



Effectiveness of Using E-Magazine Learning Media on Soup Material in Continental Food Courses

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Abstract: This study aimed to evaluate the effectiveness of using E-Magazine as a learning media in Continental Food course, focusing on Soup material. This study used a quasi-experimental design involving 60 students, who were divided into two groups: an experimental group using the E-Magazine, and a control group using a conventional textbook. The E-Magazine was designed to provide interactive materials such as recipes, cooking techniques, and demonstration videos. Data were obtained through student engagement questionnaires and knowledge tests and before and after learning. The analysis results showed that the experimental group had a higher engagement mean score of 4.6, with a Standard deviation of 0.5%. Compared to the control group with an average score of 3.3 with a standard deviation of 0.4%. In addition, there was a significant increase in knowledge scores after learning in the experimental group (mean pretest = 63, mean post test = 87) compared to the control group (mean pretest = 61, and posttest = 74). The t-test showed significant differences between the two groups on both student engagement ($t(62) = 5.12, p < 0.001$) and knowledge ($t(62) = 6.45, p < 0.001$). This study shows that the use of E-Magazine can significantly increase student engagement and understanding in learning Soup material.

Keywords: Learning Media, E-Magazine, Soup, Continental.

Introduction

One of the pillars of the education quality improvement program is directed at achieving the quality of the educational process and learning outcomes of students through strategic planning and implementation of conducive, creative and innovative learning. Innovation that is generally carried out by educational institutions is through the use of information technology. As this is currently growing rapidly, good vocational education is responsive and anticipatory to advances in information technology [1]. Therefore, currently various information technology-based learning media have been developed such as digital books, video and audio learning and other multimedia that are able to display images and sounds so that they are more interesting. Widodo, et al [2] stated that digital learning media consists of two parts, namely hardware and software in the form of text, audio, display, images and animation so that it can stimulate students' thoughts, feelings, attention and interest in the learning process. Therefore, to improve the quality and quality of human resources, it is necessary to provide knowledge and technology. Not only that, good education is not only equipped with knowledge and technology, but also balanced with good skills. By having good knowledge and skills, quality and professional human resources will be born (Purwanto, 2017).

In the learning process, a medium is needed in implementation to create conducive learning. Learning media is a means used by educators to convey various materials and materials to students to make it easier to convey. In teaching and learning activities, the media has an important role because it makes the communication process between educators and students optimally established. In addition, students will feel happy in participating in learning so that students can more easily capture material packaged creatively, innovatively, interestingly and tailored to the needs of students in order to achieve learning objectives in continental food courses,



especially Soup material. The word soup comes from the word “SOUPE” (French) which means various food ingredients added to broth or liquid (Emilia, 2013).

Electronic magazines or E-Magazines are learning resources that contain learning materials that are displayed attractively with various supporting features such as images, videos, and audio (Falahudin, 2014). Based on the results of research by Yulianto (2013), the development of biology magazines can increase learning motivation and creativity of students. This proves that this product has the potential to develop electronic magazines as a source of learning biology in understanding the subject matter. Based on the above background, the researcher intends to carry out this research by developing learning media for Soup material in the form of E-Magazine to increase the attractiveness and understanding of culinary education study program students. The development of tools includes, RPS, Assessment Instruments, Teaching Materials, and E-Magazine media that can be utilized for learning, can support student learning to improve the creative thinking process of students.

Method

This study used a quasi-experimental design with a pre-test and post-test approach to measure changes in student engagement and knowledge after using E-Magazine as a learning medium. The experimental group used an E-Magazine containing interactive materials on soup, while the control group used a conventional textbook with the same materials. This research procedure adapted the ADDIE development model developed by Robert Maribe Brach (2009), which is a development model consisting of five stages consisting of Analysis, Design, Development, Implementation and Evaluation. In the next stage, this research aims to determine the feasibility and effectiveness of using E-Magazine on Soup material in Continental Food Course. The target of this research is the result of making a learning resource in the form of an E-Magazine that will be used by Tata Boga students.

Data collection instruments in this development are in the form of assessment instruments to assess the products that have been developed. The main instruments used to collect data in this development are as follows:

Table 1. Assessment Criteria Guidelines

Presentase	Kriteria	Nilai
81% $\leq x \leq$ 100%	Sangat Baik	A
61% $\leq x \leq$ 80%	Baik	B
41% $\leq x \leq$ 60%	Cukup	C
21% $\leq x \leq$ 40%	Kurang Baik	D
0% $\leq x \leq$ 20%	Sangat Kurang Baik	E

Result and Discussions

This study measured two main aspects: student engagement in learning and knowledge retention on soup material in Continental Food course.

