



PEDAGOGICAL COMPETENCE DEVELOPMENT MODEL FOR LECTURERS IN 21st CENTURY LEARNING

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Abstract. Pedagogical competence is the key to education that determines the level of success of the learning process and student learning outcomes. This study aimed to analyze the pedagogical competence of lecturers, especially regarding the skills that lecturers must have in 21st-century learning and what efforts lecturers with non-educational backgrounds in higher education have made in developing their pedagogical competence. The descriptive qualitative research method involves 16 lecturers who participated in initial observations with questionnaires and 12 lecturers who participated in in-depth interviews and focused discussions. The sample consisted of non-educational lecturers from universities in the Banyumas Regency. The study results showed that in 21st-century learning, lecturers must have more innovative skills to create student competence in the 21st century, such as critical thinking and problem-solving skills, creativity, communication skills, and the ability to work collaboratively. In addition, the efforts of lecturers with non-educational backgrounds to develop their pedagogical competence are carried out by learning independently, developing pedagogical competence with colleagues, and developing pedagogical competence facilitated by the educational institutions where they work.

Keywords: pedagogical competence, lecturers, development, 21st century learning

A. Introduction

Education has a vital role in forming quality individuals and society. Educators are figures who have a big responsibility in the educational process, both in the context of family, community, and formal educational institutions (Sitika et al., 2024). Lecturers are educators who play an important role in the educational process. They must be role models for students and have the expertise to impart knowledge, skills, and life values to students. Lecturers must be able to understand students' situations and needs and create an interesting and motivating learning environment. Educators' duties include motivating students, mastering effective learning media, acting fairly, and providing the best service possible. As leaders and servants, educators must be responsible for their students' academic and moral development and maturation (Zahroh et al., 2023).

The role of educators, which continues to develop in the 21st century, is very important for the education system's success; this emphasizes the direct relationship between the quality of lecturers and overall educational outcomes (Mathew, 2024). Furthermore, in this era of Industrial Revolution 4.0, educators must adapt by understanding student needs, utilizing technology, and fostering a multicultural environment to provide effective learning for millennial and Gen Z students (Zulhawati & Ariani, 2023). Law of the Republic of Indonesia



Number 14 of 2005 concerning Teachers and Lecturers Article 10 paragraph (1) mandates that Lecturers and Teachers must have pedagogical, personality, social, and professional competence. These four competencies are comprehensive and form a unity that characterizes a professional lecturer/teacher. Lecturers or educators at higher education levels in Indonesia and in various other places are not required to hold an educator certificate as the main requirement to be able to teach in higher education (Budiyanto, 2024). This lack of requirements may lead to differences in teaching quality, as many lecturers may not have formal pedagogical training. This results in a number of lecturers not having a formal background or training related to pedagogy.

Merk (2017) emphasized that formal appreciation or recognition of lecturers' teaching abilities is still limited in many higher education systems. This often leads to a lack of motivation for lecturers to develop their teaching skills because the focus of academic careers is often more inclined towards research and publications. Meanwhile, besides research abilities, pedagogical competence is considered very important in a lecturer's career. This is supported by findings at Lund University, Sweden, where leaders signaled faculty: Take pedagogical competence seriously! (Ryegard, 2010).

To be ready to enter the industrial world, 21st-century learning requires students to be equipped with personalities and relevant skills to the digital era. Therefore, when learning 21st-century skills, it is necessary to familiarize yourself with 21st-century skills, which include communication, collaboration, critical thinking, problem-solving, and Creativity and Innovation. One way is to improve the quality of learning, where the role of educators in implementing 21st-century learning is very important in building a better future for students. In addition, educators must be equipped with the latest skills and innovations for 21st-century learning (Sinaga, 2023). However, Molla et al. (2023) found that the pedagogical competence of faculty lecturers in 21st-century learning is currently unsatisfactory, especially in critical thinking, creativity, collaboration, communication, and ICT skills, which require urgent development interventions. Although currently innovative teaching models have begun to be implemented using Project Based Learning (PBL) and Problem-Based Learning (PJBL) to involve students more effectively in learning (Sopiah et al., 2024), the implementation is not yet comprehensive.

