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Development of Volleyball Learning Practice Media Based on Kvisoft Flipbook Maker

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Abstract:

The problem in this study arose with a transition in learning, which was previously all face-to-face on campus, but now comprises entirely blended learning for practical courses at the Department of Sports Education, Faculty of Sports Science, Universitas Negeri Padang. Problems in the field were discovered as a result of the change in the learning process, specifically the lack of information technology-based practicum media for volleyball courses which are mandatory for students in the Department of Sports Education. The competencies of this course are that students must have volleyball knowledge and skills as well as the ability to teach volleyball techniques to students later in the field. This volleyball course is a hands-on experience that must be completed through blended learning. Therefore, it is necessary to create a Kvisoft flipbook maker-based volleyball learning practicum media as it will be an effective and efficient blended learning resource. The method of research used is R&D. Problem identification, initial data collection, planning, product draft development, initial field trials, revising test results, field trials, product improvement from field tests, field implementation tests, final product improvements, and dissemination and implementation of the developed product are the stages in the research. During the product validation stage, two experts are employed: media and material experts. Furthermore, respondents were students who used the product in the form of an e-module. The results of the research show that the assessment results are "valid" and the assessment categories are "feasible" and "very feasible", indicating that the research product in the form of volleyball e-modules is eligible as a volleyball learning platform for students. The novelty of this research is that it is the first time that learning media for volleyball in the physical health and recreation education study program is technology-based so that it can be used in blended learning.

Keywords: media, volleyball, Kvisoft flipbook maker.

基于科维软件翻页书制作工具的排球学习练习媒体开发

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摘要:

这项研究的问题是随着学习的转变而出现的，以前都是在校园内面对面进行学习，但现在完全由巴东大学体育科学学院体育教育系的实践课程混合学习。由于学习过程的变化，人们发现了该领域的问题，特别是体育教育系学生必修的排球课程缺乏基于信息技术的实习媒体。本课程的能力是学生必须具备排球知识和技能，以及以后在该领域向学生教授排球技术的能力。本排球课程是一种实践经验，必须通过混合学习来完成。因此，有必要创建一个基于科维软件翻页书制作器的排球学习实习媒体，因为它将是一种有效且高效的混合学习资源。使用的研究方法是研发。问题识别、初始数据收集、规划、产品草案开发、初始现场试验、修改测试结果、现场试验、现场测试的产品改进、现场实施测试、最终产品改进以及开发产品的传播和实施阶段这个调查。在产品验证阶段，聘请了两名专家：媒体专家和材料专家。此外，受访者是电子模块形式使用该产品的学生。研究结果显示，评估结果“有效”，评估类别为“可行”和“非常可行”，表明排球电子模块形式的研究产品符合作为学生排球学习平台的资格。本研究的新颖之处在于，首次将身体健康和娱乐教育研究项目中的排球学习媒体以技术为基础，从而可以用于混合学习。

关键词: 媒体、排球、科维软件翻页书制作工具。

1. Introduction

Following the curriculum objectives of volleyball courses prepared by the course teaching team, students must be able to master and be proficient in performing basic volleyball techniques, as well as be able to teach basic volleyball techniques to students later in the field in a systematic and effective manner. Someone will possess volleyball techniques if they exercise regularly to automate movement in each of these techniques. The main goal of each sport according to (Eylen et al., 2017) is to develop the physical activities required for each sport in a sustainable manner. There is a necessity for a modern pedagogical approach to achieve optimum mobility from the practice of skills teaching (Soytürk, 2019). (Anggraini, 2014). The psychomotor development of volleyball technique motions requires the attainment of physical strength through practice (Yusmar, 2017). Based on the author's experience in the last two semesters and discussions related to the learning process with the volleyball teaching team consisting of five lecturers, there are no learning media for digital-based volleyball courses. Based on the number of students taking volleyball courses in the January-June 2021 semester, as many as 300 students, only 75 graduated purely on skills, and in the July-December 2021 semester, 300 students, only 85 graduated with the highest grade based on the results of the volleyball skills test.

