

Examining Indonesian lecturer competency scales: A PLS-SEM approach

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Abstract

This study aims to thoroughly diagnose the instruments used to assess lecturer competence in Indonesia. The respondents of this study were students enrolled at a large university located in the southwest region of Aceh Province, Indonesia. A stratified random sampling technique was applied, and 280 participants completed the questionnaire in full. The collected data were analysed using partial least squares structural equation modelling (PLS-SEM) with SmartPLS software version 4.1.0.9. We concluded that only 13 indicators were considered valid and reliable, namely KD1, KD2, KD4, KD5, KD6, KD7, KD8, KD9, KD10, KD12, KD15, KD16, and KD17. Four indicators had to be excluded from the model because they did not meet several criteria of the statistical test requirements, namely KD3, KD11, KD13, and KD14. Additionally, the pedagogical, professional, personality and social aspects were valid and reliable measures of the lecturer competency construct. We conducted the assessment of lecturer competency solely from the students' perspective. Future research could consider conducting a 360-degree assessment, incorporating the perspectives of superiors, colleagues, and students. This finding has confirmed the validity of the Indonesian lecturer competency questionnaire. It is anticipated that this instrument will serve as a reference and provide valuable insights, contributing to the advancement of global scientific knowledge.

Keywords: *Lecturer competence, Scale, PLS-SEM, Indonesia.*

Introduction

Lecturers are professionals entrusted with the noble task of developing and disseminating knowledge through education, research, and community service. Consequently, the Law of the Republic of Indonesia No. 14/2005 underscores the importance of lecturers possessing expertise in their respective fields. To this end, the government awards educator certificates (*sertifikat pendidik*) to competent lecturers as a formal recognition of their proficiency. In return, certified lecturers are entitled to receive a monthly

certification allowance equivalent to one month's basic salary. This benefit applies to lecturers at both state and private universities.

Referring to Article 1, Paragraph 10 of the Law of the Republic of Indonesia No. 14/2005, lecturer competence is defined “as a set of knowledge, skills, and behaviours that must be possessed, internalised, and mastered by lecturers in performing their professional duties”. Lecturer competence should be a priority for university leaders, as the professionalism of educators is a key determinant of student satisfaction, with students being the primary stakeholders of a university (Damasar *et al.*, 2017; Tarigan *et al.*, 2019). Student satisfaction, in turn, positively influences their loyalty to the institution where they study (Helgesen and Nasset, 2007; Brown and Mazzarol, 2009; Annamdevula and Bellamkonda, 2016). Retaining students has become increasingly challenging in the face of intense competition in the higher education sector. Several universities have recently been forced to close due to declining student enrolments (Fitri, 2016).

Regarding lecturer competence, numerous articles have been published on the topic in both national and international journals (see Tables 1 and 2).

Table 1. A national journal that examines the competencies of Indonesian lecturers

No.	Author(s)/title/journal	Country of the journal publisher	- Methods of data analysis - Research focus - Differences compared to our current research
1.	Sarimanah (2016). Improving Lecturers' Paedagogic Competence Through the Implementation of Lesson Study in Faculty of Teacher Training and Education of Pakuan University, Indonesia. <i>Journal of Education, Teaching and Learning</i> .	Indonesia	The data were analysed using descriptive methods. This study focuses on the analysis of lecturers' pedagogical competence. This study does not present the results of the reliability and validity tests for the indicators of lecturer competence.
2.	Kadir (2018). The Influence of Lecturer Competence and Learning Motivation on the Statistical Analysis Abilities of FTIK IAIN Kendari Students. <i>Al-Izzah: Jurnal Hasil-Hasil Penelitian</i> .	Indonesia	The data were analysed using multiple linear regression methods (SPSS software). This research examines the impact of lecturer

			competence on students' ability to understand inferential statistics. This research does not identify the indicators used to measure lecturer competence.
3.	Mediawati (2010). The Influence of Student Learning Motivation and Lecturer Competence on Academic Achievement. <i>Jurnal Pendidikan Ekonomi Dinamika Pendidikan</i>.	Indonesia	The data were analysed using multiple linear regression methods (SPSS software). This study examines the effect of lecturer competence on student academic achievement. This study uses different lecturer competence indicators from our current research.
4.	Murti and Prasetyo (2018). The Influence of Lecturer Competence on the Academic Achievement of Students at the Faculty of Economics and Business, Telkom University. <i>Jurnal Penelitian Pendidikan</i>.	Indonesia	The data were analysed using a simple linear regression method (SPSS software). This study examines the relationship between lecturer competence and student academic achievement. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
5.	Pulungan and Arda (2019). The Impact of Lecturer Competence on Student Learning Outcomes. <i>Liabilities (Jurnal Pendidikan Akuntansi)</i>.	Indonesia	The data were analysed using multiple linear regression methods (SPSS software). This study discusses the impact of lecturer competence on student learning outcomes. This study does not present the results of the reliability and validity tests for the

			lecturer indicators.	competence
6.	Damanik (2019). The Influence of Facilities and Lecturer Competence on Learning Motivation. <i>Jurnal EK & BI</i> .	Indonesia	The data were analysed using a multiple linear regression method (SPSS software). This study examines the influence of lecturer competence on student learning motivation. This study does not clearly identify the indicators used to measure lecturer competence.	
7.	Novianti and Nurlaelawati (2019). Pedagogical Competence Development of University Teachers With Non-Education Background: The Case of a Large University of Education in Indonesia. <i>International Journal of Education</i> .	Indonesia	This study employs interviews and focus group discussions. This study aims to develop the pedagogical competence of lecturers. This study does not involve statistical analysis.	
8.	Lengkong <i>et al.</i> (2023). Lecturer Competence in Improving the Quality of 4C of Higher Education Graduates in the Era of Society 5.0: Literature Review. <i>Journal of Education Research</i> .	Indonesia	This study employs a literature review method. This paper discusses the impact of lecturer competence on the quality of university graduates. The concept of lecturer competence in this study differs from the one we refer to.	
9.	Pertiwi <i>et al.</i> (2024). A Strategy for Developing Lecturer Competence to Address the Challenges of 21st-Century Education. <i>Jurnal Review Pendidikan dan Pengajaran</i> .	Indonesia	This study employs a literature review method. This study discusses strategies for developing lecturer competence. No statistical results are presented in this study.	
10.	Nurmawati <i>et al.</i> (2024). The Influence of Leadership, Motivation, Organizational Culture, Lecturer Competence on Lecturer	Indonesia	The data were analysed using a multiple linear regression method (SPSS software).	

