

## PROJECT ASSESSMENT BASED LEARNING EVALUATION MODULE FOR PROSPECTIVE TEACHER STUDENTS

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### **Abstract**

Mastery of the skill of conducting learning evaluations is important to master to measure success in learning. This research aims to develop a module in the form of a project assessment-based learning evaluation course for prospective teacher students. The research method used is research on ADDIE model development. Based on this stage of research, it can be seen that the project assessment-based learning evaluation module has not been developed, the development results show that the category is very feasible to use. The results of module validation on aspects of material content, language aspects and media aspects show excellent results. Similarly, in project-based assessments, evaluation experts say the assessment tool is very feasible to use. The learning outcomes of prospective teacher students in the project of compiling learning evaluation tools show that mastery of skills in compiling evaluation tools is carried out very well. The weakness of this module has not put much emphasis on the proportional assessment of non-cognitive aspects.

**Keywords:** Learning evaluation, Module, Project assessment

### **1. INTRODUCTION**

Learning by experiencing directly or contextually with the real world done in the form of projects will be much easier to understand and facilitate in achieving learning competencies. Prospective teachers need to interact and understand the real world of the task of being a real teacher in school. Prospective teachers need to provide learning tools such as mastery of material, media, methods and evaluation tools that will be used in learning activities. [1]–[3]. In learning the implementation of evaluation is very important [4], [5]. To master the skills in evaluating learning, students need to get real experience done by teachers at school.

In using evaluation tools, many teachers have difficulties [6]. Difficulty in conducting evaluations will result in difficulties in knowing the true abilities of students. Selecting the form of evaluation

needs to be adjusted to the objectives or learning outcomes. Learning in learning evaluation courses needs to utilize the real world of teacher practice in schools in carrying out learning. This will stimulate students to think critically about facts in the field and gain new experiences [7], [8]. For this purpose, learning needs to be designed by involving students and teachers in the field in the implementation of learning evaluation.

Project-based learning and assessment provide experience to students on how teachers practice implementing learning evaluation activities in schools. Project-based learning is learning that is relevant to projects that are done collaboratively to find and solve contextual problems. In the nature of project-based learning, there are many advantages obtained by students related to the ability to collaborate, solve problems, think logically, think critically, and be able to directing self-study [9]–[16]. Understanding of the material can be improved by using project-based learning [17][18]. To be able to carry out project-based learning and assessment activities, it takes time and planning to be able to carry out projects. Stages in project-based learning include determining questions in the actual subject matter, communicating problems with groups, collecting data solving problems, submitting reports on the process of solving problems and making presentations [19] [20]. This learning model using project-based assessment can train in finding problems, solving contextual problems both individually and in groups.

There are assessment domains that rely on high-level thinking in project assessment or project-based learning. The cognitive assessment domain has six levels, namely as Bloom et al's categories of knowledge, understanding, application, analysis, synthesis, and evaluation [21]–[23]. The revision in Bloom's taxonomy was updated to knowledge, understanding, application, analysis, evaluation and create [24] [25]. The skill of conducting analysis of the application of learning evaluations in schools can be obtained by collecting information about the implementation of evaluations carried out in schools. Likewise, evaluating and creating can be realized by activities in the preparation of evaluation tools that meet the criteria of validity and reliability. Validity and reliability are requirements in maintaining the quality of the instrument [26]

The ability to understand conceptual learning evaluation will combine with real practice. The skills that need to be mastered as prospective teachers in compiling evaluation tools are by first understanding the learning objectives. Reduce learning objectives to be more operational by showing a number of learning indicators. Determine the form of assessment, compile the assessment grid and answer the question items, validate the items and be able to analyze the items. These skills are gradual, and can be worked on collaboratively. The combination of modules and project assessments that are compiled will lead to these skills.

Based on the description above, this study aims to develop learning modules by utilizing project-based assessment for prospective students in learning evaluation courses.

