Development of a Cased Method-Based Education and Training Management Learning Model and Team Based Projects

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Abstract. The Aim of research to develop an Educational Management and Training Instructional Model of Case Method and Project-Based. The research was conducted at Educational Technology Program (S2) Postgraduate Studies Program of Universitas Negeri Medan (Unimed). The target population consisted of students in the S2 Educational Technology Program at Unimed, with the sample being all S2 students enrolled in the Educational Management and Training course. The research method employed was model dissemination based on the Borg and Gall model. Additionally, the Dick and Carey model was used to plan course materials. The results showed that the instructional model of case method and project-based feasible and practical for use in teaching, and they are effective in enhancing learning outcomes.

Keywords: Model, Case Method, Project-Based Learning, Educational Management and Training Learning.

1 Introduction

The case method-based learning model provides opportunities for students to develop their potential, self-actualization, innovation, and find solutions to cases that will be discussed. This poses a unique challenge for lecturers in determining final assessment decisions. In instructional model of Case Method, students strive to achieve maximal result. As lecturers, each class is reconstructed based on the results of previous learning sessions. As explained by [1], [2] notes that the case method is an alternative teaching-learning activity where the approach involves studying cases related to course material, which may originate from either internal organizational environments or external ones. The emergence of issues and problems in case studies provides a platform for students to position themselves as decision-makers for the issues presented in the case study, enabling them not only to understand the problem discussed but also to think critically to find solutions.

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The implementation of this case method facilitates participatory learning through problem-solving discussions that stimulate and enhance critical thinking skills, active communication, collaboration, and innovation. This requires lecturers, as the forefront of education, to design strategies and learning media that support these objectives. The proper application of learning activities is a crucial point in case method and project-based learning. The steps involved in the Case Method include: a) Deepening of material, b) Presentation of cases, c) Formation of groups, d) Case solving (searching for data, information, theories, resources, submitting ideas, discussions and validations, formulation of solutions, writing results), e) Presentation of work results, f) Class/Group discussion, g) Assessment and feedback.

Instructional Model Team-based project involves: a) Dividing student more than one group to work together assignments within specified timeframe, b) Groups are given real-world problems from society or complex questions and are provided create collaborative, c) Prepares a final presentation to be displayed before the audiences d) The lecturer guides each group [3,4]. The steps of a team-based project include: a) fundamental problem, b) Planning, c) Scheduling, d) Observation of participants e) Eavaluation , f) Explained the experience [5,6,7].

The development instructional model uses Borg and Gall product development model [8], while the learning plan development uses Dick & Carey development model [9]. The syntax model is as follows:

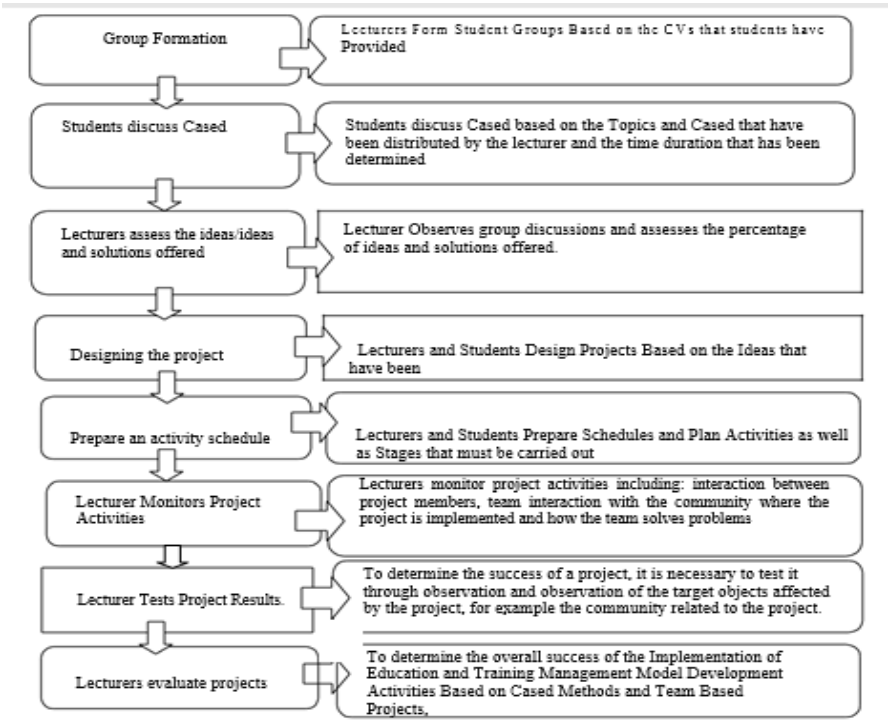

Fig. 1. Syntax of the Educational Management and Training Learning Model Based on the Case Method and Team Based Project