Considering the issues encountered, lecturers must innovate by implementing the latest technologies in compliance with the current era, notably the industrial revolution 4.0. Effective learning media suitable to the characteristics of students is a prerequisite for effective learning (Lamatenggo and Uno, 2010; Putro & Lumintuarsa, 2013). In this case, the innovation will be in the form of technology-based learning media, specifically Kvisoft Flipbook Maker-based learning media that can be accessed using a computer and installed on Android. This flipbook maker is one of the software that can create and convert pdf files, photos, and videos into a physical album that looks like a book and is more appealing, increasing students' interest in

learning and reading the e-module (Anderson & Davidson, 2007; Wihidayat, 2017; Sari et al., 2019; Louk & Sukoco, 2016; Basrul et al., 2021). The goal of this research is to develop a valid technology-based volleyball learning medium to optimize student learning outcomes. In addition, the practicalities and effectiveness of technology-based volleyball learning media to improve student learning outcomes will be evaluated. The significance of this research is based on the rector's circulars for lectures, as well as the leading research themes and topics developed at UNP in 2020-2024, namely the field of digital learning services with the theme of media and learning resources at ERI (Industrial Revolution Era) 4.0, and consequently, the leading research topics are in accordance with the policy for blended learning volleyball courses, the authors choose distance learning media and technology. The availability of technology-based practicum media used for blended learning in support of the UNP Higher Education strategic research plan is a contribution to science.

Kosasih (2014) defines media as "anything that utilizable to channel messages from the sender to the recipient in a way that evokes the thoughts, feelings, concerns and interests of students to increase the effectiveness of the learning process." According to Rahayu (2013), the role of media in learning is as crucial as educators themselves. There are several tendencies among educational technology experts to design a learning system without educators because they will be replaced by learning media, one of which is computer-assisted learning. One option for developing innovative learning is to incorporate technology through mobile learning (Negara et al., 2019). (Paskah et al., 2019). Then, Louk & Sukoco (2016) added that media in the learning process tend to be interpreted as an electronic graphic tool for processing, capturing, and visually rearranging information. According to Sugiyanto (2013), the following are the functions of learning media: (1) The function of attention implies that visual media is the core, particularly attracting and directing students' attention to make the students

concentrate on teaching materials related to the visual meaning displayed so that students will obtain knowledge and increase student motivation to do exercises for volleyball technique skills improvement. (2) Cognitive function means that the teaching materials will be displayed as visuals and images to assist students in comprehending and remembering the information or messages encapsulated in the pictures provided in the media. (3) Affective function means that visual media can be valued from the level of enjoyment of students when learning and reading texts so that pictures and videos can stimulate students' emotions and attitudes.

E-Module is a method of presenting self-study materials that are systematically organized into specific learning units that are presented in electronic form, where every learning activity in it is connected by links as navigation that makes students interact with programs that include video tutorials, animations, and presentations to maximize the student's learning experience. This E-Module also has the following characteristics: (1) Self-instructional means that students can teach themselves and do not need to rely on others; (2) Self-contained means that all learning material from a single competency unit is contained in a single complete module; (3) Stand-alone means that the developed module does not rely on or must be used in conjunction with other media; (4) Adaptive means that the module should be highly adaptable to developments in science and technology; (5) User-friendly means that the module should also adhere to the rules of friendliness and familiarity with its use; (6) Maintain consistency in fonts, spacing, and layout; (7) Distributed via computer-based electronic media; (8) Using various functions of electronic media to create multimedia content; (9) Make utilization of the various features provided by software applications; (10) The necessity to thoughtfully design while accounting for the learning principles.

The Kvisoft flipbook maker, according to Mulya (2017), is an application used to convert the display of books or other teaching materials into an electronic or digital version. Kvisoft Flipbook Maker is software that converts books or other teaching materials into a digital electronic book in the form of a flipbook. The software can be downloaded or accessed for free via the internet. Kvisoft Flipbook Maker is a powerful software that converts PDF files to flip-flop digital publications. This useful software can change the appearance of PDF files to emulate the aspects of a book. In addition, Kvisoft Flipbook Maker can produce PDF files in the form of a magazine, digital magazine, flipbook, company catalog, digital catalog, and others (Sugiyanto, 2013).

It is possible to add image files, pdf files, SWF files, and video files in FLV and MP4 formats to the Kvisoft flipbook maker. This software output is accessible in HTML, EXE, ZIP or APP format. The HTML format allows the user to upload the content to a website for online viewing, while an EXE file is for CD transfer. The output in ZIP format is for a quick email, and the output in the form of an APP is suitable for iPhone, Tablet, iPad, and Android devices (Dewa Gede Hendra

Divayana, 2018). Because the available tools are simple, convenient, and easy to understand, the Kvisoft flipbook maker application is simple for both beginners and experienced users. The features of Kvisoft Flipbook Maker are also quite comprehensive and constantly updated (Yuberti, 2016). On the main page of the Kvisoft flipbook maker, each tool and facility has the following information: (1) Add file, which allows you to insert files with.pdf or .fb extensions into the worksheet; (2) Page edit has a function to edit project pages; (3) Design as a tool for selecting templates and layouts; (4) Publish, is the process of converting a .pdf file to another extension, such as HTML, EXE, or wallpaper; (5) Import performs nearly the same function as add file since it allows you to insert a file page into worksheet; (6) Delete acts as a page eraser and deletes imported files.