## 2. METHOD

The research method uses *research and development* (R&D) with the ADDIE model yaitu analysis, design, develop, implement, and evaluate [27]. The product to be developed is in the

form of learning evaluation modules and project-based assessment. The stages carried out are as follows: 1) Stage analysis, this stage conducts needs analysis and analysis of learning outcomes, materials, media and methods that allow for learning achievement formulated in the Semester Learning Plan (SLP) of learning evaluation course. Analyze the form of the project as an assessment in accordance with learning outcomes. 2) Stage design, this is planning the form and content of modules and assessments based on studies at the analysis stage. Design the scope of material, the form of the project to be run, the learning media to be developed and learning evaluation tools in the form of project assessment. 3) Stage Develop, conducting development activities and developing project-based learning assessments. 4) Phase Implementation of module testing and application activities as well as project-based learning assessment for students. 5) Stage evaluate, this emphasizes efforts to see successes and obstacles to what has been implemented at each stage. This research data collection technique uses, documents, validation sheets to assess modules, questionnaires for students using modules and learning outcomes tests. Data analysis uses descriptive analysis based on data obtained in the form of quantitative and qualitative data.

### 3. RESULTS AND DISCUSSION

#### Learning Competency Analysis

The first step in carrying out module development and project assessment is to analyze the learning outcomes in the study program curriculum document. Based on the study of learning outcomes of the learning evaluation course, there are a number of competencies that need to be achieved in the learning evaluation course which is coded CLO (Course learning outcomes) and the cognitive level that accompanying it.

**Table 1.** Learning outcomes

Code	Learning Outcomes	Level Cognitive
CLO1	Explain the meaning of learning evaluation	Knowledge
CLO2	Explain the functions, objectives and requirements of learning evaluation	Comprehension
CLO3	Describe the taxonomy of education and apply it in the context of learning evaluation	Application
CLO4	Explain the meaning and types of classroom assessment	Comprehension
CLO5	Identify the steps for preparing learning evaluations	Analysis
CLO6	Technical preparation of evaluation of objective, subjective and practical written tests	Application Evaluation
CLO7	Develop attitude assessment techniques	Application Evaluation
CLO8	Menganalyse validity and reliability	Analysis

Code	Learning Outcomes	Level Cognitive
CLO9	M analyze the difficult level of power of different grains	Analysis
CLO10	Develop valid and reliable learning outcomes assessment tools	Create

Based on the competence of the course, it is developed that learning not only develops in aspects of concepts but also in aspects of high thinking, namely analysis, evaluation and creating. One of the characteristics of project-based learning and assessment will involve more complex thinking skills. Determine and analyze problems in the field. Creating a work that is contextually based in the field. Based on the learning outcomes above, learning principles were developed which then became material in writing modules. The adjustment between the module material and the competencies achieved in learning has been adjusted to each learning achievement and material that can be learned.

**Table 2.** Learning Module Material

Materials in modules	Chapter	Code
Basic Concepts of Learning Evaluation	I	CLO 1, 2
Educational Taxonomy	II	CLO 3
Class Assessment	III	CLO 4
Learning Outcome Test Preparation Techniques	IV	CLO 5, 6, 7, 10
Validity and Reliability	V	CLO 8, CLO 10
Difficult Grain Differentiation Power	VI	CLO 9, CLO 10

The material is arranged in stages to arrive at the knowledge, attitudes and skills of students as prospective teachers can evaluate learning in class. The entire material in the module is divided into six chapters. In the beginning to the end, project-based learning is used, gradually working on the project by understanding the learning context to be able to master the skills of preparing learning evaluations.

### Project Design

Projects are designed based on the study of learning competencies, material in learning modules and mapping the project to be carried out. Learning plans are contained in the Semester Lecture Plan (SLP). The relationship between material in modules, learning outcomes and projects carried out needs to be examined for compliance to support the ease of running projects and achieving learning outcomes.

