerquiz game has good feasibility level as learning media. This can be seen from validation result conducted by expert in learning material, expert in learning media, Javanese teacher as well as responses of students. The average score shows 91.93, referring to a very good evaluation. (2) Language in powerquiz game is Javanese with low speech level (Jawa Ngoko). Low speech level Javanese is used to make them easy to understand, to recognize, to adapt, to be interested in, and in the end to be accustomed of using Javanese in daily life. (3) Learning media of powerquiz game is operated with using computer/laptop and can be used by students individually or in group. (4) Evaluation/quiz containing in learning media can automatically count score and display evaluation result. As a result, it can measure users' knowledge in using this media individually or in group.

The weaknesses are the followings. (1) Powerquiz game cannot be operated without computer or laptop. This results in restriction of media portability itself. (2) If electricity is off, learning media cannot be operated. However, those weaknesses can be handled by instructing students to do quiz in home and media can be sent through email.

### 4. Conclusion

Based on result, it can be synthesized that development process was conducted through some development stages. First, analysis stage referred to researcher observation over curriculum, learning process and supported literature. Second, content planning stage included the beginning of adding material, method and evaluation used in learning media. Third, development and production stages dealt with creating manuscript and design of media, to develop or

to realize them as a product of game media. Fourth, validation stage indicated evaluating appropriateness of media and material to get feasibility test. Last, analysis data stage refers to stage conducted to arrange research result report. Therefore, it can be synthesized that tournament game team method and media of powerquiz game can be used as an alternative learning material in senior high school level.

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