
EFFECTIVENESS OF MACROMEDIA FLASH TO IMPROVE CONTINENTAL FOOD LEARNING OUTCOMES

Ana Rahmi^{1*}, Fatma Tresno Ingtyas², Nuwairi Hilda³, Dina Ampera⁴, Siti Wahidah⁴

^{1,2,3,4}Department of Culinary Education, Universitas Negeri Medan, Indonesia

Correspondence

Email: anarahmi1963@unimed.ac.id, fatmatresno@unimed.ac.id, nuwairyhildalubis@gmail.com, dinaampera@unimed.ac.id, sitiwahidah@unimed.ac.id

ABSTRACT

This study aims to look at the effectiveness of Macromedia Flash in improving the learning outcomes of continental foods. This research is Research and, with procedures namely: Needs analysis; develop products; Validation and revision; Trials; Final product; Continental Food study results test. The subject of this study was students of Vocational High School (SMK) Negeri 8 Medan numbering 30 students. The data collection instrument used is to use questionnaires and tests.

Media expert validation results are average (88.56 %), and material expert validation with percentage (90.5%). Then conducted trials as many as 3 times treatment with results; the results of the first trial with a percentage (67.7%), then conducted a second trial with an average percentage result (80.33%), and the third trial obtained a large percentage result (90.17%), 3) effectiveness test at a percentage (90%), in this case seen an increase in learning outcomes (20.64%) and trials of teacher effectiveness with a percentage (91%) with excellent criteria. Thus, development. Macromedia Flash Media Development of continental food learning at Vocational High School (SMK) Negeri 8 Medan is considered effective and worthy to be used as a medium of continental food learning.

Keywords

Media Macromedia Flash 8, continental food, Vocational High School (SMK)

Introduction

Education is a very important aspect to be considered in order to produce a good quality of human resources, and education is closely related to teaching and learning activities, where in this process learning for students begins so as to eventually give birth to qualified human resources as the successor of the nation and country.

The conception of teacher learning activities dominates the time to teach and passive students listen to explanations or demonstrasi conducted by teachers. While in the learning activities of students as a facilitated learning subject. Learning problems, among others related to class management problems, learning procedures, learning models, innovative and specific teaching approaches and methods in accordance with the characteristics of the field of expertise, competency characteristics (subject specific pedagogy), as well as interactions in learning to

overcome student learning problems such as learning mistakes and misconceptions. Learning in Vocational High Schools (SMK) is implemented within the framework of the establishment of Student Competency Standards. Learning in vocational high schools (SMK) uses the paradigm outcome that is competence that must be mastered by students instead of learning that imposes what should be taught by a teacher.

The paradigm of learning in vocational secondary education, changed to a new paradigm that is learning that pays attention to demand driven, refers to the standards of competence that apply in the world of work or industry, implemented with a double system in schools and in industry or business, in the form of real activities. Competency learning is student-centered, so teachers as facilitators should have a pleasant personality, be able to create group dynamics together and control learning without harming participants. Able to design ways to facilitate

learning that can arouse, use the knowledge and skills of the participants themselves during the learning process. However, in its function, teachers who have not optimized the right learning media in the delivery of lessons in the classroom, through learning media, teaching and learning activities become fun and achieve effectiveness.

Learning Media is a means to improve learning activities. (Kustandi, Sutjipto, 2011). In addition, Learning media is a learning tool that serves to clarify the meaning of the message, so as to achieve learning goals better and perfectly. Samsudin et al (2019) education is something that is not done carelessly, but there are processes and objectives. Starting from a conscious effort and culminating in the process of forming attitudes to develop the intelligence and noble skills of learners according to their needs. According to Amiq (in Putri, et al; 2018), media can be packaged in the form of physical objects that then convey a message. Sadiman (2013) mentioned that there are four types of media that are often used during learning, namely games, illustration media, audio, and silent projection. By applying learning media through the application of technology can be one of the efforts in improving the results of students' skills.

The use of educational media aims to stimulate students' learning interest which in turn increases students' activeness in participating in learning activities. There are several reasons why educational media can increase students' learning activity, namely: (1) media designed based on students' learning objectives and circumstances, (2) media with various forms, types, and delivery strategies to make learning more interesting. In Continental learning, many things require clear visualization so that students can understand the steps of organizing and laying cutlery correctly, therefore appropriate media is needed to visualize it.

Learning media can teach the concepts of continental food management simply by combining visuals and audio animated, this is supported by the development of computer technology, especially in the field of software is increasing rapidly. The software that is very supportive in its application as a learning medium is Macromedia Flash. Macromedia Flash is an

application program that is widely used to create vector and bitmap animations for the purposes of website development, animated buttons, interactive menus, interactive form stuffing, screen servers and website creation or the creation of other web applications.

