

DEVELOPING AN INTERACTIVE INSTRUCTIONAL COMPACT DISK FOR THE COURSE OF BASIC HOUSEKEEPING

Nurlaila¹ and Rusilanti²

¹ Department of Family Welfare Education, Faculty of Engineering UNJ

² Department of Culinary Education, Faculty of Engineering UNJ

E-mail: laila.mashabi@yahoo.com

ABSTRACT

This study aimed at creating the product based on the concept of learning for basic housekeeping. The development of interactive media in the form of interactive compact disk (CD) was conducted at Universitas Negeri Jakarta. Based on the review from the media expert, the total average score was categorized good i.e. 4.31. Meanwhile, from the material expert, the average score was categorized good i.e. 4.51 with the percentage of 90.28% and categorized as very good. The individual test (one to one) and the limited test showed the average scores of 4.13 and 4.09 respectively which were both categorized as good. In the field study, it was tested to 23 college students mutually and the total of average score was very good, i.e. 3.8 with the percentage score of 76 %. It showed that the quality of interactive CD of housekeeping course was very good.

Keywords: basic housekeeping, effectiveness, college students, interactive CD, learning

INTRODUCTION

The rapid development of technology, communication and the invention of dynamic process of learning gives the positive impact for education. Also, it urges to vary the learning media. Sudrajat in Budi (2002) states that the information technology grows rapidly in 21st century and education gets many benefits from it. Education supports the future development by developing the potency of the students so that they will be ready to face and to solve the problems. The ideal education must be supported by the advanced facilities, especially the learning media. The use of suitable learning media is expected to facilitate the learning process to be more effective and efficient. It proves that learning media give massive impact to the learning result (Mia, 2014). Learning media is a process of communication, i.e. the process of delivering a message between the teachers and learners. The messages or information may include knowledge, expertise, skills, ideas, experiences, and so on (Nur and Supriyanto, 2013). The appropriate learning media will determine the success of learning in achieving the target competencies. The implementation of teaching and learning

activity is an attempt to influence the success of learning (Budimansyah, 2009).

In the culinary study program, particularly in the course of housekeeping, the learning process still run with simple method and media such as lecturing, discussion, demonstration, and power point presentations. It required better media to foster the learning process. The media should attract positive response from the students and stimulate active interaction, as well as quick understanding of the materials thus this study examined the effectiveness of interactive CD as learning media in practical course of housekeeping subject. This media was selected because it has simple and cheap yet effective and efficient. This media was expected to improve the students' ability and competence in making garden.

Interactive CD is a form of information technology that has grown in popularity in the world of education. By having the facility to combine various elements to deliver information and messages, it can be considered as an effective technology media. It can be used to teach the relevant materials. It is expected to make the students easier to comprehend the material and more flexible in the learning

process, especially for making garden (Munadi, 2010).

Universitas Negeri Jakarta (Jakarta State University), an institution which produces professional human resource, needs to improve the quality of learning. Learning involves various aspects such as infrastructure, professional teachers, conducive environment, methods and media to produce competitive graduates. Culinary is one of study programs in UNJ which educate the students to have vocational and educational competence. The researcher is interested to conduct the Research and Development (R & D) through interactive CD media. It is to help the students to have learning media which is effective, efficient and able to improve the students' creativity for their competence of making garden. The outcome of the research was interactive CD for housekeeping course.

Imam et al. (2007) found that the development of interactive learning media based on multimedia for basic electrical showed a great result. Erwan and Mukhidin in (2013) stated that interactive learning media based on multimedia can improve learning outcomes and student learning independence. Meanwhile Suyitno (2016) urged that there were differences in learning outcomes between the students who using interactive media and the conventional one. The study explained that interactive media was more effective than conventional media.

METHOD

The objective of this study is to produce the suitable product based on learning concept for housekeeping course. Also, it is to find out the effectiveness of the learning process with interactive CD. The educational products are in the form of learning objectives, methods, and evaluation, so that the learning process becomes more effective, efficient, and in accordance with the demand. This study was conducted at Universitas Negeri Jakarta for 4 months, from

April until July 2016. The stages of this study were based on the system development cycle, namely planning, analysis, design, and implementation. The product testing used a formative test to determine what should be improved or revised so that interactive CD media became more effective and efficient. The test was done with educational assessment instruments developed by PUSTEKOM. The scores were obtained based on predetermined scale ratings (Suharsimi, 2008). The formative evaluation stage for the product of media learning, according to Arif, et al. (2008) was divided into evaluation from material expert, media expert, and the students. The interactive CD referred to the instrument issued by the Central Institute of Technology and Communication (PUSTEK KOM) the Ministry of Education and Culture, the Republic of Indonesia. The instrument was in the form of scale check list consisting of five options with different value, that consisted of:

Table 1. Assessment Scale

| Score | Explanation |
|-------|-------------|
| 5 | Very Clear |
| 4 | Clear |
| 3 | Moderate |
| 2 | Less Clear |
| 1 | Not Clear |

Then, the result of this study was assessed based on the calculation and the result considered as the foundation to give the assessment on the product with the criteria as in the Table 2.