	Performance with Lecturer Discipline as Intervening. <i>IJEBD (International Journal of Entrepreneurship and Business Development)</i> .		This study examines the impact of competence on lecturer performance. The concept of lecturer competence in this study differs from the one we refer to.
11.	Halik and Nurlia (2024). Influence of Lecturer Competence on the Quality of Education in the Management Department of UKIP Makassar. <i>Jurnal GeoEkonomi</i> .	Indonesia	The data were analysed using a correlation analysis method (SPSS software). This study examines the influence of lecturer competence on the implementation of higher education standards. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
12.	Riza <i>et al.</i> (2024). Improving Lecturer Competence to Encourage Innovation and Creativity in Learning. <i>Jurnal Ilmiah Peuradeun</i> .	Indonesia	The data were analysed using descriptive methods. This study identifies the challenges faced by universities in improving lecturer competence. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
13.	Wulandari <i>et al.</i> (2024). Explaining Gender in Moderating the Effect of Competency, Work Discipline and Job Satisfaction on Lecturer Performance. <i>Al-Tanzim: Jurnal Manajemen Pendidikan Islam</i> .	Indonesia	The data were analysed using a multiple linear regression method (SPSS software). This study examines the impact of competence on lecturer performance. This study does not clearly identify the indicators used to measure lecturer competence.
14.	Nursa'adah <i>et al.</i> (2024). Analysis of Learning Outcome Achievements	Indonesia	The data were analysed using descriptive statistics.

	and Support of Lecturer Competencies towards International Accreditation. <i>Jurnal Akuntabilitas Manajemen Pendidikan</i> .		This study examines the impact of lecturer competence on the international accreditation of higher education. This study does not clearly identify the indicators used to measure lecturer competence.
15.	Irawati <i>et al.</i> (2024). The Influence of Competence and Professionalism on Lecturer Performance: A Study of Lecturers at STIE Pembangunan Tanjungpinang. <i>Jurnal Greenation Ilmu Akuntansi</i> .	Indonesia	The data were analysed using a descriptive survey method. This article examines the level of lecturer competence at the university. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
16.	Usman <i>et al.</i> (2024). The Role of Muraqabah in Developing Pedagogical Competence Among Islamic Higher Education Lecturers. <i>Jurnal Pendidikan Islam</i> .	Indonesia	The data were analysed using descriptive statistical methods. This study focuses on the development of pedagogical competence in Islamic higher education settings. This study does not present the results of the reliability and validity tests for the pedagogical competence indicators.

Table 2. International journals that examine the competencies of Indonesian lecturers

No.	Author(s)/title/journal	Country of the journal publisher	- Methods of data analysis - Research focus - Differences compared to our current research
1.	Indrasari <i>et al.</i> (2015). The Influence of Academic Climate and Individual Creativity on Lecturer Competence in Private University	Canada	The data were analysed using multiple linear regression methods (SPSS software).

	at Surabaya Indonesia. <i>International Journal of Business and Management</i> .		This study examines the influence of academic climate and individual creativity on lecturer competence. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
2.	Handajani <i>et al.</i> (2017). Influence of Motivation and Competence Factor on Lecturers' Performance in Universitas Negeri Surabaya. <i>Atlantis Press</i> .	Netherlands	The data were analysed using a multiple linear regression method (SPSS software). This study tested the effect of competence on lecturer performance. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
3.	Utama <i>et al.</i> (2017). The Effect of Lecturer Competence on Work Productivity of Private Higher Education Lecturer in Aceh. <i>Advances in Social Science, Education and Humanities Research</i> .	Netherlands	The data were analysed using a simple linear regression method (SPSS software). This study examines the impact of lecturer competence on the productivity of lecturers in private universities. This study does not clearly identify the indicators used to measure lecturer competence.
4.	Hartono <i>et al.</i> (2017). Does Organizational Learning Affect the Performance of Higher Education Lecturers in Indonesia? The Mediating Role of Teaching Competence. <i>International Journal of Environmental and Science Education</i> .	Turkey	The data were analysed using the structural equation model (AMOS 22 software). This study examines the impact of competence on lecturer performance. This study does not present detailed indicators for measuring lecturer competence.

5.	Widyanto and Mersa (2018). The Influence of Lecturer Competence And Students Quotient on Understanding of Accounting Science (Empirical Study on Students in Accounting Department of State Polytechnic Samarinda). <i>International Journal of Scientific and Technology Research</i> .	India	The data were analysed using multiple linear regression methods (SPSS software). This study examines the influence of lecturer competence on the scientific understanding within the accounting department. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
6.	Imron <i>et al.</i> (2019). Lecturer Development Competency Management in Improving the Quality of Education and Teaching. <i>Advances in Social Science, Education and Humanities Research</i> . Atlantis Press.	Netherlands	The data were analysed using descriptive qualitative methods. This study focuses on strategies for developing lecturer competence. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
7.	Yusup <i>et al.</i> (2019). The Influence of Competence, Work Participation, and Job Satisfaction of Lecturers Toward Work Productivity. <i>International Journal of Scientific and Technology Research</i> .	India	The data were analysed using the path analysis method (SPSS software). This study tested the effect of lecturer competence on work productivity. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
8.	Budiansyah and Putri (2020). Influence of Lecturer Competence, Lecturer Motivation and Organizational Culture to Lecturer Performance in the Private Vocational School in Bandung City. <i>PalArch's Journal of Archaeology of Egypt/Egyptology</i> .	Netherlands	The data were analysed using the path analysis method (SPSS software). This study examines the effect of competence on lecturer performance. This study uses lecturer competence indicators that

			differ from those in our current research.
9.	Rahardja <i>et al.</i> (2020). Determinants of Lecturer Performance to Enhance Accreditation in Higher Education. In <i>2020 8th International Conference on Cyber and IT Service Management (CITSM). IEEE.</i>	United States	The data were analysed using the structural equation model (Lisrel 8.80 software). This study examines the effect of competence on lecturer motivation and performance. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
10.	Handayani <i>et al.</i> (2020). The Role of Smart Working in Mediating Participatory Altruistic Leadership, Competence, Quality Knowledge in Learning Performance of Lecturers in Higher Education. <i>International Journal of Higher Education.</i>	Canada	The data were analysed using a structural equation model (Lisrel software). This study tested the effect of competence on learning performance. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
11.	Suwiyadi <i>et al.</i> (2020). Teacher's Innovation: Efforts to Improve Lecturer Performance through Competence, Motivation and Innovation. <i>International Journal of Innovation, Creativity and Change.</i>	Australia	The data were analysed using the structural equation model (AMOS 21 software). This study tested the effect of competence on lecturer performance. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.
12.	Mas <i>et al.</i> (2021). Identifying the Gap between Lecturer Competencies and Student Learning Outcomes in the Challenging Era of the 21st Century. <i>Journal of Contemporary Issues in Business and Government.</i>	India	This study employs a literature review method. It discusses efforts to bridge the gap between lecturers' technological application competencies and student learning outcomes in the 21st century.

			This study does not involve statistical analysis.
13.	Dewi and Erawati (2024). Does Learning Behavior, Learning Environment, Learning Methods, and Lecturer Competency Effect on The Level of Accounting Understanding? <i>Tennessee Research International of Social Sciences</i> .	Australia	The data were analysed using the multiple linear regression method (SPSS software). This study analyses the influence of lecturer competence on the level of accounting understanding. This study does not present the results of the reliability and validity tests for the lecturer competence indicators.