Productive learning in vocational high schools (SMK) that apply theory and practice and require reasoning, in this case students are required more knowledge and actively seek so as not only to understand the concept, especially therefore students are able to analyze and apply to continental food management. Meeting these demands, students need media materials that are cheap, effective, efficient, and affordable, can even be used outside of learning to be repeated. Macromedia flash media was developed with the hope that students are able to understand the linking and applying concepts of continental food knowledge, using reasoning so that students can learn independently, teachers only help guide and direct the material. Students are easier to organize learning materials according to their respective abilities to achieve a complete level and be declared competent. Therefore, Macromedia Flash was developed in continental learning as an interesting learning medium for students of class XI Boga Imelda Medan Tourism Vocational High School.

Literature Review

Macromedia Flash is a learning medium that can display or create animations and bitmaps that are very interesting such as creating animated logos, movies, games, interactive menus, and the creation of web applications and teaching devices. Macromedia Flash is equipped with action scripts so as to make presentations or teaching devices more varied and certainly more interesting than other learning media, of course this can help teachers in conveying the content of learning materials can be achieved well and optimally.

According to Djamarah & Zain (2010) that the media, which literally means "intermediary or introduction", so that the media is a vehicle for the distribution of information learned or the message of the dealer. Learning media editing according to Sanaky (2013) Learning media is a tool that

serves and is used to convey the message of learning. So it is concluded that learning media is a tool used to convey information about teachers or subject matter to students, so that students more easily understand the information or subject matter for students.

The benefits of learning media for students to be able to absorb the subject matter delivered by the teacher, increase students' motivation, increase the attention and spirit of students in learning activities and students are more happy that students are not easily bored and tired.

Learning activities are inseparable from the problems that affect the success of the process, among which are the difficulties of students in memorizing and understanding definitions, classifications and other theories that use foreign language terms. Therefore, innovation is needed in learning media to build students' interest and the spirit of following learning.

Continental Food subjects are productive subjects that must be taken and must be mastered by students of the Vocational Menegah School of gastronomy program. Students' absorption in learning is still likely to be low, this is indicated because of the low initial knowledge of students who should be ready with the concept of new knowledge to be learned. Most students do not understand the type of dishes in the material of preparing stock, soup and sauce that includes facts, concepts, principles, and procedures. Most students are less able to explore their learning abilities, which is possible because of the pattern of learning habits that provide more finished knowledge than finding their own or with guidance.

Understanding the concept of preparing stock, soup and sauce is still low, with indications that when given the problem of preparing stock, soup and sauce most students do not know how to compare and distinguish the types of soup, even when faced with the criteria of stock and soup results, students are still confused. The description above describes that the weak learning and learning outcomes prepare stock, soup and sauce of students due to several factors, namely the provision and utilization of learning resources has not been optimal, and the weak actuality of students in the learning process. Therefore, the

alternative solution to the problem is to provide and benefit from good and useful learning medi in the learning process that allows students to be more dominant and active in building their own knowledge in the appropriate learning environment, namely developing materials to prepare stock, soup and sauce.

Processing stock soup and sauce is one of the basic competencies of continental food subjects. Stock material, soup and sauce has many classifications or derivatives of each sub material. In addition, stock materials, soup and sauce use many foreign languages, so innovation is needed in learning media. Therefore with various learning difficulties students in learning to process stock, soup and sauce made a media that corresponds to the problem is macromedia flash. Macromedia flash is an interactive learning medium that means able to create animations (images, letters), button buttons, interactive menus, action scripts (action commands), practice questions in one.

Methods

This research uses Research and Development design, which is a research method to produce learning products that have been developed and have been tested for feasibility. Research and development products in the field of education in the form of learning models, learning media developed from macromedia flahs in continental food subjects with stock materials, soup and sauce.

Research and Development is carried out through several stages, and is an activity process that has the desired targets and results. According to Sugiono (2017) research and development steps are 1) analysis of needs to know potentials and problems, 2) data collection, 3) production of learning media, 4) validation of continental food knowledge materials, 5) material revisions, 6) product trials, 7) product revisions, 8) usage trials, 9) product revisions and 10) mass production.

The subject in this study is the learning media macromedia flash on continental food learners material processing stock, soup and sauce, on the competence of continental food knowledge, while the object is students vocational high school (SMK) State 8 Medan expertise Tata Boga.

Instruments in this study in the form of questionnaires that then Instrument validated by judgment experts.

