Digital Flipbook in Preparation for Competency Test in the Field of Pastry

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ABSTRACT
The purpose of this research is to develop a flipbook-based e-modul based on mobile learning as an effort to increase knowledge for students in preparation for competency test. The aim of of this study were 1) analyze the needs of flipbook in an effort to increase student knowledge in preparation for competency test in the field of pastry, 2) to develop flipbook e-module, 3) to implement flipbook e-module based on mobile learning. This research procedure adapts the DDD-E development model, namely a development model consisting of five stages consisting of Decide (decision making), Design, Development, and Evaluating. In this study the instruments used consisted of material validation sheets for media and language. The research result is expected to be a solution to the learning problem faced by student by presenting educational media in the form of digital flipbook e-module based on mobile learning as an effort to prepare students for competency test in Pastry.

Keywords: *Digital flipbook, competency test on pastry, mobile learning*

1. INTRODUCTION

Since media is a source of learning, learning media can be generally understood as people, things, or events that help students learn new things. Any form of media can be used as a tool to transmit messages and meet learning objectives [1]. With the existence of learning media is one of the components in the learning process which is very necessary, given that the position of the media is not just a teaching aid, but more than an integral part in the process of learning activities [2].

Learning media besides being able to replace some of the educator's duties as a material presenter, the media also has unique potentials that can help students in learning. It is necessary to develop good and creative learning media so that it can increase the attractiveness of students to study history. Several alternative learning media that can be used in learning.

The world of education in the era of globalization is increasingly influenced by the development of information technology. The world of education is required to make adjustments to technological developments. This technological development influences efforts to improve the quality of education in the learning process. In achieving these goals, innovation in the field of education is needed. Development of learning innovations, namely: 1) module development, 2) learning model development, and 3) learning media. the percentage of learning media development is said to be still very lacking. Therefore, innovation in developing learning media is needed for daily life, one of which is using mobile-learning.

The speed at which technology is developing encourages the substitution of computers for printing in educational activities. A new term, electronic module, or what is known as an e-module, was created when the module, which was once a print learning medium, was presented in electronic form. Electronic modules, often known as e-modules, are educational tools that use computers to display text, graphics, images, audio, animation, and video as part of the learning process [3].

Digital books are publications consisting of text as well as images presented in softcopy or electronic form that are produced, published, and can be read via computers or other digital devices [4]. The same thing

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applies to the term e-book in printed books in the form of an electronic version (English Dictionary. e-book is an abbreviation of the word electronic book or electronic book which is a book that can be opened electronically via a computer or handheld device (Oxford dictionaries) The design display of digital books that are currently in great demand by the public is known as flipbooks, "flipbook pages can be opened by users as if they were reading a book on a monitor screen" [5]. Flipbook media is now widely used for learning media in the school environment.

Skill competencies that must be mastered by students of the Culinary Education study program as prospective Culinary Vocational School teachers, catering business managers and catering service entrepreneurs, one of which is in the Patiserie field. The scope of competency in the Patisserie certification scheme is to plan, process and serve the Pattiserie. This includes competency expertise in the field of food and beverage, various jobs to make Front Office, Housekeeping, Food and Beverage Service, and Food Production staff of hotels reliable and professional.

For students to learn practical skills in vocational education, they must possess cognitive, affective, and psychomotor competence. [6]; [7]; [8]; [9]. It takes time to achieve a balance between affective, cognitive, and psychomotor elements; therefore, learning activities that may develop both knowledge and skill proficiency are required. Understanding what is taught is the foundation of knowledge, and once a notion is understood, it may be applied to a wide range of circumstances. Students have demonstrated thorough understanding of a concept if they can correctly respond to all questions that are connected to it. [10]. Especially with the development of technology that has changed all aspects of human life including the world of education, it is necessary to innovate by teachers in order to increase students' motivation and interest in learning. Data shows the intensity of ICT use by teachers also shows an increase [11].

