IMPLEMENTATION OF ADDIE INSTRUCTIONAL DESIGN USING THE DISCOVERY LEARNING MODEL IN THE ECONOMICS EDUCATION MANAGEMENT COURSE

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INTRODUCTION:

Higher education has a very important function in creating quality human resources. In carrying out its functions, higher education is required to produce human resources that are competent and in line with developments in science and technology and possess high-level thinking skills so as to be able to have competitiveness in the future.

The demands for higher education must be responded to with continuous efforts to improve the lecture process. Learning design is the main foundation for educators and students in achieving better learning outcomes. Educators in carrying out their duties need to prepare learning activities carefully. Learning design can provide an overview of short-term and long-term work references. Short-term references are in the form of learning implementation plans, while long-term references are in the form of learning syllabuses that are complex and varied. Learning designs that are arranged systematically will have a great influence on individual development (Dewi, 2018)

The birth of the Covid-19 virus resulted in changes in all aspects of life including the education sector, namely changes in the learning process that was previously conventional and face-to-face to online learning. All educational institutions are required to implement online learning, not only schools but informal educational institutions also apply distance learning (PJJ). In accordance with Circular Letter Number 15 of 2020 concerning guidelines for implementing learning from home during an emergency period of the spread of corona virus disease (covid19), it is stated that the learning process takes place from home through online distance learning to avoid the spread of Corona Virus Disease (COVID-19).

In the post-Covid-19 pandemic, students must adapt again from online learning and exams to offline learning. This adaptation process requires lecturers to develop a mature lesson plan or instructional design. ADDIE instructional design is a design model that has been widely used in research in various disciplines. Quoting what was stated by Branch (2019), ADDIE is a product development paradigm that is applied to design learning by preparing a learning environment that is able to facilitate complex learning by involving the environment optimally by responding to many situations, interactions within contexts, and interactions between contexts.

Based on this background, it is necessary to implement the ADDIE instructional design using the discovery learning model to improve student academic achievement in the post-pandemic period, especially in education management courses in the economics education department in the teaching and education faculty of Siliwangi University.

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METHOD:
      This research is an action research. The research stages correspond to the stages in the ADDIE instructional model as shown in Figure 1.
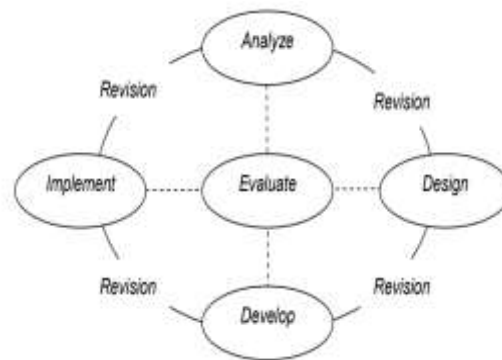

Figure 1. Stages in the ADDIE Model (Branch,2009)

1. Analysis
      This process is carried out by defining what students will learn in accordance with the Course Learning Outcomes or CPMK.
2. Design
      At this stage, the researcher makes a design by determining learning outcomes, compiling test kits, determining appropriate learning strategies, and making student worksheets.
3. Development
      The development stage is testing student worksheets before being implemented in limited classes (small classes).
4. Implementation
      Implementation is a concrete step to apply student worksheets with discovery learning models in larger classes
5. Evaluation
      In the final stage, the researcher will conduct an evaluation to determine the success of the model used.

RESULT AND DISCUSSION:
      ADDIE's instructional design in teaching Education management courses is implemented according to its stages, namely Analyze, Design, Development, Implementation, and Evaluation.
      The ADDIE model uses a systems approach. The essence of the systems approach is to divide the lesson planning process into several steps, to arrange the steps into a logical sequence, then use the output of each step as the input for the next.

