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DEVELOPMENT OF PROBLEM BASED LEARNING MODULES IN CIVIL SERVICE SUBJECTS

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Abstract: *The purpose of this project is to create a problem-based learning module for SMK Krian 2 Sidoarjo's 11th grade MPLB civil service course. The study's backdrop is the dearth of curriculum-aligned learning modules, which keeps the learning process teacher-centered and causes students to struggle with comprehension. A modified version of the ADDIE model—which comprises the phases of analysis, design, development, and implementation—was employed. Case study questions, use guidelines, and topic content are all included in the learning module that was created. Subject matter experts' validation findings showed that the "very feasible" category had a proportion of 93% to 95%. Limited trials were conducted on 20 students in terms of response, reaction, and confidence, with scores above 97.1% in the "very feasible" category. Students rated this learning module as interesting, relevant to their learning needs, and capable of increasing their motivation and involvement in the learning process. Because it may aid students in understanding the content, the problem-based learning module for civil service courses is deemed very practicable for usage.*

Keywords: *Civil service, Learning module, Problem-based learning.*

INTRODUCTION

The development of high-caliber human resources is crucial for advancing the country and enhancing social welfare. The Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System regulates this as part of national development. Article 1 Paragraph (1) states that education is a deliberate and planned endeavor to create conditions and learning processes that support the achievement of educational goals. "Through education, students are expected not only to understand science, technology, and the arts, but also to foster innovation and creativity" (Bulut Ates & Aktamis, 2024) . Through curriculum development in each educational unit, it will be easier to achieve educational goals (Darman, 2021).

The implementation of the independent curriculum has brought fundamental changes to the learning process. Educators are required to develop relevant and innovative learning tools so that the teaching and learning process runs effectively. One of the tools developed is a learning module that serves as teaching material and a guideline for students to learn independently. Learning modules have specific objectives and characteristics, namely to help students understand systematically, foster motivation to learn, and demonstrate critical thinking skills. "All of these tools are in line with efforts to instill the Pancasila student profile, which is to make students believe in and fear God Almighty, embrace global diversity, work together, be independent, think critically, and be creative" (Purnawanto, 2022) . Thus, learning modules can be optimally utilized in the teaching and learning process.

"A learning module is a form of teaching material that is systematically and structurally organized, containing material, methods, objectives, and evaluations designed to help students learn independently" (Puspitasari, 2019) . Meanwhile, according to Vera(2021) , "a module is independent learning material that contains a series of learning experiences that are systematically designed to help students achieve learning objectives. The module was developed

using a learning model". The problem-based learning approach encourages students to examine and consider their difficulties critically. This approach is focused on actual issues that allow students to go further into the material or come up with a solution.

According to Hotimah (2020) , "problem based learning is an approach designed to help students develop the skills needed to face the challenges of today's globalized world". "The problem based learning model is based on the way teachers teach by presenting problems in learning activities that relate to real- world situations" (Yuliasari, 2023) . A learning model is a framework of activities that can provide a systematic overview of the learning process and help students and educators achieve the desired learning objectives. Meanwhile, the product aspect focuses on the achievement of objectives, namely whether the learning has succeeded in improving students' abilities in accordance with the established competency standards. "One learning model that has been developed in the world of education is problem-based learning, which is generally known as problem based learning" (Juwantara, 2019).

The problem-based learning technique provides students with a way to enhance or motivate them to tackle actual challenges pertaining to course topics or the workplace. According to (Iswantara et al., 2023) "explains that technology can help teachers make learning more interesting and interactive". It is anticipated that the application of problem-based learning models in the creation of learning modules will enhance students' practical abilities and improve their conceptual knowledge. Another benefit of problem-based learning modules is that they may be used to enhance critical thinking and problem-solving abilities, such as how to appropriately solve issues. According to , problem based learning can help individuals think critically, meaning they can analyze and solve problems so that they can adapt to various situations.