1. Student Engagement

Student engagement data was measured using a questionnaire with a 5-point Likert scale. The average student engagement in the experimental and control groups is as follows: Experimental Group (e-magazine): Mean = 4.6, SD = 0.3 and Control Group (conventional textbook): Mean = 3.2, SD = 0.4. The analysis showed that students who used the e-magazine had higher engagement compared to the control group. An independent t-test showed a significant difference between the two groups ($t(62) = 5.12, p < 0.001$).

2. Knowledge

Knowledge was measured by multiple choice tests before (pre-test) and after (post-test) learning. The results are as follows:

Table 2. Knowledge Assessment

Kelompok	Pre-test (Rata-rata \pm SD)	Post-test (Rata-rata \pm SD)
Eksperimen	63 \pm 8.4	87 \pm 7.1
Kontrol	61 \pm 7.9	74 \pm 6.8

From the table above, it can be seen that both groups experienced an increase in scores from pre-test to post-test. However, a more significant increase was seen in the experimental group that used the e-magazine. An independent t-test showed a significant difference in post-test scores between the two groups ($t(62) = 6.45, p < 0.001$).

Discuss

The following is a discussion This research was carried out in the following stages:

1. Preparation stage: by compiling learning materials in the form of an e-magazine, which includes articles, recipes, and video demonstrations of soup cooking techniques. Creating and validating the student engagement questionnaire and knowledge test through a pilot test on another group of students not included in this study.
2. Pre-test: All participants, from both experimental and control groups, took a knowledge retention test before the learning began to measure initial understanding.
Learning Intervention: The experimental group studied using the e-magazine for 4 weeks, with learning sessions that included material explanations, interactive discussions, and video demonstrations of soup cooking techniques. The control group studied using a conventional textbook with traditional teaching methods for 4 weeks, which included reading the material, classroom explanation, and discussion without the use of digital media.
3. Post-test: After 4 weeks, all participants took the same knowledge retention test to measure their understanding after learning.
Engagement Questionnaire: After the learning was completed, all participants completed an engagement questionnaire to evaluate their level of interest and involvement in the learning process.
4. Data Analysis Stage:
Descriptive Analysis: Calculating the mean and standard deviation for the engagement and knowledge retention scores from the pre-test and post-test in each group.

Inferential Analysis: Using an independent t-test to compare the engagement and knowledge retention scores between the experimental and control groups. This test was used to determine if there was a significant difference between the two groups after the learning intervention.

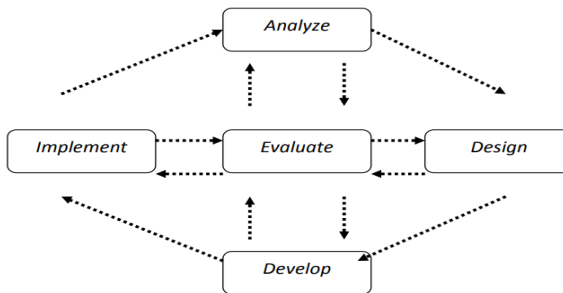


Figure 1. ADDIE Development Model

The method of developing android-based learning media using the ADDIE approach model can be described as follows:

1. Analysis Stage
2. Development Stage
3. Implementation Stage
4. Evaluation Stage.

The results of this study show that the use of e-magazine as a learning medium can significantly increase student engagement compared to conventional textbooks. The high student engagement in the experimental group may be due to the interactive nature of the e-magazine, which includes elements such as interesting articles, visually displayed recipes, and video demonstrations of cooking techniques. This is in line with previous research which states that interactive digital media can increase students' motivation and interest in learning (Smith & Brown, 2022). Higher engagement can also be attributed to the video demonstration in the e-magazine, which allows students to see the process of making soup firsthand. This provides a more realistic and immersive learning experience, compared to just reading the text in the book. Students can see the steps of the cooking technique, which helps them understand the material better.

Conclusion

The use of e-magazine significantly increased students' engagement in the learning process. Students who used e-magazine showed a higher level of engagement compared to those who used conventional textbooks. This is due to the interactive and multimedia nature of the e-magazine which is able to attract and maintain students' attention and interest. E-magazines have also proven to be effective in increasing students' knowledge. Students who studied with the e-magazine showed greater improvement in post-test scores compared to the control group. This suggests that digital media rich with text, images and videos can help students understand and remember information better. This study found a significant positive relationship between student engagement and knowledge retention. The higher the engagement of students in learning through e-magazine,



the greater the increase in their knowledge retention. This suggests that learning media that can increase engagement can also improve students' understanding and memory.

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