Tables 1 and 2 above respectively display 16 and 13 articles (a total of 29 articles) discussing the competence of Indonesian lecturers. Based on the data presented in the tables, several conclusions can be drawn:

- (a) Data analysis methods: 15 articles employed regression analysis methods (SPSS software); four articles utilised structural equation modelling (AMOS and Lisrel software); five articles adopted qualitative descriptive methods; and the remaining five articles employed the literature review method.
- (b) Overall, it can be concluded that the previous articles failed to comprehensively present the results of the reliability and validity tests for the Indonesian lecturer competence questionnaire.

Our research is significantly different from previous studies. First, unlike others, we used partial least squares structural equation modelling (PLS-SEM) for data analysis (Suwiyadi *et al.*, 2020; Dewi and Erawati, 2024). Second, we tested the reliability and validity of the Indonesian lecturer competence questionnaire developed by the Indonesian Ministry of Higher Education (Kemenristekdikti-RI, 2019). The constructs include pedagogical, professional, personality, and social aspects. To the best of our knowledge, previous researchers have rarely addressed these issues. Therefore, this study aims to examine in depth: (i) whether the developed indicators effectively measure the dimensions of

pedagogical, professional, personality, and social competence; and (ii) whether these aspects represent the dimensions of Indonesian lecturer competence.

Literature Review

Lecturers are professional educators and scholars with the primary responsibility of transforming, developing, and disseminating knowledge, technology, and art through education, research, and community service (Article 1, Paragraph 2, Law of the Republic of Indonesia No. 14/2005). Furthermore, Article 45 of the same law and Article 2 of Government Regulation of the Republic of Indonesia No. 37/2009 emphasise that lecturers must possess competence.

Explanations of lecturer competence can be found in reputable international scientific journals. For instance, Bentley and Pegram (2003) stated that “competence encompasses ability, adequacy of performance, possession of knowledge, skills, appropriate attitudes, and awareness of the impact of changes occurring both within and outside the organization”. In a recent article, Valantinaite and Navickiene (2024) provide a comprehensive account of lecturer competence. The Lithuanian researchers explain that “lecturer competencies refer to a combination of knowledge, skills, experience, and personal attributes that enable a lecturer to support the achievement of specific goals in the context of higher education”. These competencies include the ability to organise a student-centred learning process, communicate effectively, develop up-to-date subject knowledge, and encourage students to explore their fields of study. Additionally, lecturer competence involves the ability to motivate and engage students in the learning process, as well as to facilitate the development of analytical, critical thinking, and problem-solving skills, which are essential for students’ personal and professional development.

However, in the Indonesian context, it is necessary to refer to Article 1, Paragraph 10, Law of the Republic of Indonesia No. 14/2005 to define the terminology above. According to this regulation, competence is defined as a set of knowledge, skills, and behaviours that must be possessed, internalised, and mastered by teachers or lecturers in carrying out their professional duties. The competencies required of lecturers include

pedagogical, personality, professional, and social competencies (Article 69, Paragraph 2, Law of the Republic of Indonesia No. 14/2005). Pedagogical competence refers to the ability to manage student learning effectively. Professional competence entails mastering subject matter comprehensively and in-depth. Personality competence involves having a strong and upright character, being wise and authoritative, and serving as a role model for students. Social competence refers to the ability to communicate and interact effectively and efficiently with students, colleagues, parents or guardians, and the wider community.

In Indonesia, the ministry responsible for education issues teaching certificates (*sertifikat pendidik*) to lecturers deemed competent, signifying state recognition of their professionalism (Article 6, Paragraph 1, Permenristekdikti RI No. 51/2017). Consequently, lecturers who hold teaching certificates are entitled to receive a monthly professional allowance equivalent to one basic salary, funded from the State Budget (*APBN*) (Article 53, Paragraphs 1 and 2, Law of the Republic of Indonesia No. 14/2005; Article 3, Permenristekdikti RI No. 20/2017). This benefit is extended to lecturers at both state and private universities, provided their institutions are accredited.

The instrument for assessing the competence of Indonesian lecturers has been comprehensively designed by the Ministry of Higher Education of the Republic of Indonesia. Our search identified at least three regulations governing this matter, namely those from 2019, 2021, and 2022 (see Kemenristekdikti-RI, 2019; Kepdirjendikti No. 92/E/KPT/2021; Kepdirjendikti No. 101/E/KPT/2022). Essentially, the lecturer competency questionnaire in these regulations is derived from the Law of the Republic of Indonesia No. 14/2005. Several relevant indicators have been carefully developed by education experts to measure pedagogical, professional, personality, and social aspects.

However, in this study, we are particularly interested in evaluating the lecturer competency questionnaire outlined in Kemenristekdikti-RI, 2019. In our view, the instrument presented in this regulation is more detailed and comprehensive compared to the other two regulations. To the best of our knowledge, the Ministry of Higher Education of the Republic of Indonesia, as the designer of the questionnaire, has not clarified whether the instrument has been scientifically tested for validity and reliability. Furthermore,

previous researchers have also given insufficient attention to conducting an in-depth evaluation of the items within the instrument.

For reference, the assessment of lecturer competency in Ukraine differs from that in Indonesia. In the former Soviet Union, lecturer competency is assessed based on three profiles: (i) professional and pedagogical, (ii) social and personal, and (iii) academic. The professional and pedagogical profile is evaluated through three competencies: innovative, digital, and managerial. The social and personal profile is assessed based on two competencies: civic responsibility and leadership. The academic profile is evaluated through three competencies: research, international cooperation, and scientific public relations (Khoruzha *et al.*, 2019).

Innovative competence is defined as a lecturer's openness to and awareness of changes, reforms, or transformations that affect the work environment. Digital competence refers to a lecturer's ability to utilise various information technologies in teaching students. Management competence reflects a lecturer's actions in effectively managing the teaching process, including how they manage students and assess learning outcomes. Civic competence is an integral part of a lecturer's role in fulfilling an important social mission within society. Leadership competence involves the lecturer's ability to support students, communicate with them, and foster the development of initiatives among students. Research competence reflects the core performance of a modern lecturer, who does not merely transmit existing knowledge to students but is an active individual capable of acquiring new knowledge and creating knowledge within the university environment. International cooperation among lecturers is a prerequisite for the internationalisation of science and education, serving as a key requirement for enhancing quality. Scientific public relations refer to a lecturer's ability to popularise scientific findings to the wider world and supplement the content of courses with the latest scientific discoveries.

Research Methods

This Measurement of constructs

We analyse the lecturer competency questionnaire developed by the Kemenristekdikti RI (2019, pp. 20-21). The construct comprises four dimensions:

pedagogical, professional, personality, and social. A total of 17 indicators are employed to measure these dimensions, as shown in Table 3. The indicators are measured using a 7-point Likert scale, ranging from a low of 1 (strongly disagree) to a high of 7 (strongly agree).