Research conducted by Andayani & Pratama (2022) shows that "the development of problem based learning modules aims to improve problem solving skills". Research conducted by (Handayani et al., 2022) also shows that the modules developed are very feasible and practical for increasing learning motivation. (Qadariah, 2022) Furthermore also done research on the creation of problem-based learning modules, demonstrating the modules' high validity, usefulness, and efficacy in raising students' cognitive learning results. Research conducted by (Hanafi, 2025) concluded that problem-based learning modules demonstrate an improvement in students' abilities by forming the critical thinking patterns needed to face various challenges in learning and real life.

SMK 2 Krian is a private school recognized as a Center of Excellence, located in the Krian area, Sidoarjo Regency, East Java. The school offers five skill programs, one of which is the Office Management and Business Services (MPLB) Skill Program. This program consists of ten classes, including four classes in Grade X MPLB, four classes in Grade XI MPLB 1, and four classes in Grade XII MPLB 1. In Grade XI, the compulsory subject taught in the MPLB vocational program is personnel management. Based on interviews with teachers and students at SMK 2 Krian Sidoarjo, several obstacles were found during the learning process, one of which was the lack of learning modules during the learning process because the learning used PowerPoint to deliver the material, so that the learning was teacher-centered. Students also did not have textbooks that were appropriate for the curriculum used.This means that the available material is not entirely comprehensive, so students need to search for additional sources of information on the internet. Particularly in the areas of office management and business services, this study helps create problem-based learning modules that can enhance students' critical thinking and problem-solving abilities. Practically speaking, this study offers suitable and pertinent SMK learning modules that may be utilized as substitute instructional resources to encourage self-directed learning and enhance students' learning outcomes.

RESEARCH METHODOLOGY

This study falls within the category of research and development that evaluates a product's efficacy. (Sugiyono, 2023) . "The development model in this research uses ADDIE model, which consists of: 1) analysis, which is analyzing the needs and problems that occur at the school as the research site by conducting observations; 2) design, which is the answer to solving existing problems by conducting the stage of compiling the learning modules to be developed by the researcher; 3) development, which is the stage of creating learning modules to be developed, including materials, assessments, animated , and learning videos; 4) implementation, which is the stage of testing the learning modules that have been created on the subjects to be tested; 5) evaluation, which is the final stage in the ADDIE model development process, which is an assessment carried out on the learning modules" (Cahyadi, 2019) .

The subjects involved in this study were students in XI MPLB 2 students at SMK Krian 2 Sidoarjo. According to Sadiman(2014) , to represent the population and target, a sample of 10-20 students is required for a limited trial. Therefore, the researcher conducted a limited trial on 20 students selected at random. This small-scale experiment was designed to find out how the students reacted to using problem-based learning modules. A validation sheet and a student response questionnaire were employed as data gathering tools. In order to ascertain

the validity of the problem-based learning module products, the validation sheet addressed the validation of the material, language, and visuals, which were submitted to specialists in these areas for evaluation.. The subject matter experts will evaluate the presentation of questions, usefulness, and suitability of the material for the learning objectives, while the language experts will evaluate the appropriateness and correctness of the language used, and the graphic experts will evaluate the visual aspects, use, usefulness, and design of the learning media developed. The student response questionnaire will be used to evaluate their views or assessments of the learning module. The following are the validation sheets used by the experts using a Likert scale and the student response questionnaire using a *Guttman* scale, which can be seen in the following table:

Tabel 1 Validator Assessment Criteria

Criteria	Score
Very Appropriate	5
Suitable	4
Fairly suitable	3
Not suitable	2
Very unsuitable	1

Source: Adapted from (Riduwan, 2013)

Tabel 2 Criteria for Assessing Student Responses

Answer	Score
Yes	1
No	0

Source: (Riduwan, 2013)

Following the collection of all expert data, the following formula was used to analyze the data in the form of percentages:

$$P(\%) = \frac{Jumlah\ skor\ hasil\ validasi}{Jumlah\ skor\ maksimal}\ x\ 100\%$$