2. Materials and Methods

Since the research method used is a development model with a procedural model, this development research is descriptive in nature, demonstrating the steps that must be taken to produce a product. The development model serves as the foundation for creating products such as procedural, conceptual, and theoretical models. The procedural model is a descriptive model that shows the steps required to create a product. The conceptual model is an analytical model that mentions the product components, analyzes them thoroughly, and depicts the relationship between the components to be developed. A theoretical model is a framework of thought that is based on relevant theories and supported by empirical data (Emzir, 2013). There are various development models in development research (R&D), such as the Borg & Gall development model, Sadiman development model, ADDIE development model, Sugiyono development model, Dick and Carey development model, 4D development model, and Pustekom Depdiknas development model. The following are some models for research and development (R&D). Furthermore, Sugiyono (2015) states that the research method used is the research and development approach, which implies that research is used to create a product by testing its effectiveness. The following is the procedure for this development research:

1. The potential and problem stage denotes that it will look for initial sources in the form of the main learning problems.

2. Data collection entails analyzing the product to be manufactured to determine how important the product is in overcoming problems encountered in the field, which can be accomplished through the use of questionnaires and observations.

3. Product design signifies that the researcher will create a product design based on the potential problems discovered at this stage.

4. Design validation involves a feasibility assessment by a reviewer or an evaluation from a material expert of the developed product.

5. Product adjustment implies making changes based on suggestions and input from experts based on

the results of the expert validation.

6. Product testing is used to obtain various corrections or inputs about the final product.

7. The product revision signifies revising the product based on input data obtained from product trial results.

8. The usage trial indicates that the trial is intended to obtain feedback and input on a previously revised product.

9. Product revision means that the input data is used to revise the product based on the results of the usage trial, which is the final revision of the assessment process stage.

10. The final product indicates that there will be no further revisions and that the product can be used for blended learning classes.

The questionnaires, observations, interviews, cognitive ability tests, and volleyball skills tests were used to collect data for this study. The activities carried out are as follows: (1) requirement analysis to obtain all data from the lecturers of volleyball teaching team to develop the technology-based learning media based on needs, (2) material analysis to determine the implementation of the technique of passing down, passing up, serving down, serving up, smash and block, (3) A literature review was conducted in order to determine and develop the forms of implementation exercises for the underhand pass, overhand pass, underhand serve, overhand serve, smash, and block techniques. Furthermore, during the development stage, self-evaluation, expert validation, small one-on-one group, and field testing are carried out. During the assessment stage, the effectiveness of volleyball lectures and the effectiveness of volleyball learning outcomes, which include cognitive abilities and volleyball technical skills of students after using technology-based learning media, were examined. The population in this study consisted of 70 students who took volleyball courses during the semester of July to December 2022, namely three segments of volleyball courses. While sampling with a saturated sampling technique means that the entire population is sampled, the total number of samples is 70. Techniques In this e-module development research, three types of data collection techniques are used: interviews, documentation, and questionnaires. This study employs a qualitative descriptive analysis technique to describe the product development results in the form of e-module teaching materials created with the Kvisoft flipbook maker application. The experimental instrument data were analyzed using qualitative descriptive statistics.

3. Results

The following are the data on the outcomes of each stage of the conducted research and development procedures.

3.1. Potential and Problems

This research potential is to create learning media in the form of e-modules using the Kvisoft flipbook maker application. This study was conducted in the Physical

Education, Health and Recreation Study Program, Faculty of Sports Science, which is one of the qualified Study Programs in terms of its facilities and infrastructure for offline classes. However, the learning media for volleyball courses is still unavailable for online classes. In this study, the problem was identified by conducting a requirement analysis in the Physical Education, Health, and Recreation Study Program, Faculty of Sports Science, which included interviews with the volleyball course teaching team, direct observations in the field, and direct experience from researchers. The results of interviews and observations by researchers revealed a fundamental issue, the lack of electronic-based learning modules for volleyball courses. The existing problems encourage researchers to develop e-module teaching materials using the Kvisoft flipbook maker app.

3.2. Data Collection

After completion of the potential and problem processes, the next stage is a data collection. Data collection is critical for understanding student needs for developed products through research and development. In the first stage, data were gathered through discussions with course lecturers and students taking volleyball courses. The next step is to gather reference sources such as physical education journals related to the development of e-module media using the Kvisoft flipbook maker, volleyball semester learning plans, and other research-related sources.