Table 3. Dimensions and indicators of lecturer competency

Code	Dimensions and indicators
	<i>Dimension 1: Pedagogical</i>
KD1	Learning tools in the form of Semester Learning Plans (RPS).
KD2	Learning packaging.
KD3	Learning materials are provided according to the lecturer's preferences.
KD4	Assessment of student learning outcomes.
	<i>Dimension 2: Professional</i>
KD5	Structure of the material taught.
KD6	Mastery of the field of knowledge being taught.
KD7	Nature of the material being taught.
KD8	The material taught and its references.
KD9	Student involvement in research, study, development, engineering, design, and community service.
	<i>Dimension 3: Personality</i>
KD10	Wisdom in decision-making.
KD11	Providing an example in attitude and behaviour.
KD12	Self-control in various situations and conditions.
KD13	Unbiased treatment of students.
	<i>Dimension 4: Social</i>
KD14	Ability to communicate verbally and in writing.
KD15	Attitude towards accepting criticism, suggestions, and opinions from students.
KD16	Interaction with students.
KD17	Tolerance of student diversity.

Source: Kemenristekdikti RI (2019, pp. 20-21)

Data collection and sampling

We recruited several assistants to carry out the fieldwork for the research. They were trained in the design of the study. The team was responsible for distributing and collecting the completed questionnaires from the respondents. The trained personnel also assisted with data entry. The focus of this research was a large university located in the Southwest

region of Aceh Province, Indonesia. The team members distributed paper-based questionnaires proportionally to students at the institution. The aim was to gather their perceptions regarding the competence of the lecturers who taught them. A stratified random sampling technique was employed in this study. Ultimately, we managed to collect 280 fully completed questionnaires from the participants.

Data analysis

We conduct a detailed analysis of the Indonesian lecturer competency questionnaire using the partial least squares structural equation modelling (PLS-SEM) method, with the aid of SmartPLS software version 4.1.0.9. The rationale for this approach is that, to the best of our knowledge, this particular topic has not received significant attention from previous researchers. It is worth noting that the use of this software in the field of human resource management is increasingly popular among researchers worldwide (Ringle *et al.*, 2020). Additionally, Microsoft Excel and IBM SPSS Statistics version 25 were also employed for the descriptive data analysis.

Results and Discussion

Respondent profile

The questionnaire we distributed received responses from 280 individuals, comprising 30.71% male (n = 86) and 69.29% female (n = 194). Respondents represented a wide variety of study programmes, as detailed in Table 4 below.

Table 4. Characteristics of respondents

	Description	Frequency	%
Gender	Male	86	30.71
	Female	194	69.29
Study programme (bachelor's degree)	Development		
	Economics	17	6.07
	Management	54	19.29
	Accounting	12	4.29
	Agribusiness	10	3.57
	Agrotechnology	5	1.79
	Public Health	16	5.71
	Public Administration	38	13.57

Communication			
Science	18	6.43	
Law	6	2.14	
Sociology	34	12.14	
Fisheries Science	32	11.43	
Marine Science	5	1.79	
Aquaculture	7	2.50	
Civil Engineering	14	5.00	
Mechanical			
Engineering	6	2.14	
Industrial Engineering	6	2.14	

Description of lecturer competencies

The initial step in the testing process is to examine the description of lecturer competencies in the object being studied. At this stage, the description of lecturer competencies is analysed based on the average value ($\bar{x}$) of each dimension. Table 5 presents the interval and category of average values as a guideline for decision-making. In this study, we set a minimum threshold of $\bar{x} = 4.63$. Table 6 displays the results of the calculation of the mean and standard deviation for each dimension.

Table 5. Intervals and categories of average values

Intervals			Categories
1.00	-	2.20	Very poor
2.21	-	3.41	Poor
3.42	-	4.62	Fair
4.63	-	5.83	Good
5.84	-	7.00	Very good

Table 6. Mean values and standard deviations

One-Sample Statistics				
	N	Mean ($\bar{x}$)	Std. Deviation	Std. Error Mean
Pedagogical	280	5.05	1.11	0.07
Professional	280	5.23	1.08	0.06

Personality	280	5.19	1.04	0.06
Social	280	5.64	1.10	0.07

Source: The output of IBM SPSS statistics version 25

The one-sample test procedure is then applied to determine whether the $\bar{x}$ of each dimension is statistically significant. Table 7 shows that the t-statistic values for each dimension exceed the critical value of 1.96, and all are significant.

Table 7. Results of the one-sample test

Test Value = 4.63						
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pedagogical	6.41	279	0.00	0.42	0.29	0.55
Professional	9.36	279	0.00	0.60	0.47	0.73
Personality	9.13	279	0.00	0.56	0.44	0.69
Social	15.35	279	0.00	1.01	0.88	1.13

Source: The output of IBM SPSS statistics version 25

Measurement model (outer model)

At this stage, we conducted four tests: indicator reliability, internal consistency, convergent validity, and discriminant validity (Hair *et al.*, 2022). Figure 1 shows that the outer loading of each indicator and dimension exceeds 0.60. Table 8 demonstrates that the composite reliability (CR) of each dimension is greater than 0.70, and the average variance extracted (AVE) of each dimension is greater than 0.50.