Source: (Riduwan, 2013)

Meanwhile, the student response questionnaire sheets were analyzed using the following formula:

$$P(\%) = \frac{Jumlah\ skor\ hasil\ validasi}{Jumlah\ skor\ maksimal}\ x\ 100\%$$

Source: (Riduwan, 2013)

Table 3 below shows the percentage of learning module feasibility derived from the aforementioned analysis:

Tabel 3 Interpretation Criteria

Percentage	Criteria
0% - 20%	Very Weak
21% - 40%	Weak
41% - 60%	Fair
61% - 80%	Strong
81% - 100%	Very Strong

Source: (Riduwan, 2013)

The researcher's problem-based learning module is deemed practicable based on these interpretation criteria if it achieves a percentage of ≥61% using strong or very strong criteria.

RESULTS AND DISCUSSION

The Development Process of Problem Based Learning Modules for Civil Service Subjects at SMK Krian 2 Sidoarjo

The ADDIE development approach, which consists of the following phases, was used to create problem-based learning modules: 1) Analysis; 2) Design; 3) Development; 4) Execution; and 5) Assessment. However, because

this study did not assess the product's efficacy, the researcher merely employed the four processes of analysis, design, development, and implementation. The following is an explanation of the stages in the ADDIE model. Analysis is the initial step, and it was carried out at SMK Krian 2 Sidoarjo. In this phase, the needs and competencies of the students are analyzed. The requirements and traits of the students who will be the focus of the Acer model, which is focused on problem-based learning, are covered in the study of student needs. In the analysis of student needs, grade XI MPLB 2 students still have difficulty understanding the learning material when relying solely on PowerPoint, and learning is still teacher-centered. Many students are less interested in learning if they only read without other supporting learning modules. The existence of a learning model designed in an attractive learning module by including videos and illustrative images can attract students to learn easily because an attractive learning model greatly influences students in the learning process. The following is the learning objective flow contained in the *problem based learning* module for human resource management elements.

Element	Learning Outcomes	Learning Objectives	Learning Objective Flow	Duration
Human Resource Management	By the end of Phase F, students will be able to understand labor regulations and apply administrative procedures for planning, recruitment, development, rewards, industrial relations, assessment, and termination of employees.	8.1 Understanding labor regulations 8.2 Implementing administrative procedures for workforce/employee planning 8.3 Implementing recruitment processes 8.4 Implementing employee development procedures 8.5 Implementing employee rewards 8.6 Implementing employee performance appraisal procedures 8.7 Implementing employee termination procedures	8.1 Understanding labor regulations 8.2 Implementing administrative procedures for workforce/employee planning 8.3 Implementing recruitment processes 8.4 Implementing employee development procedures 8.5 Implementing employee rewards 8.6 Implementing employee performance appraisal procedures 8.7 Implementing employee termination procedures	108 hours

Figure 1 Learning Objective Flow

The introduction, substance, and conclusion are the three primary elements of the second stage, known as the Design stage. The cover page, preface, table of contents, usage instructions for each module, learning resources, and learning concept map are all included in the introduction.The description of the material, multiple-choice questions, case studies, conclusions, and group project assignments constitute the content. The glossary, bibliography, and author's personal details constitute the conclusion. In compiling the learning module, the researcher combined the material with barcodes and videos. In order to facilitate students' comprehension of the subject matter, barcodes and videos were chosen with consideration for their content. After determining the design, the next step was to determine the subject of human resource management for grade XI MPLB 2 at SMK Krian 2 Sidoarjo regarding personnel matters.

