DEVELOPING INTERACTIVE LEARNING MULTIMEDIA FOR READING AND WRITING OF TENTH GRADERS

Curnia Karim, Dyah Setyowati Ciptaningrum, Ed.D

Yogyakarta State University, Jl. Colombo No.1, Yogyakarta, Indonesia

[curnia.karim@yahoo.co.id](mailto:curnia.karim@yahoo.co.id), dyah\_ciptaningrum@uny.ac.id

**Abstract**

The objective of this study was to develop interactive learning multimedia for reading and writing of tenth grade students. This research and development study adapted the R&D model proposed by Branch (2009[1]). The steps of the research were conducting needs analysis, developing course grid, developing the first draft of materials, evaluating materials and producing the final draft of materials. The instruments to collect data were needs analysis questionnaire, an expert judgment questionnaire in the form of Likert scale, and students’ evaluation questionnaire. The data obtained from the needs analysis, the expert judgment, and evaluation questionnaire were analysed quantitatively through descriptive statistics. This research developed three units of materials and then presented them in interactive multimedia. Based on the findings from the expert judgment and students’ evaluation, the materials were appropriate. The mean score of expert judgement of material was 3.3 which categorized as “Good” and media was 3.6 which categorized as “Very good”. The mean score of students’ evaluation was 3.68 which categorized as “Very good”.

# Keywords: Interactive multimedia; Information and Communication Technology; Reading and Writing.

1. **Introduction**

Indonesian government has gradually developed and modified the curriculum to meet the needs of students and the relevance to the current condition in the world. The current curriculum in Indonesia is curriculum 2013. Curriculum 2013 has been developed by the theory of the competency-based curriculum which engages the students to widely improve their competence, knowledge, and positive attitude (spiritual and social values). This curriculum provides the students with integrated materials to actively participate in the process of learning and teaching English.

To improve students’ competence, knowledge, and positive attitude, the teachers has to be creative in teaching process which can use technology as a media. Technology helps people to know the information quickly as soon as they need. In education environment, technology has contributions for teachers as it could serve an interesting way of teaching. . In this case, the teacher role is as a motivator and facilitator, and need a media to make students can regulate their learning. Interactive multimedia is one of the examples of ICT. It can help the teacher to deliver the materials so that the students can receive the materials easily. Interactive Multimedia may be used to describe a physical or digital system where multiple media or people have an effect on each other through their interactive behaviour (Deliyannis, 2012[2]). Therefore it is needed for the teacher using interactive multimedia as the medium for teaching process. For teachers and students, the availability of modern computers, peripherals, networking and resources within an increasingly diverse range of technologies is an essential part of learning and teaching in the 21st century.

An interesting phenomenon occurred in the world of education, especially in English language learning at a middle school in East java, Indonesia. The existence of computer laboratory is not optimally used to help the teacher in the teaching and learning process. The teachers did not implement the facilitated media to facilitate the students with interactive multimedia. The teachers also have difficulties in finding and develop an appropriate English interactive multimedia for the students.

The product of this research was in the form of interactve learning multimedia using *Adobe Flash* program. The interactve learning multimedia was specially developed for reading and writing of middle schools in Pamekasan, East Java. The learning instruments would also become a learning resource that facilitates learning according to the competence level of students, and motivate students through activities and presentation that are suited to student characteristics. The selection of interactive multimedia as learning assistants in this research and development is based on practical consideration; the students can learn English autonomously.

1. **Literature Review**
   1. **Reading and Writing**

Brown (2004[3]) says that reading is a process of negotiation of meaning. In this process, the readers bring their early thought to the next parts of the reading process to finally reach their understanding about the meaning of the text they read. The readers have to be aware in what purpose they want to read. By knowing the purpose, they can decide to use what kind of strategy in reading a text. After teaching reading skill to the students, teachers should identify whether their students have attained the required competence or not. It can be done by conducting an assessment.

There are some stages in doing a reading comprehension divide the reading comprehension into three stages. Those stages are: 1) Pre-reading. This stage is the introduction of the reading activity in which the students will make a preparation about what they are going to read. The teacher can give an activity for example guessing the topic, giving a visual illustration, or predicting the topics by giving some keywords. 2) While-reading.This stage aims to help the students understand the texts. It is the main activity of reading. The students can read the main idea of the texts, scanning and skimming the important information in the text. The important thing is that the students can understand the content of the passage. They can answer the questions and teach the other related to the text. 3) Post-reading. After the students understand about the content of the text, they are expected to give more information and giving their own ideas about the texts. They are not only comprehending the text, but also linking the topic with their own experiences in their real life. The teacher can make a group discussion or debate to explore the students’ opinion.