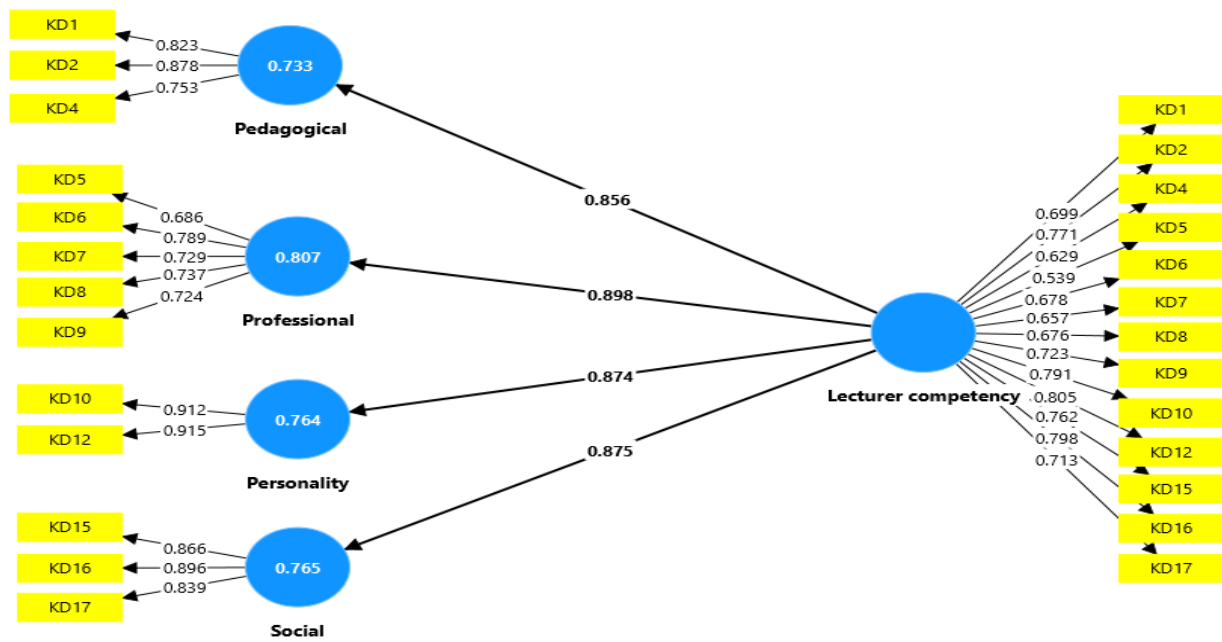


Figure 1. The output of the PLS-SEM

Table 8. Cronbach's alpha, CR, AVE, and R-square

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)	R- square
Personality	0.801	0.801	0.910	0.834	0.764
Pedagogical	0.754	0.766	0.860	0.672	0.733
Professional	0.786	0.789	0.853	0.538	0.807
Social	0.835	0.839	0.901	0.752	0.765
Average				0.699	0.767

Source: The output of SmartPLS (v. 4.1.0.9)

Note: CR = composite reliability; AVE = average variance extracted

Finally, discriminant validity is assessed using the Fornell-Larcker criteria and cross-loading. Table 9 indicates that the Fornell-Larcker criteria are satisfied. Additionally, Table 10 confirms that the indicators used to measure the dimensions are distinct from one another.

Table 9. Fornell-Larcker criterion

	Personality	Pedagogical	Professional	Social
Personality	0.913			
Pedagogical	0.690	0.820		
Professional	0.717	0.683	0.734	
Social	0.719	0.660	0.683	0.867

Source: The output of SmartPLS (v. 4.1.0.9)

Table 10. Cross loadings

Code	Indicators	Dimensions			
		Pedagogical	Professional	Personality	Social
KD1	Learning tools in the form of Semester Learning Plans (<i>RPS</i>).	0.823	0.527	0.602	0.539
KD2	Learning packaging.	0.878	0.613	0.620	0.617
KD4	Assessment of student learning outcomes.	0.753	0.539	0.465	0.458
KD5	Structure of the material taught.	0.390	0.686	0.389	0.357
KD6	Mastery of the field of knowledge being taught.	0.521	0.789	0.515	0.489
KD7	Nature of the material being taught.	0.531	0.729	0.495	0.495
KD8	The material taught and its references.	0.487	0.737	0.543	0.554
KD9	Student involvement in research, study, development, engineering,	0.556	0.724	0.654	0.579

	design, and community service.				
KD10	Wisdom in decision- making.	0.641	0.645	0.912	0.636
KD12	Self-control in various situations and conditions.	0.619	0.664	0.915	0.678
KD15	Attitude towards accepting criticism, suggestions, and opinions from students.	0.600	0.572	0.641	0.866
KD16	Interaction with students.	0.609	0.630	0.660	0.896
KD17	Tolerance of student diversity.	0.505	0.573	0.568	0.839

Source: The output of SmartPLS (v. 4.1.0.9)

Structural model (inner model)

At this stage, we evaluate three aspects: (i) assessing collinearity issues, (ii) assessing the significance of the model, and (iii) assessing the explanatory power of the structural model. Table 11 shows that the variance inflation factor (VIF) for each indicator is less than 3.00. This indicates that there are no signs of collinearity among the indicators forming the dimensions in the model (Hair *et al.*, 2022, p. 147).

Table 11. Collinearity statistics (VIF)

Code	Indicators	VIF
KD1	Learning tools in the form of Semester Learning Plans (RPS).	1.622
KD2	Learning packaging.	1.832
KD4	Assessment of student learning outcomes.	1.566
KD5	Structure of the material taught.	1.469
KD6	Mastery of the field of knowledge being taught.	1.805
KD7	Nature of the material being taught.	1.647
KD8	The material taught and its references.	1.784

KD9	Student involvement in research, study, development, engineering, design, and community service.	1.412
KD10	Wisdom in decision-making.	2.421
KD12	Self-control in various situations and conditions.	1.808
KD15	Attitude towards accepting criticism, suggestions, and opinions from students.	2.258
KD16	Interaction with students.	2.230
KD17	Tolerance of student diversity.	1.790

Source: The output of SmartPLS (v. 4.1.0.9)

The results of the model significance evaluation are presented in Figure 2. Indicators KD1, KD2, and KD4 are significant contributors to the formation of the pedagogical dimension. Indicators KD5, KD6, KD7, KD8, and KD9 are significant contributors to the formation of the professional dimension. Indicators KD10 and KD12 significantly form the personality dimension, while indicators KD15, KD16, and KD17 significantly form the social dimension. As shown in Table 12, the indicators forming these dimensions have t-statistics > the critical value of 1.96 and p-values of 0.000 < the significance level of 0.05. Furthermore, Figure 2 and Table 13 illustrates that the pedagogical, professional, personality, and social dimensions are significant contributors to the formation of the lecturer competency construct (t-statistics > 1.96; p-values = 0.000).