Figure 2 Learning Module Design

The third stage is development. At this stage, the instructional materials that have been designed are written and produced to be refined through a revision stage. The learning modules are produced based on the structure and design that have been determined previously. The development steps at this stage include several activities, among others: developing instructional materials in accordance with ATP, compiling materials in accordance with ATP, and evaluation (including projects, practice questions, case studies, and others). The result of this development stage is a learning module product that is structured in accordance with the applicable competencies and a student response

questionnaire to measure the validity and response of the research subjects (Sugihartini & Yudiana, 2018) . Based on this statement, the researcher conducted several activities, such as: 1) compiling materials in accordance with the ATP for civil service materials; 2) developing learning modules based on problem-based learning; 3) revising the learning modules according to the revisions and suggestions from the supervising lecturer. In the development stage, which includes the steps of developing learning modules, there are two important objectives that need to be achieved, namely: 1) creating or updating learning modules that will be utilized to accomplish the established learning objectives; 2) choosing the most effective learning modules that will be utilized to accomplish the learning objectives. At this time, a number of things must be accomplished, including: 1) the kind of learning modules that must be developed in order to accomplish learning objectives; and 2) the type of learning modules that must be developed and altered in order to do so.

There were other recommendations for improvement based on the validation experts' recommendations. From a linguistic perspective, the use of punctuation needed to be reviewed as there were still some parts that were not quite right. Meanwhile, from a graphic design perspective, it was suggested that the frame in the upper right corner be removed as it covered part of the text and made it difficult to read. Based on the results of the graphic design revision, the appearance of the module has been improved by the graphic designer. Previously, the blue- orange curved frame in the upper right corner still covered part of the text, making the writing at the beginning of the paragraph look cramped and untidy. After revision, the frame was removed so that the text looks more spacious and easier to read, and the margins are clearer and more balanced. In addition, the table of contents, which previously only displayed the titles of the material and subchapters without chapter numbering, made the layout appear long and unstructured. Revisions were made by adding chapter numbering (CHAPTER I, CHAPTER II, CHAPTER III, and so on) so that the structure of the module became more systematic, neat, and easier for readers to understand the flow of content. With these changes, the graphic quality of the module has improved, both in terms of readability and aesthetics, thereby supporting the module's function as a teaching material that is suitable for use.

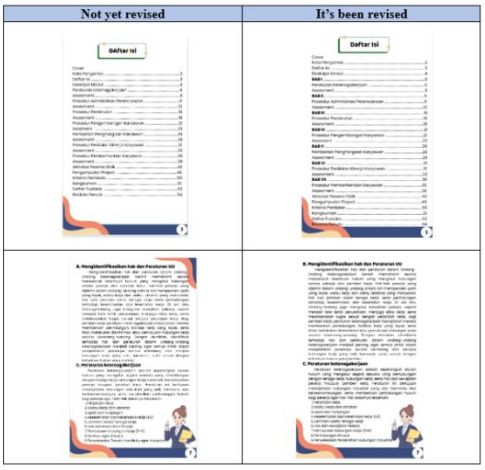

Figure 3 Learning Module before and after revision

Implementation is the fourth phase. Twenty students will test the expert-validated problem-based learning modules. Following the revision procedure recommended by subject matter experts, language experts, and graphic design experts, students will take the test. Evaluation, the fifth step, is used to gauge how well students are doing in regard to the created learning module. However, because the product was not measured, the researcher only employed this step up until the implementation stage. The goal of this study is to ascertain if the developed learning module is feasible and to examine how students react to its use in promoting the efficiency and appeal of the educational process. It is anticipated that the problem-based learning-based learning module would facilitate students' comprehension of the material.

Feasibility of Problem Based Learning Modules in Civil Service Material for Grade XI MPLB 2 at SMK Krian 2 Sidoarjo

Experts in language, visual design, and subject matter from SMK Krian 2 Sidoarjo verified the learning module's creation. Subject matter experts were a key component of the research process used to build this module, which was guided by experts. The following table displays the findings of these experts' validation. This learning module's viability was tested using a validation procedure that was provided to the validators. Specialized evaluation forms for subject matter experts, language experts, and graphic design experts were among the expert validation tools. The language experts were Indonesian language instructors, the graphic design experts were digital communication instructors, and the subject matter experts were supervisory instructors and instructors of Office Management and

