Need analysis development of learning model based on production in multimedia materials in higher education

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Abstracts. This study aims to develop a product-based learning model in the Multimedia course at the Information Management D3 Study Program at Mahaputra University Muhammad Yamin Solok. The product of its development is a production-based learning model which is the development of the syntax of a product-based learning model. Development carried out on syntax arrangement and addition of parts in the production process by completing learning activities on promotions and trade based online. A production-based learning model that contains guidelines for using models that have been developed for lecturers. This study uses Research and Development (R and D) research methods, and the development model using ADDIE instructional. The data analysis technique uses descriptive techniques by describing the prevalence and practicality and effectiveness.

1. Introduction

The fact that higher education in Indonesia is that universities must prepare graduates to be able to respond to increasingly intense global competition. Students are required to have the ability to produce creative works that can fill the global market from all fields of science they are practicing. Mastery of science, art and technology and the combination of entrepreneurial character are the keys to 21st century success. Responding to this challenge the ability to master technology in the economy which is called knowledge based economic or knowledge based economy through the discovery of the internet as a medium of communication and connectivity and the existence of the world wide web (www) which is used for business activities with progressive and competitive. Therefore, learning innovations are needed that can have relevance to the learning needs and the use of graduates in participation and the role of higher education for the economic growth of the nation and the country in general and the ability to sustain life in the future for students in particular. One of the innovations in learning is the development of learning models. The learning model is arranged to achieve the intended learning goals, therefore setting goals will determine the direction of the steps taken in learning. Related to the objectives of education in 21st century colleges, especially vocational education which philosophically aims to prepare ready-made workers who are able to provide the best performance in filling employment in the community, the selection of learning models to be used must be guided by what objectives will be achieved in essence.

One learning model that is suitable for use in learning at vocational schools and colleges is a product-based learning model. Product-based learning models are one of the learning models that have been developed to prioritize the importance of process-based learning. Product-based learning models are defined...
as procedures or steps that need to be carried out by educators to facilitate students to actively learn, participate and interact, with competency-oriented to produce a product both goods or services needed ". The syntax arrangement of this product-based learning model can be used in learning practices at vocational schools. During this time the syntax that has been developed is used in learning and can provide benefits to students, especially from the advantages that the products produced are the results of analysis in the field and certainly produce products that can meet the desires of customers or consumers. But in practice which has been carried out using a product-based learning model still has weaknesses in terms of syntax arrangement where the final step (phase) of the syntax stated is the making of a business plan.

2. Method
This research has a research and development method or called Research and Development (R & D). While the approach used adjusts to the way data is collected and the data needs to produce conclusions in the study, namely qualitative approaches and quantitative approaches. Seels and Rickey (1994) define development research as a systematic study to design, develop and evaluate teaching programs, processes and products that meet internal consistency and effectiveness criteria. Whereas Heinich, Molenda, Russell, and Smaldino (2002) define the development of learning (instructional) as "the process of analyzing needs, determining what content must be mastered, setting educational goals, designing material to achieve goals, and testing and revising programs in terms of program users learning and achievements resulting from the program being developed (effectiveness).

The development procedure is a concrete step taken by the researcher as a guideline in development activities. Many experts expressed about the development model that is specific to each development procedure, but in this research and development researchers used the ADDIE development procedure (Analysis, Design, Development, Implementation and Evaluation). Branch (2009) stated that the ADDIE development design is an effective design because it is a guideline and framework as a complex guideline which is very appropriate for the development of the education sector to produce other products and learning resources. The five ADDIE steps are: 1) Analysis, preliminary research or needs analysis (need analysis), 2) Design, planning or design of production-based learning models, 3) Development, model development by testing validity and practicality through Focus Group Discussion (FGD) for the product model produced and revising revisions to improve the model, 4) Implementation, carry out limited or practical trials on the production-based learning model, and 5) Evaluation. see whether the learning model that is being built is successful or not.

![Figure 1. The Concept of Rationalizing the Development of Production-Based Learning Models](image-url)
3. Result and Discussion

In this development the business operations contained in the syntax, especially promotional and sales activities, were added using the 21st century economic knowledge base concept with the discovery of the internet as a business media through a web-based sales information system. The development of syntax in the production phase became business operations with This addition to the online-based promotion and marketing phase is because the development of internet technology opens opportunities for business people to develop business activities through electronic media (electronic business / e-business) which is predicted to become a big business model in the future. One form of e-business that is best known in the public is electronic trading activities or commonly known as electronic commerce or e-commerce, which is sometimes referred to as online business.

![Syntax Production Based Learning Model](image)

**Figure 2. Syntax Production Based Learning Model**
1. Phase 1: Analysis of the curriculum and characteristics of students
   Curriculum analysis and characteristics of students conducted in phase 1 is basically a phase of needs analysis in the learning undertaken

2. Phase 2: Product identification and analysis
   This activity is carried out in the field. Identification of products carried out in groups
   In principle, product identification activities carried out in phase 2 are carried out by searching activities, finding

3. Phase 3: Make important questions about the product
   Then group members formulate After product identification is done, then each group has a decision on what products will be developed

4. Phase 4: Question Mapping
   The formulated questions that have been elaborated are then mapped. The purpose of this activity is to calcify based on the needs and urgency of the product

5. Phase 5: Analysis of equipment and material needs of the product to be made
   The needs analysis intended in phase 5 is to take steps in adjusting the needs to be used to work on the project

6. Phase 6: Making a Business Plan
   Business Plans, better known as Business Plans, are written documents that provide information regarding trade or projects that are carried out in a comprehensive and detailed manner by a business unit

7. Phase 7: Product Manufacturing Process
   In this phase students carry out activities to develop and make products that have been prepared through previous learning activities

8. Phase 8: Business Operations
   In business operations, sales are an activity that spearheads sustainability, so a marketing strategy is needed

9. Phase 8: Learning Evaluation
   The type of learning evaluation undertaken is summative evaluation. While formative evaluation is carried out during the learning process.

4. Conclusion
   Product based learning model (Product Based Learning Model). The product-based learning model is one of the learning models that has been developed to prioritize the importance of process-based learning. This product-based learning model is a model with 9 basic syntax steps that has been tested and has advantages and is suitable for vocational school learning that does a lot of practical learning that produces products in the form of objects or goods The syntax arrangement of this product-based learning model can be used in learning practice at a vocational school. So far, syntax that has been developed is used in learning and can provide benefits to students, especially from the excellence that the products produced are the results of analysis in the field and of course produce products that can meet the desires of customers or consumers of services / services.

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