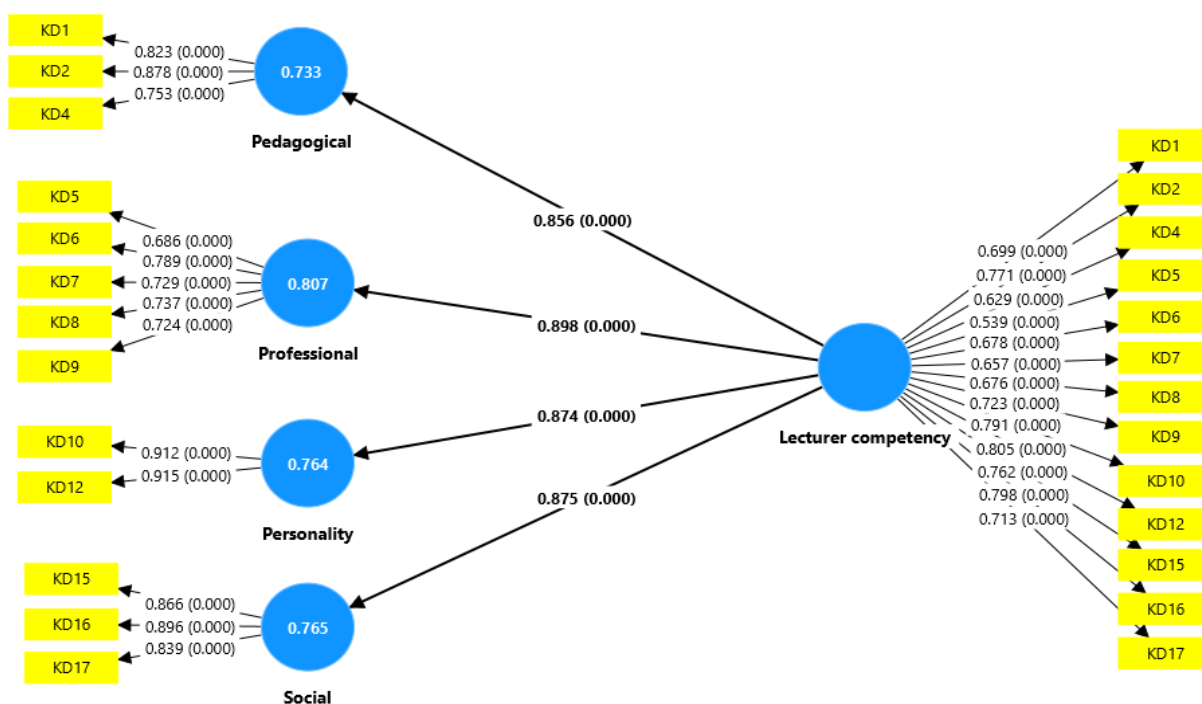


Figure 2. The output of bootstrapping (5000 sub-samples)

Table 12. Outer loadings

Code	Dimensions and indicators	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P-values
<i>Dimension 1: Pedagogical</i>						
KD1	Learning tools in the form of Semester Learning Plans (RPS).	0.823	0.823	0.028	28.968	0.000
KD2	Learning packaging.	0.878	0.879	0.018	49.449	0.000
KD4	Assessment of student learning outcomes.	0.753	0.752	0.038	19.568	0.000
<i>Dimension 2: Professional</i>						
KD5	Structure of the material taught.	0.686	0.682	0.045	15.102	0.000
KD6	Mastery of the field of knowledge being taught.	0.789	0.788	0.030	26.444	0.000
KD7	Nature of the material being taught.	0.729	0.729	0.047	15.448	0.000
KD8	The material taught and its references.	0.737	0.738	0.038	19.276	0.000
KD9	Student involvement in research, study, development, engineering, design, and community service.	0.724	0.726	0.033	22.216	0.000
<i>Dimension 3: Personality</i>						
KD10	Wisdom in decision-making.	0.912	0.911	0.014	63.020	0.000

KD12	Self-control in various situations and conditions.	0.915	0.914	0.014	65.105	0.000
<i>Dimension 4: Social</i>						
KD15	Attitude towards accepting criticism, suggestions, and opinions from students.	0.866	0.866	0.021	40.306	0.000
KD16	Interaction with students.	0.896	0.896	0.014	62.282	0.000
KD17	Tolerance of student diversity.	0.839	0.839	0.032	26.525	0.000

Source: The output of SmartPLS (v. 4.1.0.9)

Table 13. Mean, STDEV, t-values, and p-values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-statistics ((O/STDEV))	P-values
Lecturer competency → Pedagogical	0.856	0.856	0.019	44.164	0.000
Lecturer competency → Professional	0.898	0.899	0.018	50.153	0.000
Lecturer competency → Personality	0.874	0.874	0.018	49.708	0.000
Lecturer competency → Social	0.875	0.875	0.015	57.364	0.000

Source: The output of SmartPLS (v. 4.1.0.9)

The assessment of the structural model's explanatory power is based on the coefficient of determination (R^2) value. The R^2 value ranges from 0 to 1, with higher values indicating a greater level of explanatory power. Hair *et al.* (2019) stated that R^2 values of 0.75, 0.50, and 0.25 correspond to strong, moderate, and weak models, respectively. Table 8 at the top displays the R^2 values. The pedagogical has an R^2 of 0.733 (moderate), the professional has an R^2 of 0.807 (strong), the personality has an R^2 of 0.764 (strong), and the social has an R^2 of 0.765 (strong).

4.5. Model fit

We assessed the model fit by referring to the Global Fit (GoF) index. The GoF guidelines are 0.10, 0.25, and 0.36, which correspond to low, moderate, and strong fit, respectively (Wetzels *et al.*, 2009). Based on our calculations, the GoF index for this study is 0.732, indicating that the fit of our proposed model falls into the 'strong' category. The results were calculated based on the data in Table 8 above, as follows:

$$\text{GoF} = \sqrt{AVE \times \overline{R^2}} = \sqrt{0,699 \times 0,767} = \sqrt{0,536} = 0,732$$

Description of lecturer competencies

Table 6 presents the average value ($\bar{x}$) of each dimension of the lecturer competency construct. The pedagogical dimension has an average value of $\bar{x} = 5.05$, the professional dimension $\bar{x} = 5.23$, the personality dimension $\bar{x} = 5.19$, and the social dimension $\bar{x} = 5.64$. A minimum threshold of $\bar{x} = 4.63$, categorised as 'good', was established. The results of the one-sample test (Table 7) are as follows: (i) the t-statistic for the pedagogical dimension is 6.41; (ii) the t-statistic for the professional dimension is 9.36; (iii) the t-statistic for the personality dimension is 9.13; and (iv) the t-statistic for the social dimension is 15.35. Each t-statistic exceeds the critical value of 1.96. Furthermore, each dimension has a significance (Sig.) value of 0.00, which is smaller than the significance threshold of 0.05. These findings indicate that the competency of lecturers, as assessed across the four dimensions, significantly exceeds the minimum threshold. In other words, the competency of lecturers in the object of study, when viewed from the pedagogical, professional, personality, and social aspects, falls within the 'good' category.

Mediawati (2010) conducted a study on lecturer competence within the Accounting Study Programme, Faculty of Economics, Universitas Pendidikan Indonesia. The respondents in her study were students from the programme. She reported that the lecturers' competence, as assessed in her study, fell into the 'high' category. Similarly, Pulungan and Arda (2019) investigated the same topic, focusing on students from the Faculty of Economics and Business at UMSU. Their findings indicated that, overall, lecturer competence was in the 'good' category. However, neither of these studies included a

significance test, as conducted in our research. Nevertheless, it can be concluded that the results of our study align with the findings of these earlier researchers.

Diagnosis of lecturer competency constructs

Figure 1 illustrates that the outer loading of each indicator exceeds 0.60, as does the outer loading of each dimension. According to Hair *et al.* (2019), indicators with an outer loading between ≥ 0.40 and < 0.70 can be retained in the model, provided they satisfy the requirements for internal consistency and convergent validity. Therefore, all indicators contributing to the dimensions, as well as all dimensions forming the construct, are deemed reliable. In summary: (i) indicators KD1, KD2, and KD4 are reliable measures of the pedagogical dimension; (ii) indicators KD5, KD6, KD7, KD8, and KD9 are reliable measures of the professional dimension; (iii) indicators KD10 and KD12 are reliable measures of the personality dimension; and (iv) indicators KD15, KD16, and KD17 are reliable measures of the social dimension. Consequently, it can be concluded that the pedagogical, professional, personality, and social aspects are reliable measures of the construct of lecturer competence.