Writing is one of the productive skills which are dealing with the production of written language. The starting point of producing written text is developing ideas. Hyland (2004[4]) defines writing as the process of developing ideas by engaging the learners to share their personal views on a topic. Basically, writing is one of media to express and writes the ideas, through and feeling. Writing also is the representation of language in a textual medium through the use of a set of signs or symbols (known as a writing system).

In order to able to communicate the ideas through written texts, the learners have to able to write by following the steps of writing process. The five-steps process of writing described by Graves (1983, in Johnson (2008[5])). The process provides a context for writing activities as follows: 1) Prewriting. It encourages learners to write. Prewriting provides the learners to generate ideas by listing, brainstorming, outlining, silent thinking, or power thinking. 2) Drafting. It focuses on the fluency of writing by giving a chance for learners in capturing the ideas on paper. The draft usually is in the form of a rambling, disconnected accumulation of ideas. 3) Revising. Revising improves the content and organization of ideas to make the written work is clearer and readable. Revising provides the chance to overlook the flow and structure of the ideas by moulding and changing the arrangement of the sentences. 4) Editing. It engages learners to tidy up the written work as they prepare the final draft. Editing provides corrections to any grammar, spelling, and punctuation errors. 5) Publishing and sharing. The last writing process is where the learners’ writings are shared with the audience.

Writing is a complex skill among other skills (listening, speaking and reading) which acquires the ability to compose correct sentences. Since writing is a form of thinking using the written words, it takes much time for students to develop their idea into meaningful text.

* 1. **Information and Communication in English Language Learning**

Teaching is becoming one of the most challenging professions in society where knowledge is increasing fast and a lot of it is accessible to students and also teachers in the meantime. Modern developments of innovative technologies have provided new possibilities to teaching professions, but at the same time have placed more demands on teachers and students to use these new technologies in the teaching and learning process (Robinson and Latchem, 2003 cited in Jung, 2005: 1[6]). Information and Communication Technology (ICT) is the forms of technology used for creating, displaying, storing, manipulating, and exchanging information (Meleisea, 2007, cited in Nguyen, Williams & Nguyen, 2012: 3[7]). Owing to the above, there is widespread change across the world to infuse ICT into education. Teacher education institutions may have to prepare teachers to teach integrating ICT into their teaching.

The availability of modern computers, peripherals, networking and resources within an increasingly diverse range of technologies is an essential part of learning and teaching in the 21st century. ICT constitutes an input in the student learning process that should help produce better learning output. The availability and use of ICT can help students exploit enormous possibilities for acquiring information for schooling purposes and can increase learning through communication (Riel, 1998 cited in Geoffrey, 2010:12[8). ICT use also encourages development from a teacher-focused or teacher-led model to a more student-focused model in which students work together, make their decisions and take an active role in learning (Swedish National Association for School Improvement, 2008 cited in Geoffrey, 2010: 13).

The applications of ICT categorized into three groups: “learning resources” including educational software, online resources, and video resources (Collis and Moonen, 2001, cited in Nguyen, 2012). It will be used in developing interactive multimedia materials; “instructional organization of learning” refers to software and technology tools for lecturing in the classroom; and “communication” consisting of email systems, and websites offering communication options. Jarvis (1998, cited in McDaugald, 2009[9]) believes that by integrating basic IT skills in the EFL classroom, we are developing language skills and equipping learners with technology skills. The applications of these technology skills go beyond the EFL classroom into the workplace and/or subject specific studies at colleges and universities.

The internet and modern technology is on the forefront of language teaching offering teachers and students a like the opportunity to explore and even exploit English in ways that were not possible before. Students are able to use English with ICT in a very natural, realistic environment, enabling to communicate more effectively in the new language.

* 1. **Interactive Multimedia in English Language Learning**

Multimedia as the use of several different types of media for a single purpose, e.g as in a video that uses film, audio, sound effects, and graphic images. In brief, multimedia is the combination of several media like text, sound, art, animation, and the like which presenting information through computer technology (Richards and Schmidt, 2010[10]). Multimedia becomes interactive when the users of multimedia application can control what and when some parts of the application contents will be delivered (Vaughan, 2008[11]). In line with this, Phillips in Mishra and Sharma (2005[12]) adds that “interactive” is the coherent combination of text, pictures, sound, animation, and video as the new trend in computer software to present information.