Data of questionnaire dissemination results for product feasibility test (product validation) and analyzed using descriptive statistical analysis techniques. The analysis is intended with descriptive statistical techniques, i.e. researchers clearly describe the data acquisition. Then the results of the analysis were used to revise the learning media products developed by researchers. Analysis of data from the questionnaire, carried out the following steps: 1) Questionnaires that have been filled respondents, checked the completeness of the answer, 2) Anticipating statements by scoring according to the weights that have been determined before, 3) Making tabulation of data, 4) Calculating the percentage of each sub variable.

Results and Discussion

The research aims to see the effectiveness of Macromedia Flash in improving the learning outcomes of Continental Food with stock, soup and sauce materials. The media developed is stated to be worthy of use based on validation by material experts, media experts, and test results by students and teacher responses. In addition, tests were also conducted to find out the results of students' learning on continental food learning materials processing stock, soup and sauce.

Activities to identify needs are conducted by interviewing teachers and observations on the learning process. The results of observations and interviews are known that the limited teaching materials are the absence of interactive learning media on the material processing stock, soup and sauce so that there needs to be media as teaching materials and learning media for Tata Boga students. In the learning process, teachers in delivering materials are less than the maximum, because of limited media. While according to students, still difficulty in learning materials stock, soup and sauce. Macromedia Flash 8-based interactive media on processing stock, soup and sauce contains materials about ranging from understanding, function, classification, recipes, and equipped with exercise tests using stock

materials, soup and sauce. Continental food is a food that comes from a country that has a wide plain that is Europe, America and Australia consisting of Appetizer, Soup, Main Course, Dessert.



Figure 1. Appetizer, Soup, Main Course, Dessert.

Here is an explanation of each stage conducted in this research and development. This stage begins with observation at Imelda Medan Vocational High School by conducting an initial interview with teachers on needs analysis. In the next stage in doing is to make a plan to arrive at the purpose of research where the purpose of this research is to make products about learning media based on Macromedia Flash on materials processing stock, soup and sauce. Product development is a realization activity from the initial product of the media to the final product. The initial product development of macromedia Flash-based interactive defense media as a whole discussed about stock, soup and sauce.

The results of the analysis of the need obtained answers that from 3 teachers in the field of study (90%) answering requires learning media. Meanwhile, the needs data shared with 31 students (51%) expressed strongly agree if the continental food media has not been very popular. The collection of learning materials aims to make the presentation of the material, not deviate from the curriculum used. In continental subjects, on the basic competencies of stock, soup and sauce. The main materials taught in continental food subjects are stock, soup and sauce. The results of analysis by media experts and material experts on each aspect of the overall assessment are determined by the score, then analyzed to determine the feasibility of macromedia flash development. The percentage of media expert assessment results as follows on the aspects of

media display, efficiency aspects, and technical quality aspects, the effectiveness of media is summarized below;

Table 1: Average percentage results of assessment of Macromedia Flash media development patterns by media experts.

No.	Indicator	Average	criterion
1.	Display media aspects	91	Very Good
2.	Efficiency aspects	82	Good
3.	Technical quality aspects, the effectiveness of Macromedia Flash	90	Very Good
Average		86,67	Very Good

Based on the assessment of media experts said that the development of Mackomedia flasdul in continental subjects as a whole is very good and worth using in learning, but there are some suggestions and inputs to improve the feasibility of media products, namely: 1) Selection of images should be appropriate and interesting, 2) Need to add instructions for use of media, 3) In the reference menu, you should not use point 1 , 2, and 3 for the bibliography, 5) Customize the layout of the images, letters and arrangements on the media product should be revised.

Based on product validation through a series of trials with revisions that have been done, the development of interactive learning media design based on Macromedia Flash on materials processing stock, soup and sauce trials in 5 stages: (1) evaluation of media experts gave an assessment (88.56%) with excellent category (2) expert evaluation materials give an assessment (90.5%) with an excellent category (3) small group trials as many as 3 students gave a rating of 67.7% with a category of "good" (4) moderate group trials as many as 9 students gave an 80.33% assessment with a category of "good" and (5) large group trials of 31 students gave a rating of 90.17%. In addition, effectiveness tests were also conducted to determine the benefits of the media provided to teachers and students. Teachers gave assessments (91%) in the category is very good and students give a rating (90%) the category was

excellent and experienced a 20.64% increase in knowledge.