Table 8 presents the composite reliability (CR) values for each dimension. Specifically, the CR for the pedagogical is 0.766, the CR for the professional is 0.789, the CR for the personality is 0.801, and the CR for the social is 0.839. All the CR values exceed the threshold of 0.70, indicating that they meet the criteria for internal consistency (Hair *et al.*, 2012). This demonstrates that the indicators used to measure the dimensions are interrelated and consistent with one another. In other words, it can be concluded that the set of indicators used to measure the aspects is both robust and reliable.

Table 8 also presents the average variance extracted (AVE) values for each dimension. Specifically, the pedagogical has an AVE of 0.672, the professional 0.538, the personality 0.834, and the social 0.752. All AVE values exceed the threshold of 0.50, indicating that they satisfy the criteria for convergent validity (Hair *et al.*, 2012; Hair *et al.*, 2019; Hair *et al.*, 2022). Convergent validity refers to the principle that the indicators (manifest variables) of a construct should exhibit a high degree of correlation (Ghozali, 2021,

p. 68). In this context, it can be interpreted that the aforementioned indicators accurately represent the dimensions of the lecturer competency construct.

The final stage in the measurement model is the discriminant validity test. Discriminant validity in this context is assessed using the Fornell-Larcker criteria and cross-loadings. Tables 9 and 10 illustrate that discriminant validity has been achieved. In essence, discriminant validity relates to the principle that indicators (manifest variables) of different constructs should not be highly correlated (Ghozali, 2021, p. 68). Within the context of this study, it can be concluded that the set of indicators used to measure the dimensions of the lecturer competency construct are distinct from one another.

Based on the evaluation results, the measurement model recommends retaining 13 indicators out of the 17 originally proposed. Four indicators were eliminated as they did not meet several required criteria. These excluded indicators are KD3 (pedagogical dimension), KD11 and KD13 (personality dimension), and KD14 (social dimension). The four proposed dimensions--pedagogical, professional, personality and social--are also recommended as valid measures of the lecturer competency construct.

The bootstrapping results further confirm that the 13 indicators mentioned above are significant measures of the pedagogical, professional, personality, and social dimensions. Moreover, the four dimensions are also significant as measures of the lecturer competency construct. Finally, the calculated Goodness of Fit (GoF) index for this study is 0.732, indicating that the proposed model falls into the 'strong' category.

Several previous researchers (e.g., Murti and Prasetyo, 2018; Kadir, 2018; Pulungan and Arda, 2019) have also employed the pedagogical, professional, personality, and social dimensions to measure lecturer competence. Their studies primarily focused on examining the relationships or influences between independent and dependent constructs. However, these studies did not delve deeply into the validity and reliability of the manifest variables as measures of the dimensions, nor the dimensions as measures of the constructs.

Theoretical Implications

The results of this study offer theoretical contributions, particularly to the field of human resource management. First, the construct of Indonesian lecturer competency, developed by the Ministry of Higher Education of the Republic of Indonesia, has been tested by academics in accordance with established scientific principles. The findings indicate that most of the questionnaire items are reliable, which can serve as a valuable reference for other researchers undertaking further studies. Second, the questionnaire instrument developed in this study can contribute to the global body of scientific knowledge, drawing inspiration from Indonesia.

Managerial Implications

The results of this study also offer managerial contributions. First, leaders of higher education institutions in Indonesia can use this questionnaire to assess the competence of lecturers within the organisations they lead. Second, senior university leaders can be more confident in adopting this questionnaire, as its reliability and validity have been scientifically tested by academic experts.

Conclusion

Based on the results of the questionnaire analysis, we conclude that only 13 indicators are considered valid and reliable: KD1, KD2, KD4, KD5, KD6, KD7, KD8, KD9, KD10, KD12, KD15, KD16, and KD17. Four indicators must be excluded from the model as they do not meet several requirements of the statistical tests, namely KD3, KD11, KD13, and KD14. Furthermore, the four proposed dimensions--pedagogical, professional, personality, and social--are deemed valid and reliable measures of the lecturer competency construct.

This study has at least two limitations that guide future studies in this discipline. First, the sample was drawn from only one university. This approach was adopted for financial efficiency, as the study was self-financed. Future research could expand the sample scope to ensure that the results are more widely accepted by various groups. Second, the lecturer's competency was assessed solely from the students' perspective. Future research

might consider conducting a 360-degree assessment, incorporating the perspectives of superiors, colleagues, and students to extend the findings.

References

- Annamdevula, S., & Bellamkonda, R. S. (2016). Effect of Student Perceived Service Quality on Student Satisfaction, Loyalty and Motivation in Indian Universities: Development of HiEduQual. *Journal of Modelling in Management*, 11(2), 1–5. <https://doi.org/10.1108/JM2-01-2014-0010>
- Bentley, J., & Pegram, A. (2003). Achieving Confidence and Competence for Lecturers in a Practice Context. *Nurse Education in Practice*, 3(3), 171–178. [https://doi.org/10.1016/S1471-5953\(02\)00112-9](https://doi.org/10.1016/S1471-5953(02)00112-9)
- Brown, R. M., & Mazzarol, T. W. (2009). The Importance of Institutional Image To Student Satisfaction and Loyalty Within Higher Education. *Higher Education*, 58(1), 81–95. <https://doi.org/10.1007/s10734-008-9183-8>
- Budiansyah, Y., & Putri, A. A. (2020). Influence of Lecturer Competence, Lecturer Motivation and Organizational Culture to Lecturer Performance in the Private Vocational School in Bandung City. *PalArch's Journal of Archaeology of Egypt/ Egyptology*, 17(5), 926–940.
- Damanik, B. E. (2019). Pengaruh Fasilitas Dan Kompetensi Dosen Terhadap Motivasi Belajar. *Jurnal EK&BI*, 2(2), 231–240.
- Damasar, I., Mardji, Sutadji, E., & Isnandar. (2017). The Influence of Information System, Academic Infrastructures, and Lecturer Professional Competence on The Quality of Academic Services to Improve College Students' Satisfaction. *European Journal of Education Studies*, 3(8), 588–600. <https://doi.org/10.5281/zenodo.842897>
- Dewi, P. M. P. P., & Erawati, N. M. A. (2024). Does Learning Behavior, Learning Environment, Learning Methods, and Lecturer Competency Effect on The Level of Accounting Understanding? *Tennessee Research International of Social Sciences*, 6(2), 149–163.
- Fitri. (2016). *PTS Tutup Karena Kurang Mahasiswa*. LLDIKTI-XII.
- Ghozali, I. (2021). *Partial Least Squares: Konsep, Teknik dan Aplikasi Menggunakan Smart PLS 3.2.9 untuk Penelitian Emperis* (3rd ed.). Badan Penerbit Universitas Diponegoro.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (3rd ed.). SAGE Publication, Inc.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to Use and How to Report the Results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research. *Journal of the Academy of Marketing Science*, 40(3), 414–433. <https://doi.org/10.1007/s11747-011->