3.3. Product Design

The next step after requirement analysis is product design. Several tasks are completed during the product design stage of e-module media development with the Kvisoft flipbook maker application. Preparing a semester lesson plan, compiling volleyball learning materials, making narrations of training forms for volleyball techniques, and filming videos of volleyball training forms are all steps in creating the design of this e-module product. The front and back covers, the e-module development team page, the introduction, and the table of contents comprise the e-module development product design. The e-module consists of learning activity materials, summaries, and formative tests for student assignments on the material presented, and exercise videos.

3.4. Design Validation

The research and development of the designed e-module are then validated early on by the validator divided into two validators, material and media experts. The following criteria are used to determine expert subjects: (1) experience in their field, (2) minimum education of master's degree. A Likert scale was used in the validation instrument. The following are the results of expert and practitioner validation.

3.4.1. Material Expert Validation Results

Material expert validation tests the completeness, accuracy, and systematics of the material. Two lecturers who teach volleyball courses make up the validators

who become material experts. The Table 1 summarizes the findings of material validation data.

Table 1. Material expert validation results

No.	Analysis	Validator	
		1	2
1	Σ Score	50	55
	Mean	3,40	3,49
	Mean Total	3,45	
	Percentage	85,60%	
	Criteria	Excellent	

3.4.2. Media Expert Validation Results

The goal of media expert validation is to put an e-module presentation with the Kvisoft flipbook maker application to the test. One lecturer in multimedia technology was the validator who became a media

expert. Table 2 shows the results of media validation data:

Table 2. Media expert validation results

No.	Analysis	Validator	
		1	2
1	Σ Score	59	56
	Mean	3,69	3,50
	Mean Total	3,59	
	Percentage	89,84%	
	Criteria	Good	

Media experts were evaluated using a rating scale of 01.00 - 50.00 = disagree, 50.1 - 70.00 = less valid, 70.01 - 85.00 = quite valid, and 85.01 - 100 = Very Valid. Table 3 illustrates this point more clearly:

Table 3. Media experts evaluation

No.	Assessment Indicators	Score %	Category	Test Decision
1	Self Instruction Aspect	85%	Very Valid	Feasible without revision
2	Self Contained Aspect	90%	Very Valid	Feasible without revision
3	Self Stand Alone Aspect	89%	Very Valid	Feasible without revision
4	Adaptive Aspect	60%	Very Valid	Feasible with slight revision
5	User Friendly Aspect	99%	Very Valid	Feasible without revision
	Average Percentage	84,6%		
	Validity Test Criteria	Quite Valid		Feasible without revision

3.5. Design Revision

After the product design was validated through the assessment of material and media experts, the researchers revised the developed product design based on input from these experts.

3.6. Product Trial

The product is tested after it has been revised and validated by material and media experts. The purpose of this trial is to see how students react to the volleyball e-module using the Kvisoft flipbook maker application.

3.7. Product Revision

After a trial was conducted to determine the

attractiveness of the volleyball e-module using the Kvisof Flipbook Maker application, the product was said to have a very high attractiveness, so there was no need to re-test. Furthermore, e-modules can be used as a learning resource for students taking volleyball courses in the July – December semester of 2022.

3.8. Product Usage Trial

The data from this product's trial results aims to test the initial feasibility of practicum media in the form of e-modules for volleyball learning by taking student respondents who take volleyball courses in July - December 2022 semester with a trial sample of 40 people. The following table summarizes the test results.

Table 4. Small-scale product trial results

No.	Assessment Aspects	Maximum Score	Score %	Media Feasibility Category
1	Product Eligibility	25	93%	Very Feasible/Very Attractive/Very Good
2	Product Language	45	84%	Very Feasible/Very Attractive/Very Good
3	Product Benefits	35	80%	Very Feasible/Very Attractive/Very Good
4	Product Graphics	20	80%	Very Feasible/Very Attractive/Very Good
	Total	125		
	Percentage	84%		
	Product Feasibility Criteria	Very Feasible/Very Attractive/Very Good		

3.9. Final Product

The final product indicates that there will be no further revisions and that the product can be used in the blended learning process. The following image depicts

the product results in the form of a volleyball e-module:

1) A volleyball e-module cover is a cover design to attract readers that consists of module title, author identity, image, and institutional identity (Figure 1).