Interactive multimedia has the potential to create important standard learning environment which actively employ the learner, thereby promoting deep learning (Cairncross and Mannion, 2001[13]). The elements in multimedia provide the message and the delivery which directs to a better learning and teaching environment. Mayer (2009[14]) strongly posits the use of multimedia as an effective teaching and learning tool, he stated that the promise of multimedia learning is that teachers can tap the power of visual and verbal forms of expression in the service of promoting student understanding. On the other hand, some advantages of using interactive multimedia also exist.

1. **Methodology**

The method of this research applied a Research and Development (R&D) cycle from Branch (2009). The R&D cycle, as outlined by Branch consists of 5 stages: (1) analyse, (2) design, (3) development, (4) implementation, and (5) evaluation. Thus the research method was composed of the following five stages.

The first stage was composed of the review literature, interview of the report of current condition, classroom observation, and need analysis. The need analysis is to obtain some information about the students’ need and interest in learning English. The information collected was about the materials that could make them interested in learning English and the opinion about their learning materials.

The second stage is designing the course grid. The course grid was designed based on the students’ need as the guideline to develop and manage the tasks of interactive multimedia materials. Core competences and standard competences was a consideration which underlay English teaching in senior high school. After the course grid designed, a flowchart was designed to draw the flow and sequence of the multimedia.

The third stage was developing the first draft of the interactive multimedia. The English interactive multimedia materials for reading and writing were developed based on the course grid and the flowchart by using Adobe flash software. After the researcher developing the first draft or the interactive multimedia, the materials evaluated by the expert and the result was used to revise the draft of the materials became the second draft of the interactive multimedia.

The fourth stage is the implementation of the second draft of the interactive multimedia to the students. The implementation of the materials is to find the quality of the product. The final stage is the evaluation. Evaluation was conducted to find the quality of the materials. The quality of the material can be seen from the questionnaires which ware distributed to the students to get opinion and evaluate the interactive multimedia materials and from the expert judgment. After this step, the researcher revised the materials and end up with the final product.

1. **Results and Discussion**

To meet the students’ needs and to develop interactive learning multinedia appropriate for reading and writing of tenth grade students of Senior High School, a needs analysis was conducted. The needs analysis was conducted by distributing questionnaires to the students. The questionnaires cover Target needs and Learning needs. In terms of target needs, half of the students desired that the English texts should relate to the daily activities. Regarding the learning needs, the students expected to have materials that involve audio and video to motivate them in learning reading. Further, the use of media such as computer was considered as an effective way in learning process. However, the teacher rarely used the computer or language laboratories to support the teaching and learning process.

The data collected from the needs analysis were used as the basis for developing interactive learning multimedia. Before the materials are developed, the course grid was initially established as a guideline to develop the materials. The course grid covers basic competencies, topics, materials, input texts, activities and language focus. The course grid was, then, developed into three units of interactive learning multimedia.

The three units of interactive learning multimedia focus on genre of the text. They are descriptive texts, recount texts, and narrative texts. Each unit consists of random number of tasks and follows scientific approach. The first draft of interactive learning multimedia were evaluated by experts to have some revisions. Then, the revisions became the second draft of the interactive learning multimedia. The second draft of the interactive learning multimedia were, then, implemented to motivate students to learn.

Furthermore, based on the results of the implementation, the students were attractive to use the interactive multimedia in their learning process at school. The statement was proven by the data collected from the students’ evaluation questionnaire. The students feedbacks related to the interactive multimedia were divided into two aspects; they are content aspect and media aspect. The students agreed that both content and media aspect of the interactive learning multimedia were appropriate to be used for the tenth grade students. It was shown from the mean score of students’ evaluation which was 3.68 and categorized as “Very good”.

1. **Conclusion and Suggestion**

Based on the data analysis, it can be concluded that the interactive multimedia for reading and writing was appropriate as a learning medium which can help students to learn English easily. Additionally, by implementing the interactive multimedia in the learning process, the students will be more motivated. Therefore, it will be easier to keep their attention. The main goal of the students to learn English was to be able to communicate in English fluently and they were able to learn independently.

The involvement of technology nowadays, like computers, is needed to support the teaching and learning activities. Regarding the data obtained from the questionnaires, the students admitted that they found it interesting and motivating to learn English which involve pictures, illustrations, animations, and audio. The use of computers is considered as an effective way to involve those features.

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