While a focus on developing pedagogical competence is essential, some argue that an emphasis on research results can overshadow the quality of teaching, potentially leading to misalignment in priorities within academic institutions. Based on this background, this research tries to develop a pedagogical development model for non-education lecturers to support learning in the 21st century.

B. Methods

The research used was quantitative, using surveys, and qualitative, using interviews. According to Sugiyono (2018:15), quantitative research is a research method based on the philosophy of positivism as a scientific or scientific method because it fulfills scientific principles in a concrete or empirical way, objectively, measurably, rationally, and systematically. Qualitative research, namely a natural research method because it is carried out in a natural context, is in accordance with Sugiyono's opinion (2021:24). This research aims to describe, understand, and find out how to apply pedagogical competence in higher education learning and develop a model for developing pedagogical competence.

The research subjects consisted of 25 lecturers from four universities in Banyumas Regency, and only 12 lecturers were willing to participate in in-depth interviews. Observations were made at the beginning and during the study. Observations focused on identifying the characteristics of respondents and interviews to understand and apply the pedagogical competencies possessed by lecturers in implementing 21st-century learning values, pedagogical



training needs, and the extent to which the institution has facilitated their pedagogical development. Furthermore, interviews were also used to identify the obstacles and challenges faced by lecturers in the teaching process, the training experiences that lecturers had participated in, and the efforts they had made to develop their pedagogical competencies. Data collected through observation, interviews, and documentation is then analyzed and presented in narrative form. Finally, from the results of in-depth interviews, a pedagogical competency development model was designed supported by previous literature reviews.

C. Results And Discussion

1. Respondents' Overview

The survey results via questionnaire provide an overview of the characteristics of respondents, including age, educational background, and teaching experience. Respondents consisted of lecturers with non-educational backgrounds from four universities in Banyumas Regency, namely 10 lecturers from UJS, 6 lecturers from UINSZ, 5 from UMP, and 4 from UWK. The respondent currently teaches in the Management Study Program, Accounting Study Program, Development Economics Study Program, and Law Study Program. In terms of age, it can be found that there are five respondents in the age group 51-60 years, five respondents in the age group 41-50 years, ten respondents in the age group 31-40 years, and five respondents in the age group 25-30 years. Regarding educational level, seven people have Doctoral degrees; the rest have Master's degrees. When it comes to the length of teaching experience, the majority of respondents, namely eight people, have taught for a period of 0-5 years, while four others have taught for 9-10 years, eight people have taught for 11-15 years, and five people have taught for 16-20 years.

2. Efforts to Develop Pedagogical Competency of Lecturers from Non-Educational Backgrounds

Generally, two factors contribute to the development of lecturers' teaching skills, namely internal and external factors. Internal factors include initiative, self-motivation, and personal experience. In contrast, external factors include support from colleagues, instructors, superiors, and workplace organizations to develop the teaching skills of lecturers with non-teaching backgrounds. Respondents developed pedagogical potential, especially teaching techniques and styles, in various ways.

The results of extracting information through interviews showed that more than half of the respondents (58%) or 7 lecturers revealed that they modeled their teaching styles, techniques, and methods after their previous lecturers. Another source of information is that they learn to teach by reading references, books and articles about how to teach, and also imitating other lecturers' teaching methods, namely 30% each. Attending training is also a source of information that shapes the teaching knowledge of respondent lecturers (12%).

The next factor is developing lecturers' pedagogical competence by participating in groups or associations of lecturers with the same expertise. This group usually holds regular discussions to help each other develop the pedagogical competence of its members. These groups are formed at the study program level, but it is not uncommon for small groups in the same field of expertise from different universities to gather at formal or non-formal events. Almost all, or 83% (10) of the respondent lecturers, were involved in non-formal scientific discussions to develop their pedagogical competence. These activities include scientific meetings, seminars, workshops, or conferences.