2 Method

This research is also referred as "research-based development," aimed at improving the learning outcomes of Unimed students. Propose a series of steps to be followed in this approach, namely: "research and information collecting, planning, develop preliminary form of product, preliminary field testing, main product revision, main field testing, operational product revision, operational field testing, final product revision, and dissemination and implementation [8]." The design of the development process for Educational Management and Training learning is outlined in the following scheme:

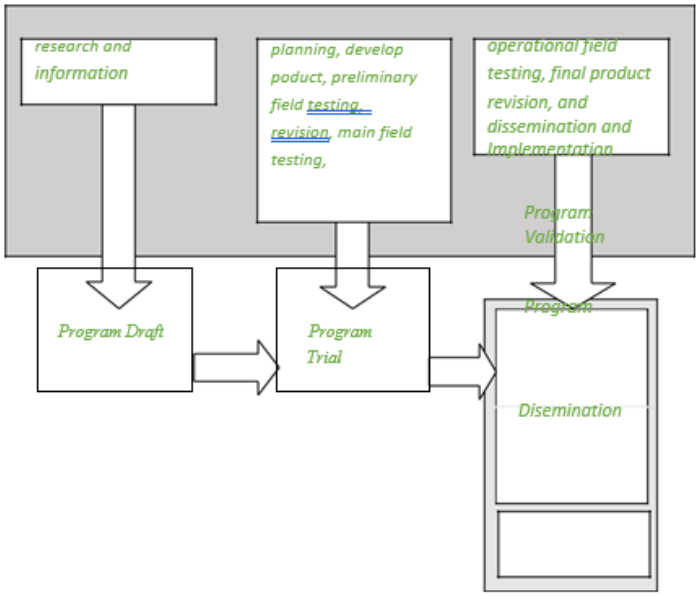

Fig. 2. Design for Development of Education and Training Management Learning Model

Data collection in this research uses questionnaires, attitude assessments, observation guidelines, and interviews. The initial activity conducted is the validation of all research instruments descriptively and qualitatively in the form of general assessments, which include: questionnaires, attitude assessments, observation guidelines, and interview guidelines with categories such as very good, good, fair, poor, very poor, used without revision, used with minor revisions, used with major revisions, and cannot be used. The data analysis process in this research includes data descritptive and percentage.

3 Result and Discussion

a. Feasibility of the model will be evaluated based on: model rationality, system, the implementation.

b. The practicality of the model will be assessed based on: the implementation of syntax, the implementation of implementation of management principles.

c. Effectiveness of the model will be measured by: student learning outcomes, lecturers, and responses and lecturers to the learning components and activities

2.1 Feasibility of the Learning Model

The results of the feasibility assessment of the Educational Management and Training Learning Model are as follows:

Table 1. Expert Validation on the Feasibility of the Learning Model

Rated aspect	validator			Average value
	1	2	3	
Rationality of the Model	4.00	3.50	4.00	3.83
Supporting Theory of the Model	3.33	4.00	3.67	3.67
Syntax	3.75	3.75	3.75	3.75
Social System	3.67	3.67	4.00	3.78
Reaction Principle	3.67	4.00	3.67	3.78
Support System	4.00	3.50	4.00	3.83
Impact of Implementation	4.00	3.75	4.00	3.92
Average Price				3.79

Based on the average scores across all aspects, the feasibility of the Educational Management and Training is 3.79. Referring to feasibility previously established, concluded feasibility Educational Management and Training is "feasible" category.

3.2 Practicality of the Learning Model

Practicality assessment for Unimed are as follows:

Table 2. Validation of the Practicality of the Model

No	**Aspect Evaluated**	**Validator**			**Average Score**
		1	2	3	
Syntax					
1	Level of implementation of all stages of the model	4.00	4.00	4.00	4.00
2	Coverage of important aspects in learning	4.00	4.00	4.00	4.00
3	Implementation of activity sequence and collaboration in the learning process	3.00	4.00	4.00	3.67
	Total Syntax				3.89
Soscial System					
1	Involvement of active student participation in the learning process	4.00	4.00	4.00	4.00

2	Level of implementation of situations (discussions, asking questions, and debating)	4.00	3.00	4.00	3.33
3	Level of implementation of cooperation, mutual respect, and assistance among students	4.00	4.00	3.00	3.67
	Total Social System				3.67
Reaction Principles					
1	Level of implementation of the Lecturer facilitating a conducive learning environment	4.00	4.00	4.00	4.00
2	Level of implementation of the Lecturer providing opportunities for students to ask questions, express opinions, and give feedback	4.00	4.00	4.00	4.00
3	Level of implementation of the Lecturer providing scaffolding, guiding work, and offering motivation	4.00	4.00	4.00	4.00
	Total Reaction Principles				4.00
	Overal total				3.85

The overall average score is 3.85. Referring to the previously established practicality level, Management Training falls into the “practical” level category.