One of the competencies that students need to learn is the ability to manufacture pastry goods in the pastry course, yet there are still some students using this competency incorrectly in the lab. Students frequently encounter barriers or challenges when doing practicum in the lab as a result of practical lectures. Even though they had previously been explained in theory and provided recipes and jobsheets as a reference to carrying out practicums, they frequently make mistakes when manufacturing patisserie products. The researcher created a learning tool that can help students understand concepts and develop practical application skills as a solution to this issue. In response to these issues, the researchers carried out a study titled.

2. METHODS

This study aims to produce learning e-module flipbooks as preparation for competency tests in pastry. Villamil-Molina created a manufacturing technique for creating e-module flipbook material that comprises four stages: development, preproduction, production, and postproduction [12]. The e-module flipbook's product concept was put together by the authors throughout the development stage using preexisting concepts. At this step of the production process, the author chose to use literature analysis to gather information for creating e-module flipbook material. The author prepared for working on flipbook media items in the second stage. This step is crucial in the creation of flipbook media. The design process involves choosing the subject, coming up with a title, creating the e-module's outline or framework, creating the cover, and writing the book's manuscript with the addition of other media.

The flipbook creator application is then used to design the book text into an e-module and determine its output, including the format of the final output, the resolution of the visual appearance, the duration, and the number of pages. The third stage is when the flipbook e-module manufacturing process starts. This is when the created background media, media, and material content are combined. The completed dubbing process is then incorporated into the production of the flipbook e-module utilizing the Hayzen software. The fourth stage is testing, where the created e-module flipbook media product is placed.

3. RESULT AND DISCUSSION

The seven categories into which learning media are broken down are: (1) moving audio-visual media, (2) silent audio-visual, (3) semi-moving audio, (4) moving visual media, (5) silent visual, (6) audio media, and (7) print media [13].

According to Darmawan, mobile learning is an alternative to traditional classroom instruction that must be available anywhere, at any time. The use of smartphone-based mobile learning is primarily

controlled by android devices, controlling the smartphone market with 86.2%, ios as much as 12.9%, windows 0.6%, blackberry 0.1 and as much as 0.2% other operating systems, according to the idc (international data corporation) research institute's worldwide mobile phone tracker as published on www.tekno.kompas.com posting on August 18, 2016. Flipbook has been selected as the study's medium.

The media type used for this study is flipbook media, which refers to goods and services in digital computer-based systems that exhibit material such as text, animation, graphics, audio, and video in response to user inputs. "Digital books using three-dimensional (3D) e-book technology, known as flipbooks, where pages can be opened like reading a book on a monitor screen, are now in great demand by the public" [15]. The results of research by Ramdania indicated that "flipbook media can improve student learning outcomes" [16]. Students' desire for a more appealing and interactive appearance than printed books has an impact on this. E-book flipbooks, a new innovation in technology, offer a variety of opportunities to utilize digital books in science and distance learning [17].

Flipbook maker can make users feel like they are physically opening a book. Switching between pages can be done by touching and dragging the pages as a finger flips a book and the pages will be folded like folded paper. Apart from dragging, moving pages can also be done by using the available navigation buttons. Some of the advantages of the flipbook maker include being able to include various media such as images, videos, and audio, in digital books or e-modules which will be developed in a more varied media display so that the learning process is more interesting [18].

One of the culinary education study program courses at Universitas Pendidikan Indonesia, pastry, examines the production of pastry goods and how to use it to create a variety of pastries. This course focuses primarily on teaching students how to perform numerous practical tasks. As a result, the researcher created a flipbook-style learning resource for use in one of the students' pastry classes, providing media convenience that is simple to access and study.

This ability is one of the ones that students need to learn. Prior to doing practicum, students are typically given a job sheet, however occasionally students still don't comprehend the steps involved in carrying out practicum. Therefore, researchers create animation to help students learn concepts and become proficient in completing practicums.

The results of product development are educational media with flipbook covers presented in Figure 2.