Table 2: Average percentage results of mediamacro flash development assessment by materials experts

No.	Indicators	Percentage (%)	criterion
1.	Aspects of the accuracy of learning	93	Very Good
2.	Aspects of Accuracy of Material	86	Very Good
Average		89,5	Very Good

The material expert assessment says that the overall development of mediamacro flash is excellent and worth using in the learning process but there are some suggestions and inputs to improve the feasibility of media products. The results of the analysis of small group trial data on each aspect of the overall assessment were determined from the average score in each category. The results of the study were then analyzed to determine the shortcomings of mediamacro flash products.

Table 3: Average percentage of continental mediamacro flash development response assessment results in small group trials

No.	Indicator	Average	Criteria
1.	Power Aspects Pull the Macromedia flash media for the category as a student's independent learning tool	61,33	Enough
2.	The aspect of the difficulty level of using macromedia flash as a learning media	62	Enough
3.	Macromedia flash display aspect	61,6	Enough
4.	Aspects of the benefits of Macromedia Flash	66	Enough
Average		63	Enough

The results of the assessment of the development of continental flash macromedia media show that the product developed is still within the criteria "sufficient" so that the development is continued in the group trials are being revised to 2.

Table 4: Average percentage of assessment of assessment responses to continental macromedia flash media development in medium group trials.

No.	Indicator	Average	Criteria
1.	Power aspects Pull Macromedia Flash media for continental subjects	76	Agree
2.	Aspects of the difficulty level of Macromedia Flash media usage	70,67	Agree
3.	Macromedia media display aspects Flash continental subjects	74,66	Agree
4.	Benefits of Macromedia Flash media	76,66	Agree
Average		74,49	Agree

The results of the assessment of continental media development as a whole are stated to be "agreed" and can be continued on field group trials. The results of data analysis on field group trials conducted on 31 students who were attending Continental lectures on each aspect of the assessment are outlined in table 5 below.

Table 5: Average results of response assessment to Macromedia Flash Continental media development in field group trials.

No.	Indicator	Average	Criteria
1.	Power aspects Pull Macromedia Flash media for continental subjects	90,67	strongly agree
2.	Aspects of the difficulty level of Macromedia Flash media usage	88,5	strongly agree
3.	Macromedia media display aspects Flash continental subjects	90	strongly agree

4.	Benefits of Macromedia Flash media	89	strongly agree
Average		90,01	strongly agree

The results of the assessment of the development of continental learning media in general the value of responses from students Strongly Agree so that it is not revised, this is seen from small group trials, medium group trials and large group trials have increased from the responses of students in figure 1 below.

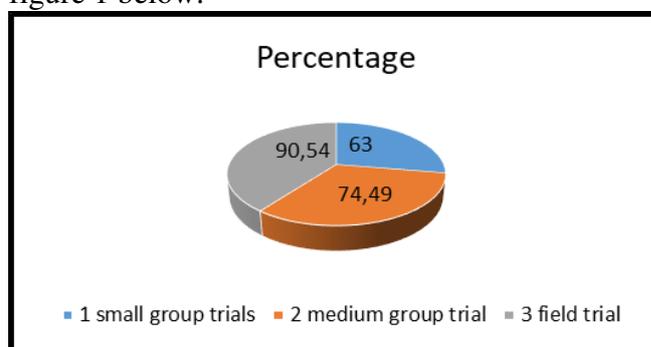


Figure 2. Group Test Percentage Results

The results of the analysis of effectiveness test data conducted to find out which products are made worthy or not used as a learning medium. Effectiveness tests are conducted on students and teachers of Continental Food lessons. Based on the results of the analysis of effectiveness test data students and teachers concluded Macromedia Flash for Continental Food lessons is effective in learning and teaching activities, so that students are motivated in learning. Eka's presentation (2009), everyteacher in the education unit is obliged to develop a complete and systematic learning plan so that the learning takes place interactively, inspiring, fun, challenging, and motivating students to actively participate, as well as provide sufficient space for initiative, creativity, and independence in accordance with the talents, interests, and physical and psychological development of students. Learning media is an integral part of the learning system. Many types of learning media can be used and should be based on proper selection. So as to enlarge the meaning and function in supporting the effectiveness and efficiency of the learning process.

Table 6. Revised data on media experts

No.	comment	repair suggestions
1.	The selection of images should be good.	The selection of the images is changed to make them more clearly visible.
2.	It is necessary to add media use instructions.	Added instructions for using macromedia flash for Continental food lessons.
3.	Use clearer image and text animations.	Modified animation to make it clearer and not confuse students
4.	In the reference menu, we recommend that you do not use points 1, 2, and 3 for the bibliography.	Modified using <i>bullets</i> .
5.	Customize the layout of images, letters and product setup of media learning media.	The layout of the images and writings was changed to make it clearer in the delivery of the material.