3.3 Effectiveness of the Learning Model

3.3.1. Student Learning Outcomes

The students' learning outcomes are reflected in the high level of mastery. This means that 80% of students mastered 80% of the course material presented. Out of 25 students, 2 scored between 80-82, 9 scored between 83-85, 10 scored between 86-88, 4 scored between 89-91, and 23 scored between 92-95. From this data, it can be concluded that all students achieved a minimum score of 80. Among the data, only 9 students scored below 85, while 16 students scored 85 or above. According to the evaluation criteria at Unimed, a score of 85 and above is considered an A. This data indicates that almost all students understood the material presented by the lecturer.

Table 3. Distribution score of Student Learning Outcomes

Class Interval	Frequency
80 -82	2
83-85	9
86-88	10
89-91	4

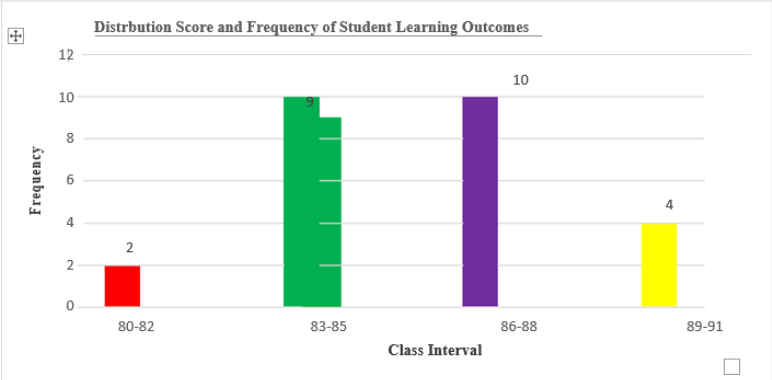

Fig. 3. Distrubtion Score and Frequency of Student Learning Outcomes

3.3.2 Results of data analysis on lecturers' ability to manage learning

The data from observations regarding below:

Table 4. From Observations Lecturers' Ability to Manage Learning

No	Aspects Observed	Observer/Score		Average
		I	II	
Starting Learning				
1	Communicating learning objectives	4	4	4
2	Presenting introductory materials/aperception	3	3	3
3	Motivating students to engage in learning activities	3	3	3
			Mean	**3,33**
Managing Learning Activities				
4	Delivering lesson content	3	3	3
5	Implementing model	3	3	3
6	Using media/learning resources	4	4	4
7	Providing reinforcement	3	3	3
8	Giving examples	4	4	4
9	Providing opportunities for student activity	4	4	4
			Mean	**3,5**
Organizing Time, Students and Learning Facilities				
10	Managing time usage	3	3	3
11	Organizing Students	3	3	3
12	Managing and utilizing learning facilities	3	3	3
			Mean	**3,00**
Implementing Assessments				
13	Implementing assessment during learning	4	4	4
14	Implementing assessment at the end of learning	3	3	3
Ending			Average	**3,5**
Learning				
15	Summarizing learning	3	3	3
16	Providing follow-up	3	3	3

	Mean	**3,00**
	Total Mean	**3,27**

Overall score for lecturers' ability to manage learning models is 3.27. The average value is 3.27 if referred to the criteria for determining the level of which have been determined previously, it can be concluded that the level of in category value for each learning stage can be reprensented by the following diagram:

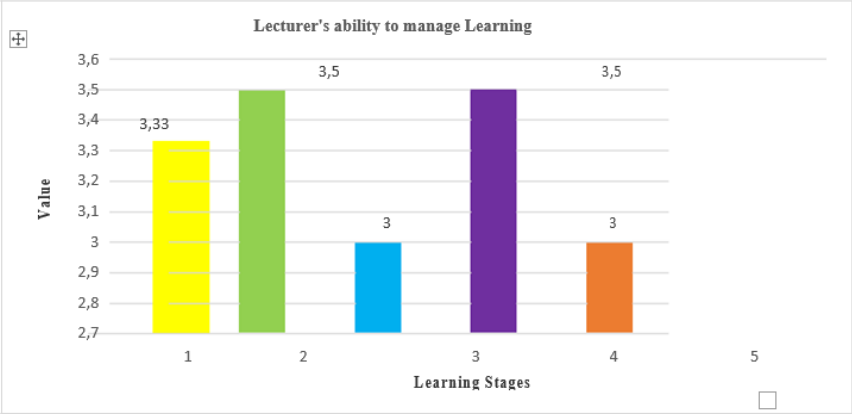

Fig. 4. Category Values for Lecturer Ability to Manage Learning Information:

1 = started learning
2 = managing learning activities
3 = organizing time, students and study facilities
4 = implementing assessment
5 = ending learning

Based on Diagram 2, the observations of show that for the aspects observed: (1) Starting Learning has an average score of 3.33, (2) Managing Learning Activities has an average score of 3.50, (3) Organizing Time, Students, and Learning Facilities has an average score of 3.00, (4) Implementing Assessment has an average score of 3.50, and (5) Ending Learning has an average score of 3.00.