Figure 2. Digital flipbook start page

Figure 2 displays the initial page of the flipbook which contains the identity of the title and author. We took one of the discussion materials contained in the pastry course which focused on Puff Pastry. The initial view in the application must be uniquely created. The learning media in the form of a flipbook that the author has developed consists of material summarized from various sources mixed into several parts including: a) the front cover of the flipbook (cover); b) Content list; c) introduction; d) core material, e) cover, f) references, and g) research team. Flipbook media added to this flipbook is the media presented in Figure 3.

Figure 3a.

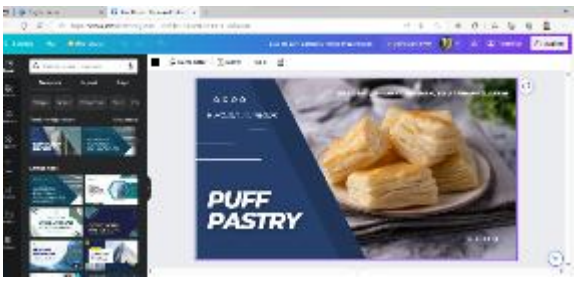

Figure 3b

Figure 3. Display of material development using the Canva website. (a) the process of preparing video material slides, (b) Display video material

Figures 3a and 3b are displays of material development using the Canva website. (a) the process of preparing material video slides. (b) Display of video material for part two about materials, tools, methods and techniques for making pastry products.

The development of flipbook learning media is packaged with content that contains an illustration related to pastry material (materials, tools, and methods and techniques for making pastry products, etc.). By including this animated media in the form of an animated video, the content is adjusted to the learning objectives to be attained from the learning process. Learning using video media allows for a more engaging and understandable content delivery. One benefit of using video to effectively and efficiently enhance a presentation or explanation [22].

The process of developing flipbook media through the flipbook maker application by first signing in to a personal account. After that, the next step is to create a new project by creating a new book. The image is presented in figure 4

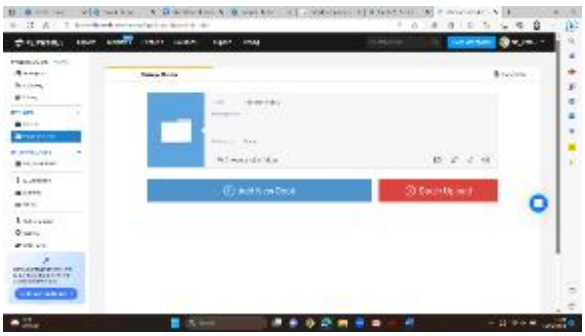

Figure 4. The process of signing in to a flipbook maker account

The next step is to upload the book file to be used as a flipbook e-module. Wait until the upload process reaches 100%. This step is presented in figure 5.

Figure 5. Display of the flipbook e-modul html editing process

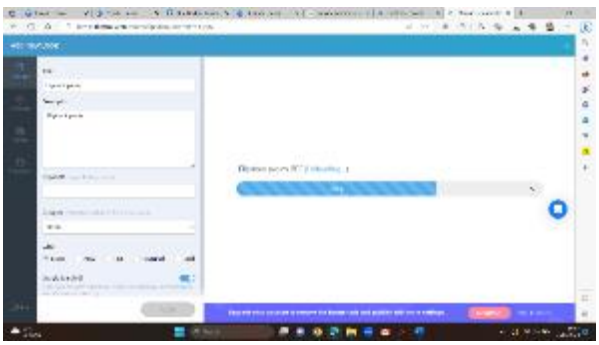

Figure 6. Process of uploading documents to be edited into flipbook form

The file has been uploaded successfully, the next step is to convert the file automatically by the application and produce a flipbook e-module that can be used.