Table 7. Revised data on material experts

No.	Comment	repair suggestions
1.	Less clearly seen in the media results.	Display media output enlarged and additions to media color.
2.	Continental media is good but the letters on the media are too small, should be enlarged so that there is an opportunity for students to follow.	Added buttons on media applications and in the learning process give students the opportunity to work on patterns according to time.
3.	Before the media is applied to the continuous method, the analysis of the design is explained first.	Added design drawings and analysis narratives to media applications before the process.

In the development of this Macromedia flash, the material is on the competence to process stock, soup and sauce. The next stage of development produces an initial product in the form of Macromedia flash with material processing stock, soup and sauce. In media development, the outline of the media program serves to determine the title, objectives and main points of the material outlined in the media product. Macromedia flash development can be organized in several sequences as outlined in the flow chart, the order of presentation of learning materials starts from core competencies, basic competencies, indicators, objectives, tools and materials to process stock, soup and sauce, material from each sub-competency, namely material processing stock, soup and sauce, evaluation and summary. Based on the results of the data analysis conducted, it is stated that the media in Continental subjects is included in the good classification, which means that it is suitable for use as learning media. Eligibility in question is the media product has met the characteristics of interactive media. One of the characteristics of the media is self-instructional or independent learning, (Susilana and Riyana, 2009). This is because it is very supportive in realizing production and efficiency targets that must be met in the achievement of student competencies, which must meet the minimum completeness criteria so that the expected learning outcomes can be achieved to the maximum.

On the results of the validation by media experts, with an assessment of 88.56% that Macromedia Flash is feasible to use because the display of images, animations and sounds is good. Then the material expert gave an assessment of 90.5% that macromedia flash was suitable for use in continental learning, because the material displayed on the learning media was in accordance with the syllabus of the Imelda Medan Tourism vocational high school and the coverage of the material was also very adequate. As for the things that affect students' assessment of macromedia flash in continental learning, when a small class trial was carried out, it was seen that the criteria were lacking, this was then revised from various aspects ranging from; the feasibility

of the content and packaging of the media itself includes 1) a monotonous and unattractive background design so that the material written on the media is not clearly visible to students, then improvements are made to an attractive and appropriate background 2) space or distance between words on untidy material, so that the material on the media looks unbalanced, then it is necessary to make improvements to the writing of the material 3) inappropriate backsound for learning media because it can disturb students when receiving lessons, then the backsound is replaced according to the media, namely learning 4) lack of interactive buttons on the media that causes the media unattractive and interactive, then an interactive button was added to increase students' curiosity 5) animations that look plain and ordinary make students bored with the media, then it is necessary to add more varied animations and 6) writings that are too small and fonts that cause writing not noticed hat from a distance. Therefore, it is necessary to make improvements in the first trial according to the shortcomings when carrying out small class trials.

In the medium group trial the students gave an assessment of 80.33%, here there is an increase from the previous trial because there have been improvements based on shortcomings when conducting small class trials, but when conducting medium class trials there are also some shortcomings of the learning media, namely 1) the background is not good so that some parts of the material cannot be seen clearly by students, therefore it is necessary to improve the background.

Large group trial with an assessment result of 90.17%. Based on the results of student assessments that refer to the assessment as written by Ridwan (2012) the media is suitable for use without revision. If you look at the student's assessment starting from small, medium and large class trials, it has increased. This is influenced by the improvement of the media both from the material and the media. Media validation and material validation look at the learning media, then the validator provides assessments, comments and suggestions according to the shortcomings during the trial. improvements related to aspects contained in the validation sheet

starting from the content of the material, the use of the background, animation, backsound, the use of buttons, font size, typeface, use of color, image quality, clarity of instructions for use, use of interactive buttons, sound quality and the order of presentation that requires improvement so that the resulting product is really suitable for use for learning activities based on teacher and student assessments.

Conclusion

The results of this study were concluded: 1) At this stage it was concluded that the learning media Macromedia Flash 8 that was developed was included in the very good category and deserved to be produced as a learning media, 2) At this stage it was concluded that the interactive learning media based on Macromedia Flash 8 was developed effectively used as a learning medium for stock, soup and sauce processing materials in the Catering class at the Imelda Tourism Vocational High School Medan. Based on the results of student responses to the effectiveness test, an assessment with very good criteria was obtained and the teacher's response was considered very good. The result is that the interactive learning media based on Macromedia Flash 8 is feasible to be produced as a learning medium for the material for processing stock, soup and sauce in the Catering of Imelda Tourism Vocational High School Medan.

Acknowledgement

I would like to say thank you to the research place, university leaders and all the team who have supported this research.

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