

Analysis of Lecturer's Professional Competencies and Lecture Facilities on Lecturer Performance Through the Learning Process in The Digital Era at University of Pembangunan Panca Budi

Muhammad Isa Indrawan, Rahul Ardian Fikri, Elfitra Desy Surya

Abstract

This study aims to analyze the influence of lecturers' professional competencies and lecture facilities on lecturers' performance through the learning process in the digital era at university of pembangunan Panca Budi. The population in this study is all permanent lecturers at university of pembangunan Panca Budi totaling 370 peoples. Sample determination using Slovin formula so that a sample of 110 people was obtained. This study was analyzed using Smartpls. This article uses a descriptive quantitative research method using questioner and interview techniques. The results of the study show that the professional competence of lecturers has a positive and significant effect on the performance of lecturers at the university of pembangunan Panca Budi in the digital era. Lecture facilities have a positive and significant effect on the performance of lecturers at university of pembangunan Panca Budi in the digital era. The learning process in the digital era has a positive and significant effect on lecturer performance.

Keywords: Competence, Lecture Facilities, Lecturer Performance, Digital

Muhammad Isa Indrawan

Master of Management Study Program, University of Pembangunan Panca Budi, Indonesia

e-mail: isaindrawan@dosen.pancabudi.ac.id

Rahul Ardian Fikri, Elfitra Desy Surya

Law Science Study Program, Master of Management Study Program, University of Pembangunan Panca Budi, Indonesia

e-mail: rahulardian@dosen.pancabudi.ac.id, Elfitradesy@dosen.pancabudi.ac.id

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Introduction

In the 21st century, which has entered the digital era, all sectors have adapted to technology, including the education sector. The existence of the internet and smart phones connected to the internet makes everything easily accessible in the palm of your hand, including learning the world of education, which in this case is a lecturer as a learning implementer faces great challenges. The needs of students in the millennial era are different from students in previous eras. In the 5.0 era, students are very enthusiastic about digital and technological things, so lecturers in the digital era are now facing different challenges from the previous era. In the digital era, the Panca Budi campus has students who are actually the digital generation who have been familiar with internet technology since birth, so as a lecturer at the university of pembangunan Panca Budi, they must adjust and be professional with the use of fast-paced technology and information to support the acceleration of the learning process on the campus university of pembangunan Panca Budi.

Educational facilities are equipment and equipment that are directly used and support the educational process, especially the teaching and learning process such as buildings, classrooms, tables and chairs, as well as learning tools and media, while educational infrastructure is learning facilities that indirectly support the course of the learning process such as yards, parks, roads to campus, campus yards as well as sports fields, these components are educational infrastructure. The learning process is a system that aims to help the learning process of students, which is designed, in such a way as to support the occurrence of the learning process of students that is internal. Process learning is an overall activity that designed for learning students. In the educational unit, the learning process is held in an interactive, inspiring, fun, challenging, motivating students to actively participate in accordance with the talents, interests and psychology of students.

Lecturer performance is the ability shown by lecturers in carrying out their duties or work. Performance is said to be good and satisfactory if the results achieved are in accordance with the standards that have been set. Performance is a real behavior that everyone displays as work achievements produced by employees in accordance with their role in the company (organization). Sudarmayanti (2017) defines "performance (individual) is how a person carries out his work or performance. The word work performance describes that an individual's performance can be seen from the enthusiasm or seriousness of the individual in carrying out the tasks assigned to him. The object of this research is a lecturer at university of pembangunan Panca Budi. Based on the description above, the formulation of the problem in this study is: (1) whether the professional competence of lecturers has a positive and significant effect on the learning process at university of pembangunan Panca Budi. (2) whether lecture facilities have a positive and significant effect on the learning process at university of pembangunan Panca Budi. (3) whether the learning process has a positive and significant effect on the performance of lecturers at university of pembangunan Panca Budi. (4) whether the professional competence of lecturers has a positive and significant effect on the performance of lecturers at university of pembangunan Panca Budi. (5) whether lecture facilities have a positive and significant effect on the performance of lecturers of university of pembangunan Panca Budi whether the professional competence of lecturers has a positive and significant effect on the performance of lecturers of university of pembangunan Panca Budi. (6) whether the professional competence of lecturers affects lecturer performance through the learning process. (7) whether lecture facilities affect lecturers' performance through the learning process. The purpose of this study is to test and analyze the influence of lecturers' professional competencies, lecture facilities on lecturer performance through the learning process at university of pembangunan Panca Budi.