1. Analyze
      The needs analysis carried out can influence the learning design that is compiled. Analysis activities are carried out through 5 (five) procedures, including: a) validating performance/performance gaps, b) determining learning competencies, c) identifying target characteristics, d) identifying relevant sources, and e) determining learning delivery systems (Branch , 2009).
      At this stage, the lecturer defines what students will learn according to the profile of graduates and CPMK. The graduate profiles that will be produced are Economic Educators who have pedagogical and economic competencies. CMPK education management course, namely students are expected to be able to understand the basic concepts, roles, and scope of education management, furthermore student management, curriculum management, management of teaching and educational staff, management of educational facilities, educational financing, management of educational institutions and the relationship of educational institutions with public. In addition, students are expected to be able to analyze problems related to education management.
      The analysis stage aims to identify the possible causes of a learning performance gap. To fulfill the analysis stage, teachers must be able to determine instruction that will fill gaps or gaps, suggest levels that will close gaps, and offer strategies to close gaps in performance based on empirical evidence about the potential for successful learning (Hidayat and Nizar, 2021).
      While teaching can affect student performance or performance, there are multiple causes that influence performance and provide clear recourse to learning, fill many gaps, show clear evidence, set effective learning goals, show feedback loops and clarify consequences of less implementation of learning. Even so, if the gap in the implementation of learning is caused by factors such as lack of knowledge and skills, then the application of ADDIE does not need to be continued. The results showed that ADDIE's instructional design using the discovery learning model in education management courses in the economics education study program could be continued.

2. Design
      Tahap ini dikenal juga dengan istilah membuat rancangan. Pertamakita merumuskan sebuah rancangan

diantaranya:

At this stage what is being done is the process of defining the material to be studied by students in accordance with the CPMK of the Education management course. After that, the lecturer analyzed the sub-CPMK that must be achieved by students on certain material which is the focus of this research, namely curriculum management material and student management.

The design stage is real evidence of the results of the analysis. The preparation of learning designs is an important stage, how to realize the results of the analysis into the design of learning programs (Branch, 2009; Muthe, 2009; Gagne & Briggs, 1974). Learning plans have been prepared in accordance with rationality and theoretical studies, and applicable policies. With the existence of higher education national standards that focus on mastery of IQF-based learning outcomes. In accordance with the name of this course, namely education management, the learning design has been adapted to the learning outcomes set by the study program in the aspects of attitude, knowledge and skills.

3. Development

Development is the process of turning a design into reality. One important step in the development stage is testing. Before being implemented, student activity sheets were tried out in a limited way (in small classes). This trial phase is also part of one of ADDIE's steps, namely evaluation. The results of the evaluation are used to improve the learning system that is being developed.

The development steps at this stage include several activities, including developing instructional materials according to the syllabus/SAP, compiling material according to the syllabus, evaluation (including; assignments, practice questions, and others), and developing media and learning support features needed by lecturers and students. The results at this development stage are a teaching module product that has been structured according to the applicable competencies and a questionnaire to measure the validity and response of research subjects.

4. Implementation

Implementation is a real step to apply student worksheets with discovery learning models in larger classes. At this stage, the student worksheets that have been developed are set up in such a way according to their role or function so that they can be implemented according to the initial design.

5. Evaluation

Evaluation is a process to see (evaluate) whether the learning system that is being built is successful, in accordance with the initial development expectations or not. Actually, the evaluation stage can occur at the end of each of the four phases or stages above (Sugihartini, 2018). Evaluation that occurs at each of the four stages above is called formative evaluation, which aims to make improvements as soon as possible. The Evaluation Stage is the last step of the ADDIE learning system design model. Evaluation is a process carried out to provide value to learning programs (Trisiana and Wartoyo, 2016)

The evaluation was carried out by two assessors using indicators of suitability for the formulation of objectives, suitability of the material, learning process, and selection of evaluation tools. Evaluation results can be seen in table 1.