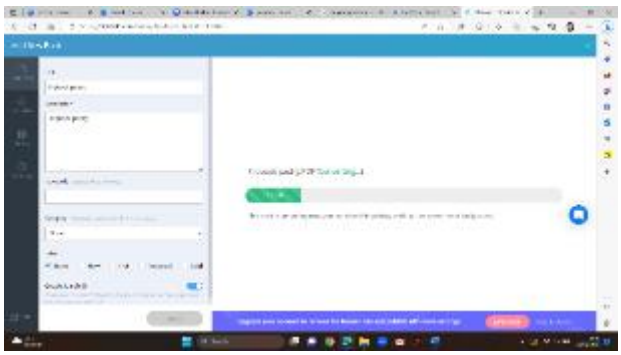

Figure 7. Process of convert html editing

Figure 9. Final view of the flipbook. Flipbook is ready to use

The evaluation stage is the final stage carried out in the development of digital flipbooks. The evaluation process is carried out by improving the digital flipbook for pastry according to expert advice during the product feasibility test. Editing is done to obtain the final product.

4. CONCLUSION

The design of digital flipbook media consists of the following stages: device determination, flowchart creation, material to be simulated, asset application creation, material preparation, and interactive media preparation. Flipbook digital media is presented in the flipbook e-module as one of the media in providing material in pastry learning. The results of the feasibility test by media experts and material experts stated that digital flipbook media was feasible so that it could be implemented for pastry learning as preparation for the competency test in pastry.

Students must possess certain knowledge and abilities in order to complete practicums, thus this digital flipbook pastry might serve as an inspiration for the teaching process—especially when it comes to practicum implementation. Flipbook learning can help students develop their skills and competences, so it is hoped that lecturers would use this medium in conjunction with engaging learning methods and in accordance with student characteristics. Learning must involve students as much as possible so that they are able to explore for build competence by digging various potentials. For this reason, the creativity of teachers is needed so that they are able to become tutors and learning partners for students. Creativity teacher can be done by making and developing learning media as well other visual aids that are useful for increasing the quality of learning [24]. By utilizing instructional video media in other learning environments, it is hoped that future researchers would be able to do additional research on other materials. According to Martins, Hoskins, Brooks, and Bennett, interactive multimedia module products produced in accordance with the ADDIE paradigm have been found to be beneficial and have the potential to enhance student learning outcomes. [26]. An educational program with the help of a learning media is one of the efforts that can be made to communities with selected participants. Media is used as an effort to increase (promotive) and prevention (preventive) is needed to increase public knowledge [27].

REFERENCE

[1] S.B. Djamarah, Belajar Mengajar, Jakarta: Rineka Cipta, 2010.

[2] I.A. Ainina, Pemanfaatan Media Audio Visual sebagai Sumber Pembelajaran Sejarah, Indonesia Journal Of History Education, 3(1), 2014.

[3] A. Nugraha, C.Z. Subarkah, & Sari, Penggunaan e-module pembelajaran pada konsep sifat koligatif larutan untuk mengembangkan literasi kimia siswa, Prosiding Simposium Nasional Inovasi dan Pembelajaran Sains, 2015, pp. 201-204.

[4] E. Andina, Buku Digital dan Pengaturannya, Aspirasi, 2(1), 2012, pp. 119-146.

[5] Riyanto, Lukman & Subagyo, Pengembangan Digital Library Local Content pekalongan Dalam Format Buku 3 Dimensi, Jurnal LIPI, 1(1), 2012, pp. 1-13.

[6] H. Rosina, V. Virgantina, V. Ayyash, and V. Dwiyanti, Vocational education curriculum: Between vocational education and industrial needs, ASEAN Journal of Science and Engineering Education, 1(2), 2021, pp. 105-110.

[7] M.N. Handayani, M. Ali, D. Wahyudin, and M. Mukhidin, Green skills understanding of agricultural vocational school teachers around West Java

Indonesia, Indonesian Journal of Science and Technology, 5(1), 2020, pp. 21-30.

[8] A. Ana, Trends in expert system development: A practicum content analysis in vocational education for over grow pandemic learning problems, Indonesian Journal of Science and Technology, 5(2), 2020, pp. 246-260.