Literature review

Professional competencies

Professional competence refers to the abilities and skills required to carry out duties and responsibilities in a particular field with a high level of expertise. In the context of lecturers,

professional competence is the ability possessed by a lecturer to carry out academic duties (such as teaching, conducting research, and community service) effectively, based on knowledge, skills, and attitudes that are in accordance with the standards set in his profession. Professional competence is the ability possessed by individuals to carry out their duties and responsibilities in their professional field effectively, efficiently, and in accordance with set standards. In the context of education, especially for lecturers, professional competence includes in depth knowledge of the scientific field taught, teaching skills, and the ability to adapt to the development of science, technology, and the demands of the world of work. These competencies also include professional ethics, communication skills, and attitudes that support success in carrying out academic tasks.

Factors that affect professional competence are:

1. In-Depth Scientific Knowledge

Lecturers must have in-depth and up-to-date knowledge in the field taught. It includes an understanding of theories, concepts, methodologies, as well as the latest developments in relevant disciplines.

2. Teaching Skills (Pedagogic)

Lecturers must have the ability to teach in an effective and engaging way, including lesson planning, the use of various teaching methods, and evaluation of student progress.

3. Research Capabilities

Lecturers are expected to be able to conduct quality research, both in order to develop science and to support education. This research should have relevance to the topic being taught and can enrich academic resources.

4. Ability in Community Service

As part of the tri dharma of higher education, lecturers are expected to contribute to community service activities, applying science to help solve problems faced by the community

5. Ongoing Professional Development

Lecturers are also expected to continue to develop themselves through training, workshops, or further research. This development is important so that the competence of lecturers remains relevant to changes in the world of education and the development of science.

Indicators for professional competence according to husaini (2017) are:

1. Readiness to give lectures
2. Explainability
3. Technology mastery
4. Authority as a lecturer
5. Be an example/role model
6. Getting to know the student readiness to give lectures

Lecture Facilities

Lecture facilities refer to various facilities and infrastructure provided by educational institutions to support the teaching and learning process in higher education monde, J. J. M., Pio, R. J., & Rogahang, J. J. (2022). This facility aims to create a conducive, efficient, and effective educational environment, thereby supporting the achievement of optimal learning goals for students and lecturers Kurnia, E., Daulay, R., & Nugraha, F. (2019). Lecture facilities refer to various facilities and infrastructure provided by educational institutions to support the teaching and learning process in higher education. This facility aims to create a conducive, efficient, and effective educational environment, thereby supporting the achievement of optimal learning goals for students and lecturers.

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Factors that affect lecture facilities

1. Classroom facilities
2. Learning technology
3. Library
4. Laboratory and practicum facilities

Indicators for alkafi lecture facilities (2014)

1. Comfortable environment
2. Cleanliness
3. Supporting facilities
4. Location

Learning process

The learning process refers to a series of activities or interactions that occur between educators (such as lecturers or teachers) and learners (such as students or students) in an effort to achieve certain educational goals Hayani et.al, (2022). This process includes planning, implementation, evaluation, and reflection on the learning that takes place. In the context of education, the learning process aims to develop the knowledge, skills, attitudes, and values needed by students to be able to function effectively in their lives

Indicators of the learning process according to Lukman (2016)

1. Preparing the syllabus
2. Providing teaching materials
3. Provide learning media
4. Fill in lecture absences
5. Lectures on time
6. Student development

Lecturer Performance

Lecturer performance refers to the level of achievement of lecturers in carrying out their academic duties and responsibilities in accordance with the standards set by educational and professional institutions. This performance involves various aspects related to the process of education, research, community service, and professional development Taufandri, (2022). In general, lecturer performance includes the ability and effectiveness of lecturers in teaching, conducting research, and contributing to community development through various academic activities

Lecturer performance indicators according to Isyanto (2017)

1. Lecturer knowledge
2. Submission of material
3. Lecture regularly
4. Motivation ability
5. The workload is proportional to the credits
7. Isyanto's fair assessment system (2017)

Based on the background and formulation of the research problem above, the conceptual framework of this research is prepared as follows:

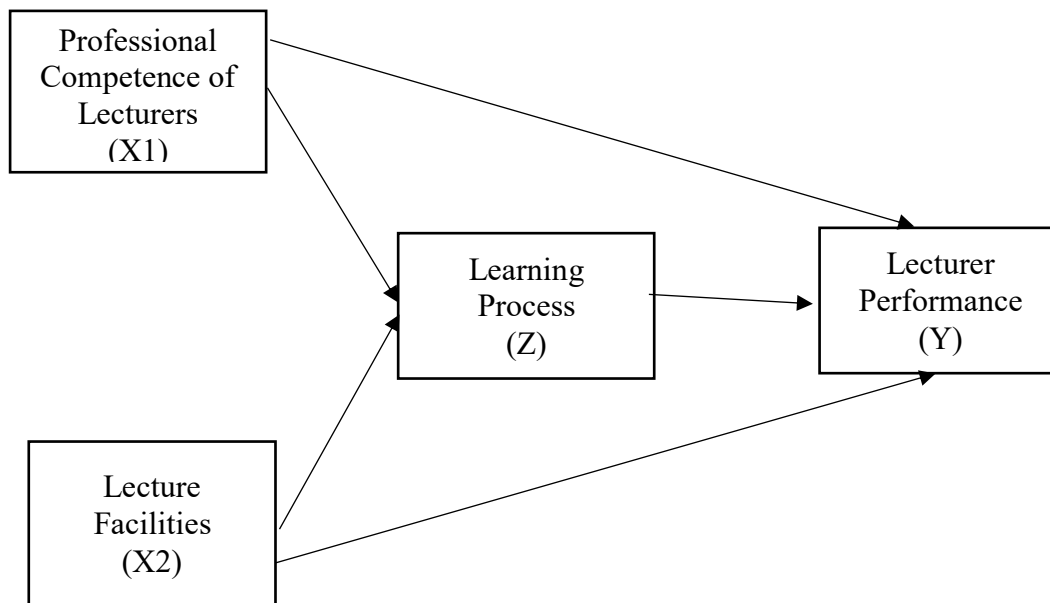


Figure 1: Conceptual Framework of the Research

Formulation of the hypothesis of this research:

- H1 : The professional competence of lecturers has a positive and significant effect on the learning process at university of Pembangunan Panca Budi
- H2 : Lecture facilities have a positive and significant effect on the learning process at university of Pembangunan Panca Budi
- H3 : The learning process has a positive and significant effect on the performance of lecturers at university of Pembangunan Panca Budi
- H4 : The professional competence of lecturers has a positive and significant effect on the performance of lecturers at the university of Pembangunan Panca Budi
- H5 : Lecture facilities have a positive and significant effect on the performance of lecturers at university of Pembangunan Panca Budi
- H6 : The professional competence of lecturers has a positive and significant effect on the performance of lecturers at university of Pembangunan Panca Budi through the learning process
- H7 : Lecture facilities have a positive and significant effect on the performance of lecturers at university of Pembangunan Panca Budi through the learning process.

Research methods

The research uses a descriptive method with a quantitative approach. The descriptive method aims to describe and explain the situation that exists at university of Pembangunan Panca Budi related to the performance of lecturers. Seda the research was carried out at university of Pembangunan Panca Budi. The research time is august 2024-october 2024.

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Population and sample

Sugiyono (2019) population is a generalization area consisting of objects or subjects that have certain qualities and characteristics that are determined by the researcher to be studied and then conclusions are drawn. The population and sample in this study were 370 lecturer university of Pembangunan Panca Budi and with the Slovin formula a sample of 110 lecturers were obtained.

$$N = n$$

$$\frac{370}{1 + \frac{(0,05)^2}{2}}$$

$$\frac{370}{3,775}$$

$$n = 110$$

Research data sources

The data source used in this study is primary operational data definition of research variables

Table 1. Variable Operational Definition

Types of variable	Operational definition	Indicator
Professional competencies (x1)	A set of abilities that a lecturer must have in order for him to carry out his teaching duties successfully Husaini (2017)	<ol style="list-style-type: none"> 1. Readiness to give lectures 2. Explainability 3. Mastery of technology communication 4. Authority as lecturer 5. Be an example/role model 6. Get to know the students Husaini (2017)
Lecture facilities (x2)	All facilities are needed in the teaching and learning process, both mobile and immobile, so that the achievement of educational goals can run smoothly, orderly, effectively and efficiently Alkafi, (2014)	<ol style="list-style-type: none"> 1. Comfortable environment 2. Hygiene 3. Supporting facilities 4. Location Alkafi, (2014)
Learning process (z)	A system that aims to help the learning process of students, which is designed, in such a way as to support the occurrence of an internal learning process of students Lukman,et al., (2016)	<ol style="list-style-type: none"> 1. Preparing the syllabus 2. Providing teaching materials 3. Provide learning media 4. Fill in lecture absences 5. Lectures on time 6. Student development. 7. Lukman,et al., (2016)
Lecturer performance (y)	How a person carries out his or her work or shows. The word job description describes that an individual's	<ol style="list-style-type: none"> 1. Lecturer knowledge 2. Submission of material 3. Lecture regularly 4. Motivation ability

	performance can be seen from the enthusiasm or seriousness of the individual in carrying out the tasks assigned to him Isyanto (2017)	5. Comparable taskload with his credits 6. Fair assessment system Isyanto (2017)
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Source: Researcher, 2024

Data analysis in this study uses structural equation modeling (sem) based on partial least square (pls) using Smartpls 3.3.3 software. According to (Gozali, 2014) partial least square (pls) is a fairly powerful analysis method because it is not based on many assumptions.