3.3.3 Analysis of Student and Lecturer Responses

a. Analysis of Student Responses

Responses to the process applying Management Training model can be seen in Table 5 below:

Table 5. Data on Implementation

No	Aspect	Frequency		Percentage	
		Happy	Not Happy	Happy	Not Happy
Student Feelings Towards Learning Components					
I	Lecture material	23	2	92	8.00
	Module	25	0	100	0
	Classroom atmosphere	24	1	96	4.00
	Lecturer’s Teaching Method	22	3	88.00	12.00
	Mean			94.00	6.00

	Aspect	Frequency		Percentage	
		New	Not New	New	Not New
Student Opinions on Learning Components					
	Lecture Material	25	0	100	0
	Module	25	0	100	0
	Classroom atmosphere	25	0	100	0
II	Lecturer's Teaching Method	23	2	92	8.00
	Mean			98.00	2.00
	Aspect	Frequency		Percentage	
		Interested	Not Intrested	Interested	Not Interested
III	**Interest in Continuing Learning**				
	Continuing with model	23	2	92	8.00
			mean	92	8.00
		frequency			Percentage
		Happy	Not Happy	Happy	Not Happy
Student Opinions on Module					
IV	Student Opinions on Module Understanding Language in Module	23	2	92	8
	Interest in Module Design	25	0	100	0
	Average			96.00	8.00
	Average score			95.00	6.00

Table 5, Students, or 95%, expressed satisfaction with the components and activities of the learning process Management Training model. This indicates that students are interested and enthusiastic about learning with the model implemented by the lecturer. The percentage of 95% meets the criterion for a positive response, which is at least 80% of the subjects providing components and activities. Therefore, it can be concluded that the level of student is categorized as positive.'

b. Analysis of Lecturer Responses

Data on lecturer responses to the components and activities Management Training model were obtained through a questionnaire administered to lecturers. The lecturer are presented in Table 6 below:

Table 6. Data on Lecturer Responses to Components and Learning Activities

		Percentage			
No	**Aspect**	Very Helpful	Helpful	Lesshelpfull	Not Helpfull
Lecturers' Opinions on Learning Tool Components					
	Topic Analysis/Task Analysis	80	20	0	0
	Concept Map	80	20	0	0
I	Lesson Plan	90	10	0	0
	Module	90	10	0	0
	Test Blueprint	80	20	0	0

	Learning Activities	80	20	0	0
	Mean	83,33	16,67	0	0
	Aspect	Percentage			
		Very Good	**Good**	Poor	Not Good
Lecturer Evaluation of Teaching Materials					
	Topic Analysis/Task Analysis	80	20	0	0
	Concept Map	80	20	0	0
	Lesson Plan	80	20	0	0
	Module	90	10	0	0
II					
	Test Blueprint	100	0	0	0
	Learning Activities	100	0	0	0
	Mean	88,33	11,67	0	0

Based on the data in Table 6, it is observed that overall, lecturer responses regarding the components and activities of the Case Method and Team-Based Project Management Training model show an average of 83.33% indicating that the components are "Very Helpful" and 16.67% indicating that they are "Helpful" in the classroom learning process. Furthermore, lecturers' evaluations of the components and activities show an average of 88.33% rating them as "Very Good" and 11.67% as "Good."

4 Conclution

The results showed that the case method and project-based learning model are feasible and practical for use in teaching, and they are effective in enhancing learning outcomes. the majority of students, or 95%, expressed satisfaction with the components and activities of the learning process using the Case Method and Team-Based Project Management Training model. This indicates that students are interested and enthusiastic about learning with the model implemented by the lecturer. The percentage of 95% meets the criterion for a positive response, which is at least 80% of the subjects providing a positive response to the components and activities. Therefore, it can be concluded that the level of student response to the components and activities is categorized as positive. lecturer responses regarding the components and activities of the Case Method and Team-Based Project Management Training model show an average of 83.33% indicating that the components are "Very Helpful" and 16.67% indicating that they are "Helpful" in the classroom learning process. Furthermore, lecturers' evaluations of the components and activities show an average of 88.33% rating them as "Very Good" and 11.67% as "Good."

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