**Table 3.** Mapping Project

Materials in modules	Chapter	Code	Project Assessment
Basic Concepts of Learning Evaluation	I	CLO 1, 2	Project 1
Educational Taxonomy	II	CLO 3	Project 2
Class Assessment	III	CLO 4	Project 3
Learning Outcome Test Preparation Techniques	IV	CLO 5, 6, 7, 10	Project 3
Validity and Reliability	V	CLO 8, 10	Project 4
Difficult Grain Differentiation Power	VI	CLO 9, 10	Project 5

Based on the mapping of project assessments, materials and learning outcomes, it can be mapped that each project assessment is carried out as many as five activities that are mutually continuous. As the material presented. The completion of project one will help in the completion of the next project. What is done in the project is a description of the capabilities that will be achieved at the end of learning each material and the achievements that have been determined. The parent or peak of mastery in this project is in CLO 10, which is able to compile learning evaluation tools that meet the requirements for validity and reliability.

### Project assessment implementation

Project implementation is given a gradual picture. Students can see in the module what to do at each stage of the project which consists of five projects.

**Table 4.** Project description

Project	Description	Project
I (one)	Project collaboratively. Make observations to schools to get teacher partners who are sources in the field. Get syllabus documents and learning evaluations used by teachers.	Analyze the cognitive, affective and psychomotor domains on the abilities to be achieved in PAI learning Analysis of cognitive level levels in item tes end-of-semester assessment on PAI learning!
II (two)	The continuation of project one is to independently develop a tool for evaluating learning outcomes both written and practical tests for one semester	Prepare a plan for the final semester assessment test for PAI subjects Make a final semester assessment test tool in the form of a written test or a practical test on PAI subjects.
III (three)	Complete assessment tools by preparing attitude measurements	Make a non-test tool in the form of an attitude assessment used in PAI learning

Project	Description	Project
IV (Four)	Conduct tests on instruments that have been prepared and conduct item analysis	Test it out on a pre-built device Perform an analysis of the question items of difficulty and differentiation in the test answer results.
V (Five)	Conduct validity and reliability analysis on instruments that have been prepared in the form of learning outcomes tests and attitude assessments	Determine the validity and reliability of the learning outcomes test and attitude assessment that has been prepared.

Thus, at the beginning of the lecture, a project will be drawn what will be done during one semester. Projects that are carried out in stages are a series of inseparable activities. The stages of work that lead to a holistic skill are guided gradually from project one to five.

### Module Eligibility

Project-based assessment modules and tools developed, have the following specifications: 1) Modules are presented in print and audio form. 2) B5-sized printed module. 3) Modules in audio form are presented in the form of audiobooks. 4) The module contains material presented with a project based learning model approach. 5) The learning module consists of a description of material that can be scanned barcodes for those who need audio. 6) Modules equipped with assessment tools for written and project test forms, 7 ) The module has a project assessment rubric as a guide in *self-assessment*.



Figure 1. Cover and module content

Learning evaluation teaching materials are designed in the form of audiobooks and based on project learning. To be able to test the feasibility of this teaching material, an assessment of various

aspects is carried out by experts in material, media and design and language. Every aspect of the teaching materials is assessed by experts by determining the level of assessment using a rating scale. Assessment options with 4 answer choices are very good=4, good=3, less good=2, and very poor=1. The results of the assessment in the form of presentations are divided into four categories, namely excellent, very good, good and satisfactory.

**Table 5.** Percentage interpretation

No	Assessment Percentage	Interpretation
1	80 - 100%	Excellent
2	70 - 79%	Very Good
3	60 - 69%	Good
4	< 59%	Satisfactory

Module assessment is assessed from various specs, in the content section is assessed by experts in the field of educational evaluation, aspects are assessed by experts in the field of education, and As for media and design Assessed by learning technology experts.

**Table 6.** Module assessment results

No	Expert	Item	Score	Score Max.	Percentage	Criterion
1	Content	19	63	76	83%	Excellent
2	Language	20	72	80	90%	Excellent
3	Media	54	191	216	88%	Excellent
<b>Average</b>		<b>25.75</b>	<b>91</b>	<b>103</b>	<b>89%</b>	Excellent

### Feasibility Project assessment

The project based learning assessment step is handed over to educational evaluation experts. The assessment results in this section fall into the very decent category. The learning assessment has met the criteria in the project assessment.