Business Services for grade XI. The following table displays the findings of the experts' study validation of the creation of this problem-based learning-based learning module:

Table 3 Expert Validation Result

Expert Validation	Validation Results (%)	Notes
Subject Matter Experts	93 %	Very Strong
Language Expert	93 %	Very Strong
Graphic Design Expert	95 %	Very Strong

Source: Data Processed by Researchers (2025)

The problem-based learning module on civil service content was rated highly by subject matter experts (93%), language experts (93%), and graphic design experts (95%), according to the results of expert validation. This shows that the developed module has met the requirements for content, language, and graphic design. This success is in line with the concept of problem-based learning proposed by Barrows and Tamblyn, which states that solving real problems encourages the improvement of critical thinking skills and conceptual understanding among students. The high feasibility of the module is also supported by Vygotsky's constructivism theory, which emphasizes the importance of meaningful learning experiences and social interaction in building knowledge. Students may participate actively in the learning process thanks to the module's format, which consists of case studies, thought-provoking questions, and group projects. The results of this study are also consistent with studies by Amaliyah et al. (2023), Budi Wijaya & Fajar (2020), Andayani and Pratama (2022), and Anggun (2023), which claim that problem-based learning modules have been shown to be legitimate, useful, and successful in boosting students' motivation and problem-solving abilities across a range of subjects. As a result, the created module is not only appropriate for usage but also has a lot of potential to help implement the Merdeka Curriculum by offering engaging and pertinent teaching resources.

Student Responses to Problem Based Learning Modules on Civil service Material for Grade XI MPLB 2 at SMK Krian 2 Sidoarjo

Response In a limited test conducted with 20 randomly selected students from class XI MPLB 2, a student response questionnaire was distributed with several indicators of response, reaction, and confidence adapted from (Faryanti et al., 2016) . Each student was given a questionnaire consisting of 14 statements from the three aspects using a Guttman scale with Yes or No answers (Riduwan, 2018) . With a very strong category based on interpretation, the questionnaire answer test received a score of 97.1%. Students responded favorably to the problem-based learning module on personnel issues. This is consistent with study by Kartika et al. (2020), which indicates that the biology problem-based learning module is appropriate for use in education. Subject matter experts (89.13%), instructional material specialists (96.78%), and field practitioners (91.75%) all gave extremely valid scores, according to the validation data. Students' answers to the practicality test yielded an 86.87% score in the highly practical category. According to research by Sari et al. (2022), 82% of students who responded to the questionnaire described it as feasible and effective. This percentage indicates that the usage of integrated science learning modules based on problem-based learning as a learning strategy was well-received by the pupils. According to the findings of a study by Ashari and Puspasari (2024), the Heyzine Flipbook-based E-Module for the topic of Public Relations Automation and Protocol is considered very appropriate for application. While student responses reached 98.69% in the very good category, the validation of the subject content, language, and visuals all scored more than 96%.

CONCLUSION

This study effectively met its goals based on the research findings highlighting the dearth of curriculum-compliant learning modules and the need for creative teaching resources that may foster critical thinking and problem-solving skills. The expert validation in the very strong category and the extremely good reaction from students demonstrate that the problem-based learning module in the Personnel topic is viable for implementation, according to the development findings. In addition to helping students grasp the subject matter, this module helps them become more motivated to learn and develop their critical thinking abilities in accordance with the demands of the workplace. Thus, the research objectives of determining the feasibility of the module, analyzing student responses, and producing alternative teaching materials relevant to the implementation of the

independent curriculum have been achieved. This study has limitations in that it only reached the stage of limited implementation, so it has not been able to comprehensively measure the effectiveness of the module in improving student learning outcomes and critical thinking skills. In addition, the scope of the test subjects was still limited to one class, so the findings could not be generalized broadly. Therefore, it is recommended that future research conduct a comprehensive evaluation, expand the research subjects to a more diverse school context, and develop modules on other materials using more interactive technology to improve the quality of the learning process and outcomes.

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