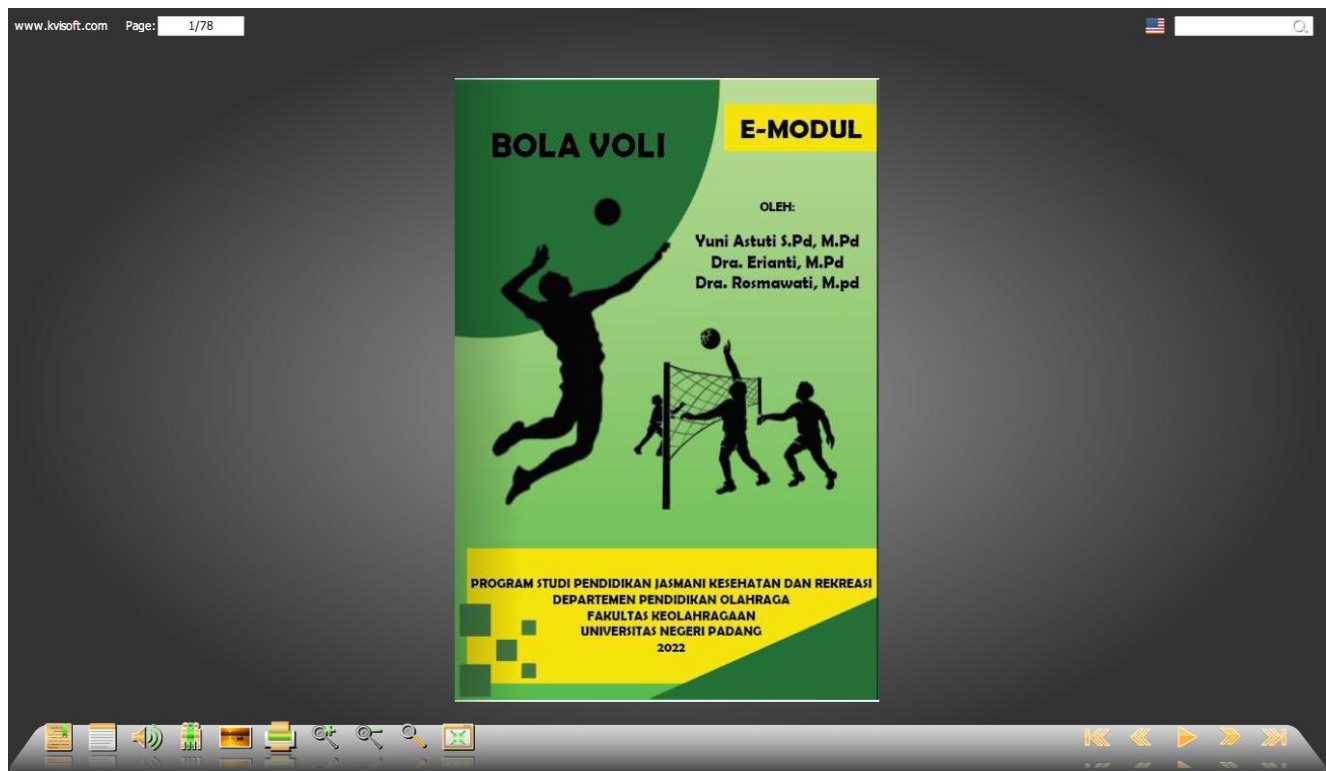


Figure 1. E-module cover

2) An introduction is a sentence that leads the reader to the contents of the e-module, and a table of contents

makes it easier for readers to see the entire volleyball e-module (Figure 2).