[9] H. Al-Najar and B.E. Hamarneh, The effect of education level on accepting the reuse of treated effluent in irrigation, Indonesian Journal of Science and Technology, 4(1), 2019, pp. 28-38.

[10] Tongchai et al., Consistency of students' conceptions of wave propagation: Findings from a conceptual survey in mechanical waves, Phys. Rev. St Phys. Educ. Res. 7, 2011, p. 020101.

[11] Sudiran, Students' Perception towards the Use of Internet as Learning Media to Promote Reading Comprehension Skill, Sino-US English Teaching, 12, 2015, pp. 684-692.

[12] J. Villamil-Casanova and L. Molina, Multimedia: Production, Planning, and Delivery. UK: Pearson, 1997.

[13] Z. Arifin dan A. Setiyawan, Pengembangan Pembelajaran Aktif dengan ICT, Yogyakarta: Skripta Media Kreatif, 2012.

[14] D. Darmawan, Peningkatan Aksesibilitas "3 M-Mobile Learning" sebagai Layanan Pendidikan. MIMBAR, 30(1), 2013, pp. 28-41.

[15] Riyanto, Lukman & Subagyo, Pengembangan digital library local content pekalongan dalam format buku 3 dimensi, Jurnal LIPI 1(1), 2012, pp. 1-13.

[16] D.R. Ramdania, H. Sutarno, & Waslaluddin, Penggunaan Media Flash Flipbook Dalam Pembelajaran Teknologi Informasi Dan Komunikasi untuk meningkatkan Hasil Belajar Siswa, Jurnal Pendidikan, 1(1), 2007, pp. 1-6.

[17] Gorghiu, The electronic book - a modern instrument used in teachers' training process, Procedia Computer Science, 3 (2011), 2011, pp. 563-567.

[18] R. Linda, S. Sulistya, & T.P. Putra, Interactive E-Module Development through Chemistry Magazine on Kvisoft Flipbook Maker Application for Chemistry Learning in Second Semester at Second Grade Senior High School, Journal of Science Learning, 2(1), 2018, pp. 21-25.

[19] S.M. Asyifa, Pengembangan Video Pembelajaran untuk Mengembangkan Kemampuan Pemahaman Konsep Matematis Siswa Sekolah Dasar. (Doctoral Dissertation), Serang: Universitas Sultan Ageng Tirtayasa, 2018.

[20] A. Arsyad, Media Pembelajaran, Jakarta: Raja Grafindo Persada, 2007.

[21] Anonymous, Media Pembelajaran. Jakarta: Departemen Pendidikan Nasional Direktorat Jenderal Pendidikan Dasar dan Menengah Direktorat Tenaga Kependidikan, 2003.

[22] Munir, Multimedia Konsep dan Aplikasi dalam Pendidikan. Bandung: CV Alfabeta, 2015.

[23] Z. Morsy, Preface. In Z. Morsy (Ed.) Media education, 1984.

[24] E. Mulyasa, Pengembangan dan Implementasi Kurikulum 2013, Bandung: PT Remaja Rosda Karya, 2016.

[25] B. Warsita, Mobile Learning Sebagai Model Pembelajaran Yang Efektif dan Inovatif. Jurnal Teknodik, 14(1), 2018, pp. 62–73. DOI: https://doi.org/10.32550/teknodik.v14i1.452

[26] F. Martin, O.J. Hoskins, R. Brooks, & T. Bennet, Development of an interactive multimedia instructional module, The Journal of Applied Instructional Design, 3(3), 2013, pp. 5-18.

[27] N. Lestari, C. Yulia, S. Subekti, & M. Muktiarni, Pengembangan Media Edukasi Interaktif Berbasis Flipbook Maker dalam Upaya Pencegahan Stunting, Jurnal Pendidikan Teknologi Informasi dan Vokasional, 5(1), 2023, pp. 126-135.

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