**Table 7.** Results of project assessment design

NO	ANALYSIS ASPECT	SCORE
1	Learning assessments support learning achievement	4
2	Learning assessment according to learning indicators	4
3	Learning assessment is aligned with the subject matter of the subject matter.	4
4	Illustrated learning project-based assessment	4
5	Learning assessment indicates continuous evaluation.	4
6	Assessment shows the stages of work that can be carried out	4



NO	ANALYSIS ASPECT	SCORE
7	Shows collaboration in working on projects	3
8	Project shows contextual problems in schools	3
9	Assessment there are clear instructions on the project to be carried out	4
10	Learning assessments contain clear assessment rubrics	4
	Sum	38
	Amount (%)	95%
	Category	Excellent

### Learning outcomes in project-based assessments

Student learning outcomes are obtained based on the final project in making evaluation tools that meet the criteria of validity and reliability. Based on the research rubric on projects that have been carried out in learning shows excellent results.

**Table 8.** Learning outcomes

Phase	Activities	Valuation		
		Very good (3)	Good (2)	Enough (1)
Planning	Determine the Islamic Religious Education (IRE) learning assessment tool to be developed	71%	29%	0%
	Determine the schedule of activities	29%	71%	0%
	Define tasks/roles	57%	43%	0%
Implementation	Data collection	71%	29%	0%
	Data Analysis	29%	71%	0%
Reporting	Report presentation	71%	29%	0%
	Presentation of project results	57%	43%	0%
	Average number (%)	55%	45%	0%

The stages of work on carrying out projects are carried out starting from the planning stage before students collect data in the field. They determine what subjects the assessment tool will develop, as well as how to manage the timing and role of doing the tasks in their group. The implementation stage, students have begun to go to the field to collect data by observation, interviews and documents. The results of the field data they obtained were analyzed, based on examples and analysis results they began to compile evaluation tools to carry out activities on the test material validity and reliability. In the final stage, students compile reports and present project results. The assessment of project results is carried out based on the project assessment rubric.



Table 9. Assessment rubrics

Activities	Valuation		
	Very good	Good	Enough
Determine the assessment tools to be developed	The assessment tools are prepared in accordance with the field of science IRE and learning competencies	Assessment tools that are arranged both in accordance with the field of science and Learning competencies	The assessment tools are arranged quite in accordance with the field of science and Learning competencies
Determine the schedule of activities	Schedule of activities systematized with Excellent	Logical schedule of activities and systematized	The schedule of activities is quite logical and systematized
Define tasks/roles	Task development is precise and evenly distributed very well	Precise and even task development	The construction of tasks is quite precise and even
Data collection	Data collection done very precisely	Collection Data done right	Collection The data is done quite precisely
Data Analysis	Data analysis is carried out with very precise	Data analysis is carried out true	Data analysis is done moderately true
Report presentation	The presentation of the report is very thorough	Serving Thorough Report	Serving Fairly thorough report
Presentation of project results	The presentation is very clear and systematic	Clear presentation and methodical	The presentation is quite clear and methodical

So based on the results obtained from the development of learning evaluation modules and evaluation tools, the project study shows very feasible results. In learning outcomes, students have a number of competencies possessed by prospective teacher students, namely being able to determine the evaluation tools to be developed in accordance with the field of science studied. Compile evaluation tools, conduct tool trials by collecting data from respondents who use the tool, analyze validity and reliability data, present results work in a report and make presentations of work results. Learning with the use of modules and project assessments has helped in achieving excellent learning outcomes [28][29]. The ability to master learning tools for prospective teachers is very helpful in mastering the competence of prospective teachers [30][31]. Mastery of prospective teacher skills in the preparation of learning evaluations strengthens the competence of prospective teachers in conducting teaching.

## CONCLUSION

The development of modules in the learning evaluation course based on the results of expert assessments both in aspects of material, media and design as well as language has fulfilled very

feasible elements. The development of project-based learning values has met very feasible categories. Thus this learning tool can be used and disseminated to users, namely prospective teacher students. The results of using this product have produced excellent learning results. Thus, developing learning tools in the form of modules and assessments that are in accordance with user needs will have a high contribution and usefulness. The weakness in this module in how to determine student learning outcomes of prospective teachers focuses on cognitive aspects. Thus, future research can develop on non-cognitive aspects such as 21st century skills.

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