Results and discussion

Result in this research, the first test carried out was the analysis of the outer model (measurement model). There are two components in the validity test, namely the convergence test and the discrimination test. The validity of convergence was assessed through an average variance extracted (ave) score of > 0.5 and a loading factor value of > 0.7. The validity of the crime was tested by cross-loading. The reliability test was determined using cronbach's alpha > 0.7 and composite reliability > 0.7.

Table 2. Cronbach's alpha, composite reliability, and average variance extracted

Variable	Indicator items	Factor loading	Cronbach's alpha	Composite reliability	Ave	Conclusion
Professional competencies (x1)	Pct1	0,878	0,821	0,894	0,737	Reliable
	Pct2	0,862				
	Pct3	0,834				
	Pct4	0,885				
	Pct5	0,865				
	Pct6	0,875				
Lecture facilities (x2)	Lfc1	0,837	0,817	0,891	0,732	Reliable
	Lfc2	0,870				
	Lfc3	0,859				
	Lfc4	0,856				
Learning process (z)	Lpc1	0,831	0,827	0,885	0,785	Reliable
	Lpc2	0,909				
	Lpc3	0,873				
	Lpc4	0,865				
	Lpc5	0,875				
	Lpc6	0,865				
Lecturer performance (y)	Lpf1	0,799	0,841	0,905	0,760	Reliable
	Lpf2	0,789				
	Lpf3	0,864				
	Lpf4	0,932				
	Lpf5	0,832				
	Lpf6	0,835				

The factor loading score obtained based on table 2 is more than 0.70, which means that it shows the reliability of the indicator measuring the online purchase decision process. Cronbach's alpha and composite values. Eliability is greater than 0.70, proving that the five variables are said to be reliable. Meanwhile, the ave score > 0.5, proving that each variable was declared valid. The cross-loading value with its construct is used to test the validity of discrimination. In order to evaluate the validity of discrimination, an additional method that can

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be applied is to compare the average variance extracted (ave) score along with the correlation between the construct and other constructs.

Table 3. R-square

	R-square	R-square adapted
Learning process	0,903	0,897
Lecturer performance	0,912	0,908

The conclusion of the r-square value test on the learning process is that the r-square adjusted for the path model using the moderator variable is 0.897. This means that the variables professional competencies, lecture facilities factors by explaining is the lecturer performance 0,908.

Table 4. Direct effect

	Original sample (o)	Sample mean (m)	Standard deviation (stdev)	T statistics (o/stdev)	P-value
X1 -> z	0,505	0,675	0,465	0,009	0,001
X1 ->y	0,617	0,647	0,346	0,003	0,000
X2 -> z	0,775	0,647	0,546	0,889	0,001
X2 ->y	0,879	0,774	0,657	0,000	0,000
Z -> y	0,579	0,456	0,663	0,074	0,001

Table 5. Indirect effect

	Original sample (o)	Sample mean (m)	Standard deviation (stdev)	T statistics (o/stdev)	P-value
X1 -> y -> z	0,678	0,662	0,550	0,963	0,000
X2 ->y -> z	0,540	0,531	0,467	0,074	0,001

Discussion

From the results of the statistical test, professional competencies (x1) has a significant influence on the learning process (z). This can be clearly seen from the results of the table (0.009) < (1,672) with p-values (0.000) < 0.05, so that is accepted which shows that there is a positive and significant influence of the professional competencies factor on the learning process of professional competencies possessed by lecturers, such as a deep understanding of the scientific field taught, skills in managing the learning process, and the ability to adapt educational technology, greatly affects the quality of teaching. Competent lecturers can deliver material in a clear, interesting, and relevant way to student needs, making it easier for students to understand the material being taught. Lecturers with competence good professionals will be more productive in conducting research and scientific development. Research conducted by competent lecturers is not only beneficial for the development of knowledge, but also contributes to improving the quality of education in higher education. Lecturers who have good professional competence can produce quality research, which will strengthen academic reputation and improve the accreditation of educational institutions. One aspect of professional competence is the ability to develop a curriculum that is relevant to the development of science and the needs of the job market. Lecturers who are competent in this case are able to design study programs that are right on target, develop effective learning plans, and adjust learning methods to student needs and technological developments.

