

Development of Teaching Materials for Project-Based Physical Education Learning Strategies at the Faculty of Sports Science, Medan State University

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Abstract. This research is a development research that aims to improve learning outcomes, especially in the field of educational pedagogy. The media developed is an electronic flipbook that includes strategies, learning models, methods, teaching styles, and learning models tailored to the characteristics of physical education, and also includes related learning videos. The teaching materials provided will guide students in compiling, designing, and implementing the physical education learning process at school, according to the material they choose. The final project is an interactive physical education learning video, in accordance with the models, methods, and teaching styles with a play approach. This project will be included in an electronic flipbook, as a reference for students to access all physical education learning materials at various levels.

Keywords: Teaching Materials, Physical Education.

1 Introduction

The main problem in education is inadequate learning methods. During the learning process, students are not given enough time to develop critical thinking skills. In accordance with the Regulation of the Minister of National Education (Permendiknas) No. 41 of 2007 concerning Process Standards, which changes the education process, teachers must create a Learning Implementation Plan (RPP). In the learning process, learning resources are the most important thing. Therefore, as one of the learning strategies, teachers are trained to be able to create teaching materials. The success of the learning process greatly affects the teacher's ability to create teaching materials.

All types of written and unwritten materials used by educators to carry out learning and teaching activities are referred to as teaching materials. Teaching materials enable students to acquire all abilities fully and comprehensively through the acquisition of competencies or basic competencies sequentially and methodically. Teaching materials also provide information, tools, and reference materials needed by educators to organize and evaluate the implementation

of learning. Overall, teaching resources are things that have been carefully designed to help teachers create a friendly learning atmosphere or environment for their students.

Written and non-written materials are two categories of educational resources. This category of teaching resources includes written, audio-visual, electronic, and integrated interactive media. In general, teaching materials consist of study guides (for lecturers and students), competencies to be met, additional materials, exercises, work guides (which can be in the form of worksheets), and assessments. Students must learn the skills, knowledge, and attitudes found in the teaching materials to meet predetermined competencies. To be more precise, the category of educational resources includes knowledge (facts, concepts, principles, and procedures) as well as skills, attitudes, and values. According to these various definitions, teaching materials are any written, audio-visual, electronic, or integrated interactive materials that contain the knowledge, skills, and attitudes that students must learn to assist teachers in helping students learn predetermined competencies.

Teachers and lecturers must choose the right teaching model or method in addition to adequate learning resources to ensure students have a deep understanding of the material they are studying. Among the several learning paradigms available is Project Based Learning (PJBL). Hanafiah and Suhana (2009: 30) define project-based learning as a learning strategy that allows students to work independently while expanding their knowledge and applying it to real-world products. On the other hand, according to Trianto (2009: 42), project-based learning is a cutting-edge learning paradigm that emphasizes contextual learning through difficult activities. Project Based Learning is a learning strategy that allows lecturers and teachers to monitor student learning in class by including project work, according to Nyi Wayan (2017: 61-71). This kind of sophisticated work, known as a project, invites students to grow, solve problems, form opinions, do independent learning, and operate independently. It revolves around difficult questions and problems. Project-based learning differs from other teaching approaches in several ways. These attributes include:

1. Centrality in Project Based Learning means that the project becomes the center of the learning process.
2. Driving question in Project Based Learning focuses on questions or problems that encourage students to seek solutions using relevant scientific concepts or principles.
3. Constructive Investigation in Project Based Learning requires students to construct their knowledge through independent investigation, with the teacher acting as a facilitator.
4. Autonomy in Project Based Learning emphasizes a student-centered approach, where students act as problem solvers in the context being studied.
5. Realism in student activities focuses on work similar to real situations, integrating authentic tasks and forming professional attitudes (Thomas, 2000).

The following are the steps in the Project Based Learning learning model, according to Rais (2010: 8–9): 1) Ask difficult questions at the beginning of class (start class by posing challenging questions); 2) Create or draft a project plan (make or design a project plan); 3) Schedule things you will do (set deadlines for tasks); 4) Oversee project implementation while monitoring student progress (supervise project execution while keeping an eye on students'

progress); 5) See the results generated (examine the outcomes); and 6) Evaluation of experience (assess the experience).

Project-based learning is an approach that uses projects as a tool in the learning process. In this model, students develop a learning project by applying various methods, teaching styles, models, and learning approaches to each physical education material. The final product of the project is a learning video designed to suit the level of education, the objectives of physical education at each level, and the approach to play in each learning material. As the final part of this module, teaching materials will be prepared in the form of flipbooks that include methods, teaching styles, learning models, and approaches, and are equipped with examples of learning videos designed by students.

2 Method

The main objective of this study is to develop teaching materials for multimedia-based physical education learning strategies for students at PJKR. The approach and methodology used in mixed method research combines qualitative and quantitative techniques (John W. Creswell: 2010). The research methodology used is known as research and development (R&D) or research and development techniques. "Development design" refers to the Borg and Gall model, which consists of ten steps listed below: 1) preliminary study, 2) research planning (planning), 3) preliminary field testing (primary field testing), 4) limited field test results (main product revision), 5) main field test results (main field test), 6) wider field test results (operational product revision), 7) feasibility test results (operational field testing), 8) final revision of feasibility test results (final product revision), 9) final revision of feasibility test results (final product revision) and implementation of the finished product (final product dissemination and implementation) are the first ten steps in the process.

3 Result and Discussion

Expert validation is a product assessment process carried out before a limited trial. This validation is done by assessing the teaching materials that have been prepared, which are then given to experts, namely a team of physical education teacher assessors and learning strategy lecturers. This validation team consists of elementary, junior high, and high school teachers, which are adjusted to the material made by students.

4 Conclusion

The conclusion obtained from the results of the experts' assessment shows that the teaching materials being developed can be used as a reference for students when they teach in the field. With proper validation, this teaching material is considered suitable for use as a resource in teaching and learning activities. Further research can focus on the dissemination stage, which is using this teaching material as a resource in the teaching-learning process. In addition, further research can be conducted to evaluate the impact of using flipbook maker on various other abilities, such as creative thinking or other innovative abilities.

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