Table 1. Compliance Evaluation of ADDIE Instructional Design

No	Elements of Assessment	Rating result	
A	Suitability of the Statement of Purpose	Assessor-1	Assessor-2
	a. The selection of the CPL Study Program is in accordance with the characteristics of the course	Match	Match
	b. The CPMK formulation has been prepared based on the CPL of the selected Study Programs to facilitate learning achievement	Match	Match
	c. The formulation of indicators is structured to achieve an increase in student learning achievement	Match	Match
	d. The formulation of indicators has shown formulations that can determine changes in attitude	Match	Match
B	Material suitability		
	a. Learning materials are selected to support the achievement of competence in economics education management courses	Match	Match
	b. Learning materials are selected according to learning needs	Match	Match
	c. Learning materials are selected according to the development of science	Match	Match
C	Learning process	Match	Match

	a. Selection of learning models can support increased student learning achievement	Match	Match
	b. The selection of learning models can support the increase in the development of student attitudes	Match	Match
D	Selection of evaluation tools		
	a. The evaluation technique chosen is in accordance with the objectives set	Match	Match
	b. Evaluation tools are selected in accordance with the objectives set	Match	Match
	c. The evaluation procedure chosen can show learning outcomes during the learning process	Match	Match

The discovery learning model is a learning model that emphasizes the development of students' thinking in solving a problem and also emphasizes the ability of students to seek new ideas in learning activities. In essence, this model requires students to be able to think critically in solving problems, play an active role in learning activities, be independent in finding or finding material, and be able to develop their creativity so that the teacher only acts as a facilitator in learning activities (Sunarto, 2022).

In applying the Discovery Learning model, the teacher is only a facilitator, not teacher-centered, but students who play an active role in finding things needed (Medianty, 2018). The Discovery Learning learning model aims to guide students to be able to identify what they want to know by searching for information themselves, and then students organize or form what they already know and understand into the final form (Cintia et al., 2018)

The application of the discovery learning model in education management lectures can be seen from the following syntax.

1. Stimulation
Providing stimulation is carried out by playing videos related to the material to be discussed, namely the curriculum and student management. After that, students were given general questions related to the material. Students are also directed to look for materials or other relevant sources of information

2. Problem Statement
At this stage, students are directed to make additional questions about the material

3. Data Collection
The third stage; is filled with student discussions in their groups. Each group member is divided into tasks to find answers to the questions that have been prepared.

4. Data Processing
Data processing is the activity of processing and interpreting data and information, whether obtained through interviews, observations, or documents.

5. Verification
Students carry out careful examinations to prove whether or not the hypotheses have been set with alternative findings, then connected with data analysis.

6. Generalization
Drawing conclusions is the process of interpreting learning which can be used as a general principle and applies to all the same incidents or problems, taking into account the verification results.

This study also measures student learning outcomes that have been determined according to the material or teaching materials at each meeting. Learning outcomes are analyzed based on the planned ADDIE cycle.

Based on the results of research conducted with two cycles of treatment with the discovery learning model in the Education management class, the post test scores were obtained as follows:

Table 2. Hasil Post Test setiap Siklus

Cycle	N	Min	Max	Mean
Cycle-1	24	25.00	62.50	39.84
Cycle-2	24	78.13	100.00	89,195

Table 1 illustrates that in cycle 1 learning outcomes are still very minimal. This can be seen from the minimum score obtained by students, namely 25, the maximum value is 62.5. Meanwhile, in cycle 2 the minimum value is 78.13 and the maximum value is 100.

Based on the explanation above, it can be said that the learning process using the ADDIE design and the discovery learning model has proven to be effective in contributing to increasing student learning outcomes as evidenced by the high N-Gain value.

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CONCLUSION

Based on the description in the previous section, it can be concluded that instructional design is a tool for continuously improving the learning/lecturing process. As for the implementation, it can be seen from the syntax of the discovery learning model. The application of an instructional design needs to be coupled with the use of learning models.

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