Table 2. Clarification of Media Assessment

| Score | Explanation |
|---------|-------------|
| 4 - 5 | Very Good |
| 3 - 3.9 | Good |
| 2 - 2.9 | Moderate |
| 1 - 1.9 | Poor |
| 0 - 0.9 | Very Poor |

The results of the experiment were analyzed with qualitative descriptive by using a scale of 1- 5.

RESULTS AND DISCUSSION

This study was conducted at the hall of H Building, Universitas Negeri Jakarta, Jalan Rawamangun Timur Street, East Jakarta. The facilities in this location were a library, a multimedia room, and a classroom suitable to

create interactive CD learning media. The evaluation phase of media expert was performed by Melly Prabawati, a lecturer of educational technology who was expert in the field of instructional media. The number of the questions was thirty-five questions. The results of media expert review are shown in Table 3.

Table 3. The Result of Media Expert

| Aspect | Category of aspects | Score |
|---------------|--|--------|
| View | | |
| 1 | Font type and size | 5 |
| 2 | Color composition | 4 |
| 3 | Graphic design, picture, photo and graph | 4 |
| 4 | Video | 5 |
| 5 | Animation | 4 |
| 6 | Voice, music dan effect | 4 |
| 7 | Narrative, pronunciation and voice type | 5 |
| 8 | Screen utilization | 5 |
| 9 | Word choice | 4 |
| 10 | Sentence | 4 |
| Program | | |
| 1 | Flowchart | 5 |
| 2 | Consistency flowchart and discription | 5 |
| 3 | Clarity of product instruction | 4 |
| 4 | Usability | 4 |
| 5 | Program effectiveness | 4 |
| 6 | Security | 4 |
| 7 | Anticipation for user response | 4 |
| 8 | Clarity of the procedure | 4 |
| 9 | Feedback toward the students' response | 3 |
| 10 | Speed | 5 |
| Instructional | | |
| 1 | The accuracy of the topic selection for multimedia | 5 |
| 2 | Clarity of instructional purposes formulation | 4 |
| 3 | Clarity of target | 4 |
| 4 | Consistency of content with the instructional activity | 4 |
| 5 | Clarity of material description | 4 |
| 6 | Clarity of the example | 5 |
| 7 | Exercise | 4 |
| 8 | Feedback | 4 |
| 9 | Logical thinking | 4 |
| 10 | Quality of learning interaction | 5 |
| 11 | Personalization and Individualization | 5 |
| 12 | Sequence | 5 |
| 13 | Consistency of test with the instructional activity | 4 |
| 14 | Feedback from the user | 4 |
| 15 | Motivation | 4 |
| Total score | | 151 |
| Average score | | 4.14 |
| Percentage | | 82,86% |

By reviewing the above calculation, the average score was 4.14 categorized as good. The percentage of 82.86% was categorized as very good. It showed that the interactive CD had a good quality in the aspects of views, programs and instructional aspects so that it could be used by college students, teachers, and lecturers, or even the public. The media experts said that the program was good, but it needed menu page and hyperlink. She also concluded that this media deserved to be tested.

The product of interactive CD on basic Housekeeping was already tested by Lilie Suliyastri, the material expert of Basic Housekeeping (Making Garden) at the Study Program of Cosmetology, Faculty of Engineering, Universitas Negeri Jakarta as well as the member of Indonesia Florist Association. The number of questions was thirty-five and the test results of Housekeeping Basic learning media were presented in Table 4.

Table 4. The Test Result from Material Expert

| Aspect | Category of Aspect View | Score |
|---------------|--|--------|
| 1 | font type and size | 4 |
| 2 | Color composition | 5 |
| 3 | Graphic design, picture, photo and graph | 5 |
| 4 | Video | 5 |
| 5 | Animation | 4 |
| 6 | Voice, music and effect | 5 |
| 7 | narrative, pronunciation and voice type | 4 |
| 8 | Screen utilization | 5 |
| 9 | Word choice | 4 |
| 10 | Sentence | 4 |
| Program | | |
| 1 | Flowchart | 5 |
| 2 | Consistency flowchart and description | 4 |
| 3 | Clarity of product instruction | 4 |
| 4 | Usability | 5 |
| 5 | Program effectiveness | 4 |
| 6 | Security | 4 |
| 7 | Anticipation for user response | 4 |
| 8 | Clarity of the procedure | 4 |
| 9 | Feedback toward the students' response | 4 |
| 10 | Speed | 5 |
| Instructional | | |
| 1 | The accuracy of the topic selection for multimedia | 5 |
| 2 | Clarity of instructional purposes formulation | 4 |
| 3 | Clarity of target | 4 |
| 4 | Consistency of content with the instructional activity | 4 |
| 5 | Clarity of material description | 4 |
| 6 | Clarity of the example | 5 |
| 7 | Exercise | 4 |
| 8 | Feedback | 4 |
| 9 | Logical thinking | 4 |
| 10 | Quality of learning interaction | 5 |
| 11 | Personalization and Individualization | 5 |
| 12 | Sequence | 5 |
| 13 | Consistency of test with the instructional activity | 4 |
| 14 | Feedback from the user | 4 |
| 15 | Motivation | 4 |
| Total score | | 158 |
| Average score | | 4.51 |
| Percentage | | 89.14% |

By reviewing the calculation, the average score was 4.51 categorized as good. The percentage of 90.28% was categorized as very good. The media experts suggested giving explanation on some difficult terms and symbols. Meanwhile, in general, images, animations, and videos in the media were feasible to be tested.