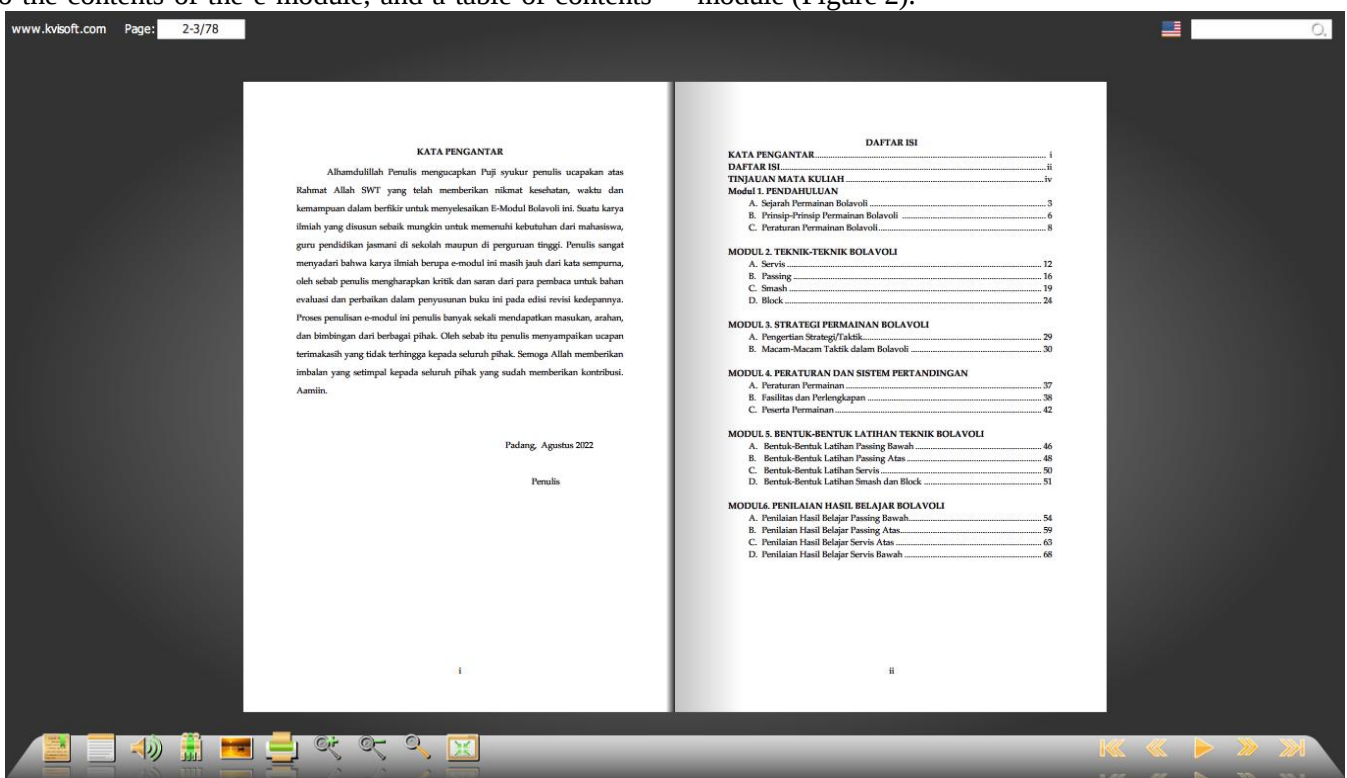


Figure 2. Introduction and table of contents

3) Learning materials for volleyball courses consist of the title of the material and a description of

the material (Figure 3).