Apart from being pursued independently, developing pedagogical competence also involves external parties such as peer lecturers, where lecturers observe other lecturers' teaching and learning processes to learn the ways, techniques, and teaching methods. The research results



showed that 83% of 10 respondents observed the teaching and learning process in other lecturers' classes to help develop their pedagogical competence. This activity is carried out at the beginning of the semester when you are accepted as a new lecturer. The activity is done by doing sit-ins in several classes to observe classroom learning activities and teaching practice at several meetings. Further interviews revealed that they did this to update their pedagogical knowledge and skills. Apart from that, the pedagogical development of the respondent lecturers was carried out with senior lecturers. All respondents (100%) said that they paired up to teach with a senior lecturer or teaching team and divided the teaching portion before the middle of the semester and after the semester. Senior lecturers are very effective in helping them develop materials and manage classes, providing input on teaching methods and techniques, creating apperception techniques, using learning models, managing teaching materials/syllabus/RPS, provide examples and inspiration about things that are good and bad in teaching, provide direction in teaching, provide additional knowledge about the discipline being studied.

We gathered information regarding the expectations of respondent lecturers towards the institutions where they work in developing their pedagogical competencies. The study program, department, or institution where the respondent lecturer works must contribute to developing the lecturer's pedagogical competence. This is very important because the ultimate goal of this research is to formulate an initial model of pedagogical competence suitable for lecturers with non-teaching backgrounds. Based on the results of in-depth interviews, we found that lecturers hope that the institutions where they work can help develop their pedagogical competencies by holding training, seminars, workshops, and intensive training. Eight respondents (67%) did not attend training and workshops in the study program because the training or workshops held were not related to developing pedagogical competence. The rest participated in training and makeshift workshops to fill in the activities.

3. Development Model for Pedagogical Competency Development for Lecturers from Non-Educational Backgrounds

The initial provision of basic pedagogical teaching skills in several higher education institutions has been implemented by providing Pekerti and AA training. The institution with the authority to organize this training is usually LP3M, a state university. Several universities in Banyumas Regency regularly take advantage of Pekerti and AA training activities organized by Jenderal Soedirman University. The target of this activity is new lecturers who will start teaching. Pekerti is a training activity that provides pedagogical competence for novice lecturers before facing various student backgrounds. Various materials provided in this training include those related to learning, starting from learning theory, teaching theory, learning methods, strategies to learning evaluation, creating learning sequences and tools, and teaching practice. AA training is a continuation of the PEKERTI training program. This program trains lecturers to have insight into learning, which includes material on Lecturer Professionalism Development Policy in Implementing Quality of Learning, Moral Ethics in Learning, Integrated Quality Management, Constructivism in learning, Reconstruction of Courses, Writing Teaching Materials, Basic Concepts and Development Paradigms Curriculum, Active and Innovative Learning Models, PBM Evaluation, Alternative Assessment, and Classroom Action Research Applications.

Skills in conveying learning to students require continuous practice and improvement so that students can receive and understand the material presented well. For this reason, efforts are needed to develop pedagogical competence on an ongoing basis. The results of extracting information from respondents willing to conduct interviews revealed three forms of efforts to develop pedagogical competence that could be carried out. First, developing pedagogical competence is carried out independently by the lecturer concerned through making teaching journals access information from books and the internet. Second, developing pedagogical



competence through colleagues and senior lecturers can be done by doing sit-ins in senior lecturers' classes, formal and informal discussion groups, and team teaching between junior and senior lecturers. Third, developing pedagogical competence through the institutions where you work is carried out by holding training, seminars, workshops, and intensive training related to pedagogical material. The target of this activity is all lecturers, both junior and senior lecturers, who want to develop their pedagogical competence. One possible reason why the pedagogical competence of university teachers has not received the attention it deserves is that their career development is still determined by their research achievements, especially for non-teaching universities (Merkt, 2017).

D. Conclusion

In general, the pedagogical competency development model takes three forms: development by the lecturer, development with senior colleagues or lecturers, and development by institutions. These three forms of development must be synergized and carried out sustainably. Formal appreciation or recognition of lecturers' teaching abilities is still limited in many higher education systems. This often leads to a lack of motivation for lecturers to develop their teaching skills because the focus of academic careers is often more inclined towards research and publications.

The next research will examine the development of a competency model-specific pedagogy that focuses on the initial characteristics of lecturers, their involvement with the organization, and their strategy for developing pedagogical competence—technique data processing with SMART-PLS with data collection techniques using a Likert scale questionnaire instrument. Further research is expected to be a strategic key to overcoming low pedagogical competence and quality of interaction between lecturers and students in the learning process.

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