In the individual test, the media was given to two college students in the form of individual evaluation. Two students were selected representing the population from the media target. The media was given to the students individually. Then, the evaluation was conducted to review wrong choice of words, unclear description, or unmatched purposes and materials. The result from the average score was 4.13 and the percentage was 83%. It meant that interactive CD of making garden categorized as very good quality. In the limited test, the media was tested to five students mutually. The students were chosen randomly consisting of the students with low intelligence level, and high, either the male or female with any background. The result of the average score categorized as good with 4.09 and the percentage of 82%. It showed that the media had a good quality.

The feedbacks from the students of UNJ in the limited test session were as follow: the music rhythm should be slower, more garden design for some locations, and bigger pictures. Meanwhile, the comments on the media, in general, were able to improve the learning motivation, good product, and easy to use for the students.

In the field test, this media was presented to 23 college students in the academic year of 2015/2016 who joined gardening course of Family Welfare Education 104. The field evaluation was the last stage of the formative evaluation. The situation was made as actual as possible. In the implementation, it was chosen 23 students with different characteristics, such as intelligence, background, gender, age, learning progress and so on. The average score was very good i.e. 3.8 while the percentage was

76%. It meant that this media had very good quality.

This Research and Development resulted Interactive CD for basic housekeeping for the students of culinary department, Universitas Negeri Jakarta. By having this basic competence, the students were expected to be able to make Garden. The materials, in this media, were the concept of the garden, the elements, the plant meaning, the plant functions, the plants categorization, the forms of tree canopy, the form of tree part, planting type, preparation, garden design, the stages of garden making and garden care. This media was operated using Macromedia Flash. However, the result of this study was tested to the students through CD with flash.

The advantage of this learning media, according to Niken and Dany (2010) consisted of (1) the user can have interaction the program. In this media, there were special menus that can be clicked by the user to display the information in the form of audio-visual or other features preferred by the user so that the students can interact directly with the computer, (2) improving knowledge in case of the concepts of the subject presented in the Interactive CD which was designed for user friendly, (3) interesting audio-visual display, especially it will be more attractive when it compared with the conventional media such as books or other two dimensional media. This is because the interaction system in this media cannot be found in the print media (books) as well as other electronic media (film, audio), (4) This program can be accessed for many times by clicking the computer set, (5) This media was made along with the information technology experts, (6) This media had been consulted with media experts and the user tester, (7) using the latest popular technology, i.e. web animation so it was widely supported by various parties, (8) This media had small file size but with good quality. The action script can create an animation using the code so it can reduce the file size, (9) The process of creating the design drawings and animation was using Flash

program resulting in excellent image quality, (10) The material in this interactive CD media was designed as simple as possible so it could help the students to practice the unfamiliar garden making. So, it was really needed by the students, (11) this media can be used repeatedly to make sure the students really master the materials.

The students became more enthusiastic and motivated because using the multimedia of interactive CD. In addition, the learning process was not conventional because the student independently interacted with computer. Therefore the benefit of this study was creating learning multimedia in the form of interactive CD for culinary department so the students received different and enjoyable learning experiences.

The more appropriate the interactive multimedia is, the better learning result will be achieved. The result of this study was in line with the Kalburan (2011) who revealed about the teachers' opinion on the use of interactive CD in educational program. The results showed that the implementation of CD-ROM was very helpful for the students' psychomotor and cognitive development as well as facilitating rapid students' comprehension on the learning materials. Fun learning would also affect the students' learning outcomes because the students became more active with the visual stimulus than the audio one. Another study conducted by Mahmudah and Mintohari (2013) showed that students learning activities improved when using multimedia and it also increased the learning outcomes. It was supported by Arianti and Aminin (2014) that the use of multimedia influenced the success of learning where the students grasp the information well. Arsyad (2002) agreed that the results of one's learning gained from the direct experience (concrete), the fact from environment, others life and then through the object imitation, into the verbal symbols (abstract), so it can affect the value of person's learning results.

CONCLUSION

Based on the review from the media expert, the total average score was categorized good i.e. 4.31. Meanwhile, from the material expert, the average score was categorized good i.e. 4.51. By having the above score, the percentage criteria was 90.28% and categorized as very good. It showed that the media of interactive CD of housekeeping course had good quality. Then, it was tested by two students for an individual test (one to one) and the average score was 4.13 with the percentage of 83%. In the limited test, the media of interactive CD was tested to five persons mutually and the average score categorized as good, i.e. 4.09. Meanwhile, the percentage score was 82%. It showed that this media had very good quality. In the field study, the total of average score was very good, i.e. 3.8. Meanwhile, the percentage score was 76%. It showed that the quality of interactive CD of housekeeping course was very good.

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