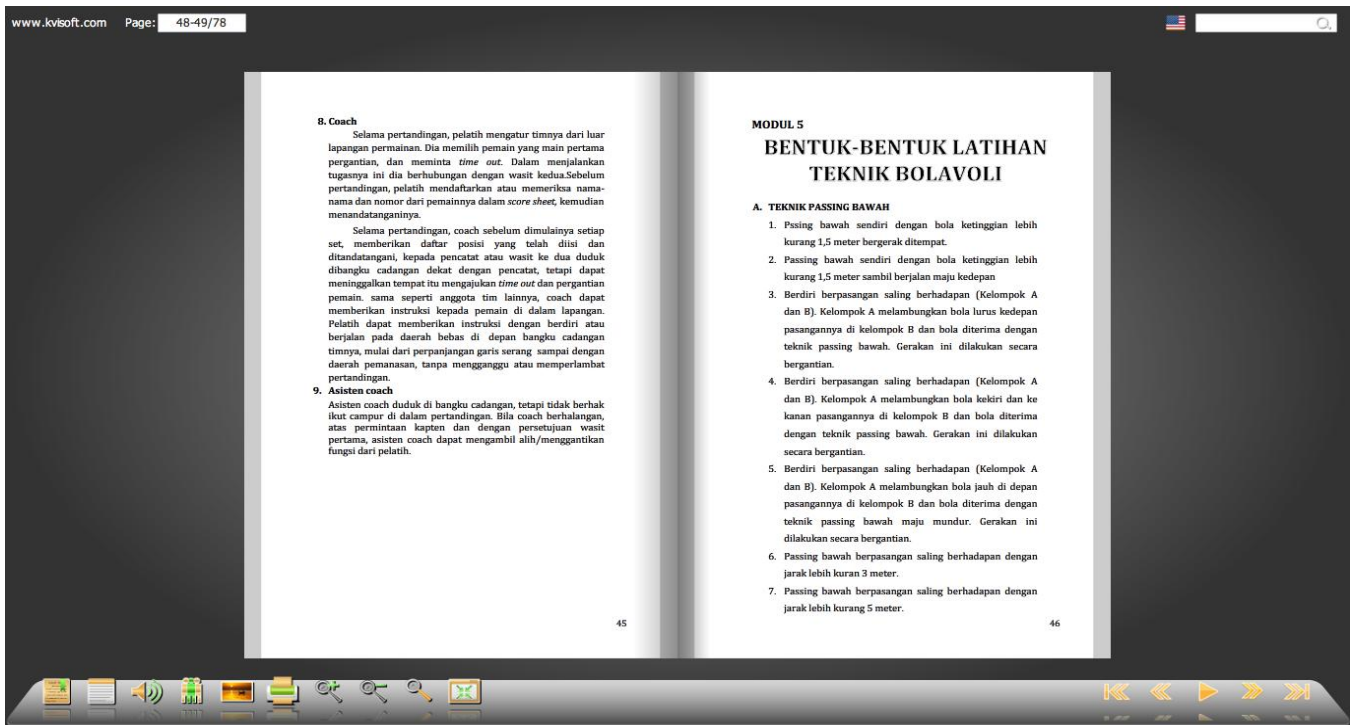


Figure 3. Learning materials

4) Videos of volleyball training form according to the material listed at the requirements analysis stage (Figure 4).

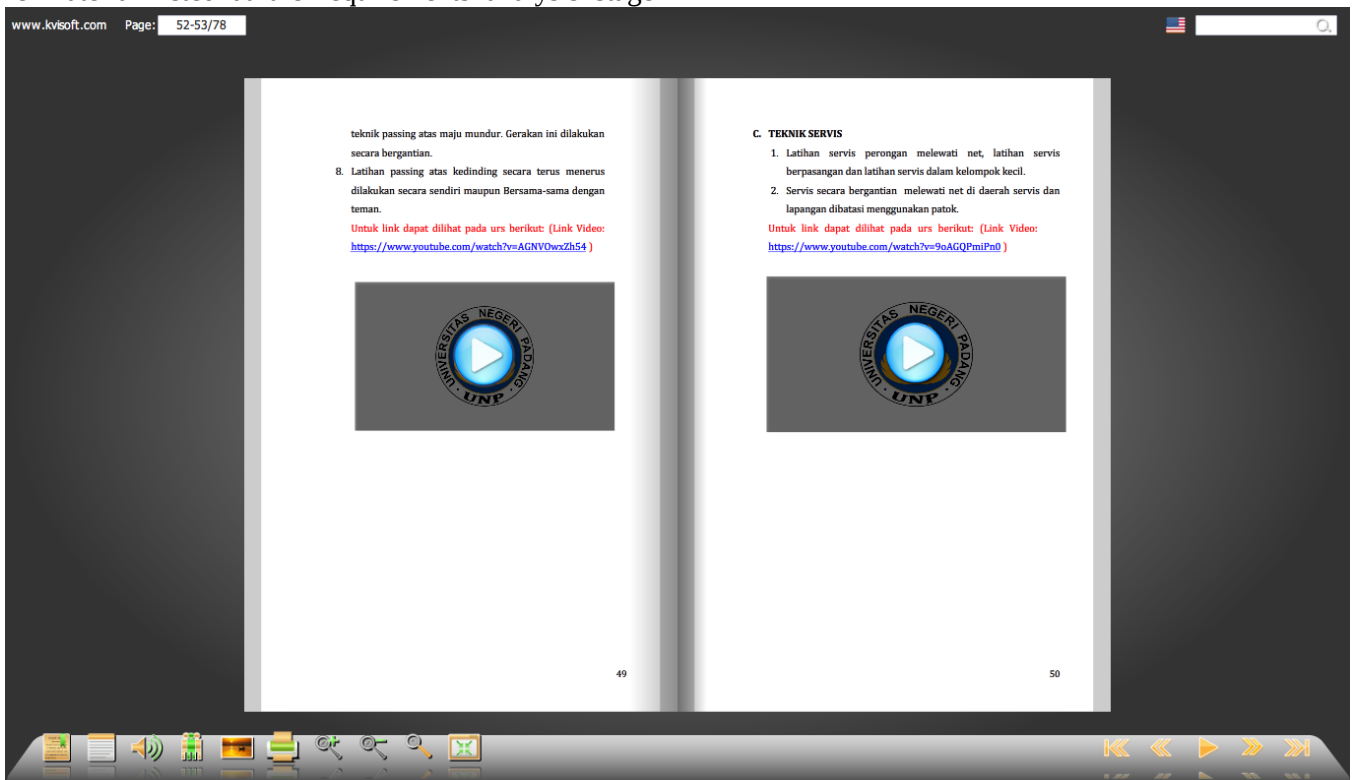


Figure 4. Training forms videos

5) The references inform readers of the sources used in the e-module creation (Figure 5).