From the results of the statistical test, lecture facilities (x2) had a significant influence on the learning process (z). This can be clearly seen from the results of the table (0.003) < (1,672) with p-values (0.000) < 0.05, so that is accepted which shows that there is a positive and significant influence of the lecture facilities factor on the learning process of professional competence owned by lecturers. Learning facilities refer to various facilities and infrastructure provided by educational institutions to support and facilitate the learning process. These facilities can include comfortable classrooms, educational tools (such as computers, projectors, whiteboards), access to reading materials (libraries, journals, or digital resources), and various other educational technologies. Adequate learning facilities have a significant influence on the effectiveness and quality of the learning process. Equipped and modern facilities, such as laboratories, computer labs, or projectors, allow lecturers to deliver material in a more effective and engaging way. The available technology, such as the use of digital and interactive learning media, helps lecturers to explain complex concepts in a way that is easier for students to understand. Adequate facilities also support lecturers in using more varied and creative learning methods, such as project-based learning or technology-based learning.

From the results of the statistical test, the learning process (z) has a significant influence on the performance of lecturers (y). This can be clearly seen from the results of the table (0.089) < (1,672) with p-values (0.000) < 0.05, so that is accepted which shows that there is a positive and significant influence of the learning process factor on the performance of lecturers the learning process is a series of activities that involve interaction between lecturers and students to achieve educational goals. In the context of higher education, the learning process includes various aspects, such as the teaching methods used, the interaction between lecturers and students, the use of educational media or technology, and the assessment of student learning outcomes. The influence of the learning process on lecturer performance is very significant because an effective learning process can improve lecturer performance in various academic and professional aspects. An effective learning process allows lecturers to develop their teaching skills better.

By using a variety of methods, such as group discussions, case studies, or project-based learning, lecturers can improve the way of delivering material that is more interesting and relevant to students. Experience in managing various effective learning methods also enhances the pedagogic skills of lecturers, which in turn can improve their teaching performance. The interactive learning process encourages lecturers to be more active in communicating with students. More intensive interaction with students can help lecturers recognize the needs and difficulties experienced by students in understanding the material. By providing constructive and responsive feedback to their questions or confusions, lecturers can improve the quality of their teaching and improve communication and empathy skills in an educational context.

Conclusion

From the results of the research conducted, it can be concluded that based on the research conducted, the following are conclusions regarding the influence of professional competence and lecture facilities on lecturer performance mediated by the learning process in the digital era:

1. Professional competence improves lecturer performance

Lecturers' professional competencies, which include a deep understanding of teaching materials, pedagogical skills, and the ability to adapt technology in learning, have a significant influence on lecturer performance. Lecturers who have high professional competence are able to better manage classes, deliver material effectively, and conduct accurate evaluations. This competency is increasingly relevant in the digital era, where the use of technology in teaching is a determining factor in improving the quality of learning.

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2. Lecture facilities facilitate an effective learning process

Adequate lecture facilities, such as comfortable classrooms, fast internet access, educational technology devices, and other supporting facilities, play an important role in supporting an effective learning process. This facility allows lecturers and students to interact better, as well as support the use of technology in learning, such as e-learning, online discussion platforms, and other digital resources.

3. Digital learning process as a mediator

The learning process mediated by digital technology (such as online learning, blended learning, and the use of learning applications) plays the role of a mediator that connects the professional competence of lecturers and lecture facilities with lecturer performance. Technology-based learning allows lecturers to optimize their teaching, expand the range of materials, and interact with students more flexibly and efficiently. The digital learning process also provides space for lecturers to develop innovations in teaching, which contributes directly to improving their performance.

4. Improving lecturer performance through the integration of professional competencies, facilities, and technology

Lecturer performance is not only influenced by the professional competencies and available facilities, but also by the extent to which these two factors are utilized in the digital learning process. Lecturers who are able to integrate their professional competencies with existing lecture facilities, as well as make optimal use of learning technology, tend to have better performance in terms of teaching, research, and community service.

5. Recommendations for improving lecturer performance

To improve lecturer performance in the digital era, there needs to be continuous efforts in developing lecturers' professional competence, providing better lecture facilities, and improving lecturers' ability to use technology in learning. Universities need to provide regular training to lecturers related to the use of learning technology and provide adequate facility support to support a more interactive and efficient learning process.

Overall, professional competence and lecture facilities have a significant influence on lecturer performance, which is mediated by the digital learning process. With the effective integration of these three factors, lecturers' performance in teaching, interacting with students, and contributing to research and community service can increase. The implementation of technology in the learning process in the digital era has a significant positive impact on the quality of education and overall lecturer performance.

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