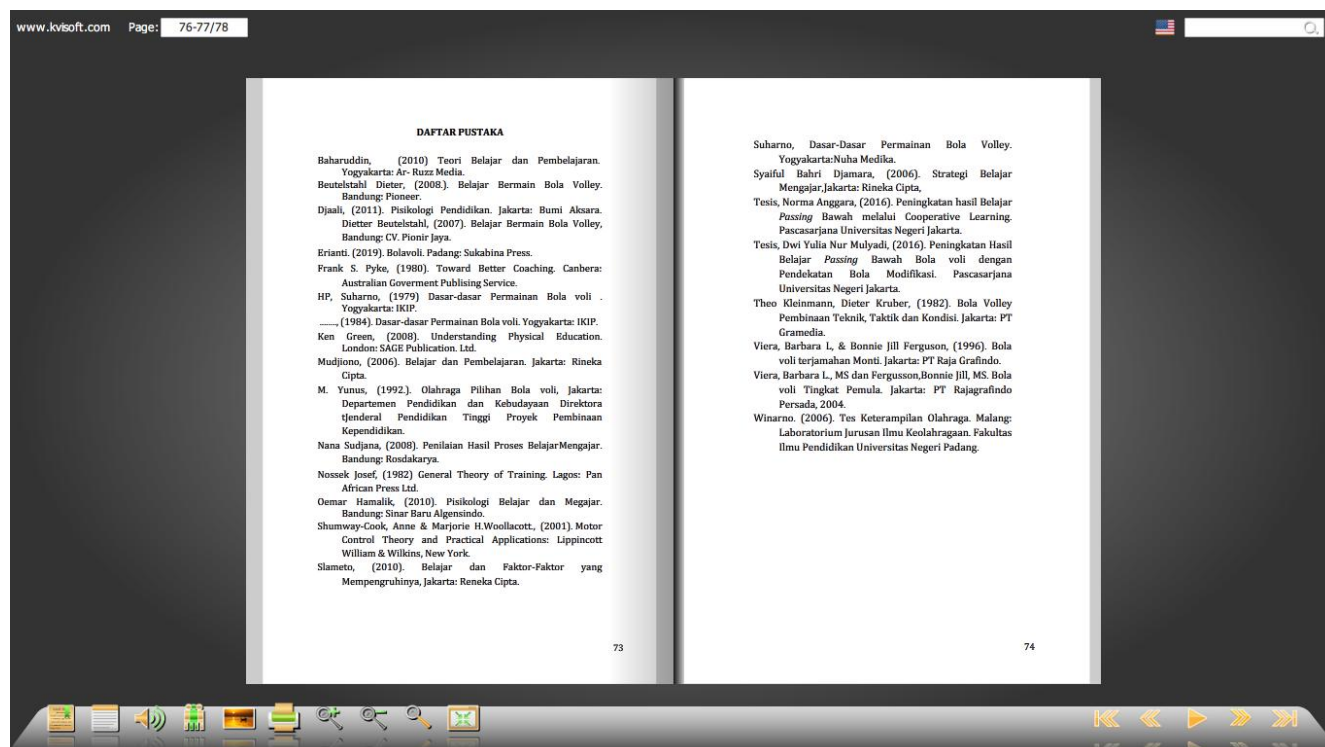


Figure 5. References

4. Conclusion

The research created practicum media for volleyball learning as an effective and efficient learning resource for blended learning. This development research procedure employs the Borg and Gall Model by adjusting the research requirement analysis and based on previous research findings by stating that, in general, the development procedure, which should involve ten stages, is reduced to eight stages, namely, 1) Potential and problems, 2) Data Collection, 3) Product Design (material selection and initial product design), 4) Expert Validation Test, 5) Design Revision, 6) Product Trial, and 7) Product Revision is used to determine product validity and product feasibility, where validity is determined by validation experts and feasibility is determined by teachers and students, and 8) Final Products that can be used in the field.

Based on the validation analysis calculations by media and materials experts with two stages of product validity and feasibility assessment, the results of research on media experts achieved a score of 84.6% and the assessment categories were "very valid" and "feasible without revisions"; the material expert test achieved a score of 85% and the assessment categories were "quite valid" and "feasible with minor revisions". Based on the results of the percentage of feasibility assessment scores from student and teacher respondents, it can be seen that a small-scale test of the product obtains 84% with the category "Very Feasible/Very Attractive/Very Good."

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