- Halik, J. B., & Nurlia, N. (2024). Influence of Lecturer Competence on the Quality of Education in the Management Department of UKIP Makassar. *Jurnal GeoEkonomi*, 15(1), 138–147. <https://doi.org/10.36277/geoekonomi.v15i1.326>
- Handajani, S., Rahayu, I. A. T., & Pritasari, O. K. (2017). Influence of Motivation and Competence Factor on Lecturers' Performance in Universitas Negeri Surabaya. *Proceedings of the 1st International Conference on Social, Applied Science and Technology in Home Economics (ICONHOMECES 2017)*, 112(September), 51–54. <https://doi.org/10.2991/iconhomecs-17.2018.12>
- Handayani, S., Sugiharto, D. Y. P., Sutarto, J., & Kardoyo. (2020). The Role of Smart Working in Mediating Participatory Altruistic Leadership, Competence, Quality Knowledge in Learning Performance of Lecturers in Higher Education. *International Journal of Higher Education*, 9(5), 346–352. <https://doi.org/10.5430/IJHE.V9N5P346>
- Hartono, E., Wahyudi, S., Harahap, P., & Yuniawan, A. (2017). Does Organizational Learning Affect the Performance of Higher Education Lecturers in Indonesia? The Mediating Role of Teaching Competence. *International Journal of Environmental and Science Education*, 12(4), 865–878.
- Helgesen, Ø., & Nettet, E. (2007). Images, Satisfaction and Antecedents: Drivers of Student Loyalty? A Case Study of a Norwegian University College. *Corporate Reputation Review*, 10(1), 38–59. <https://doi.org/10.1057/palgrave.crr.1550037>
- Imron, A., Dewi, V. A., Sonhadj, A., Suriansyah, A., & Aslamiah. (2019). Lecturer Development Competency Management in Improving the Quality of Education and Teaching. *Advances in Social Science, Education and Humanities Research*, 381, 94–99. <https://doi.org/10.2991/coema-19.2019.21>
- Indrasari, M., Newcombe, P., Eliyana, A., & Yunus, E. (2015). The Influence of Academic Climate and Individual Creativity on Lecturer Competence in Private University at Surabaya Indonesia. *International Journal of Business and Management*, 10(8), 127–134. <https://doi.org/10.5539/ijbm.v10n8p127>
- Irawati, L., Priatna, D. K., & Ridwan, S. (2024). Pengaruh Kompetensi dan Profesionalisme Terhadap Kinerja Dosen (Studi Pada Dosen STIE Pembangunan Tanjungpinang). *Jurnal Greenation Ilmu Akuntansi*, 2(1), 36–43.
- Kadir, A. (2018). Pengaruh Kompetensi Dosen Dan Motivasi Belajar Terhadap Kemampuan Analisis Statistika Mahasiswa FTIK IAIN Kendari. *Al-Izzah: Jurnal Hasil-Hasil Penelitian*, 13(1), 1–15. <https://doi.org/10.31332/ai.v13i1.886>
- Kemenristekdikti-RI. (2019). *Pedoman Sertifikasi Pendidik untuk Dosen Terintegrasi (Buku 2: Penilaian Portofolio)*. Kementerian Riset, Teknologi dan Pendidikan Tinggi Republik Indonesia.
- Keputusan Direktur Jenderal Pendidikan Tinggi Kementerian Pendidikan, Kebudayaan, Riset Dan Teknologi Republik Indonesia Nomor 101/E/KPT/2022 Tentang Pedoman Operasional Sertifikasi Pendidik Untuk Dosen.

Keputusan Direktur Jenderal Pendidikan Tinggi Kementerian Pendidikan, Kebudayaan, Riset Dan Teknologi Republik Indonesia Nomor 92/E/KPT/2021 Tentang Pedoman Operasional Sertifikasi Pendidik Untuk Dosen.

Khoruzha, L., Bratko, M., Kotenko, O., Melnychenko, O., & Proshkin, V. (2019). The Study of the Higher School Lecturer's Competence in Ukraine: Diagnostics and Analytics. *The New Educational Review*, 55(1), 233–244. <https://doi.org/10.15804/tner.2019.55.1.19>

Lengkong, J. S. J., Pijoh, V. D., Siagian, I. E. T., Mamesah, Y. P. M., & Sapulete, I. M. (2023). Lecturer Competence in Improving the Quality of 4C of Higher Education Graduates in the Era of Society 5.0: Literature Review. *Journal of Education Research*, 4(4), 2347–2352.

Mas, S. R., Saryanto, Ili, L., Rahmat, S. T., & Hendriarto, P. (2021). Identifying the Gap between Lecturer Competencies and Student Learning Outcomes in the Challenging Era of the 21st Century. *Journal of Contemporary Issues in Business and Government*, 27(2), 1957–1965. <https://doi.org/10.47750/cibg.2021.27.02.206>

Mediawati, E. (2010). Pengaruh Motivasi Belajar Mahasiswa dan Kompetensi Dosen Terhadap Prestasi Belajar. *Jurnal Pendidikan Ekonomi Dinamika Pendidikan*, V(2), 134–146.

Murti, R. W., & Prasetyo, A. P. (2018). Pengaruh Kompetensi Dosen terhadap Prestasi Akademik Mahasiswa Fakultas Ekonomi dan Bisnis Telkom University. *Jurnal Penelitian Pendidikan*, 18(2), 94–102. <https://doi.org/10.17509/jpp.v18i2.12950>

Novianti, N., & Nurlaelawati, I. (2019). Pedagogical Competence Development of University Teachers With Non-Education Background: The Case of a Large University of Education in Indonesia. *International Journal of Education*, 11(2), 172. <https://doi.org/10.17509/ije.v11i2.15711>

Nurmawati, N., Assagaf, A., & Sukiman, S. (2024). The Influence of Leadership, Motivation, Organizational Culture, Lecturer Competence on Lecturer Performance with Lecturer Discipline as Intervening. *IJEED (International Journal of Entrepreneurship and Business Development)*, 7(1), 198–208. <https://doi.org/10.29138/ijebd.v7i1.2640>

Nursa'adah, E., Maisarah, I., Wiwit, Syafriadin, & Candra, I. N. (2024). Analysis of Learning Outcome Achievements and Support of Lecturer Competencies towards International Accreditation. *Jurnal Akuntabilitas Manajemen Pendidikan*, 12(1), 17–31.

Peraturan Menteri Riset, Teknologi, Dan Pendidikan Tinggi Republik Indonesia Nomor 20 Tahun 2017 Tentang Pemberian Tunjangan Profesi Dosen Dan Tunjangan Kehormatan Profesor.

Peraturan Menteri Riset, Teknologi, Dan Pendidikan Tinggi Republik Indonesia Nomor 51 Tahun 2017 Tentang Sertifikasi Pendidik Untuk Dosen.

Peraturan Pemerintah Republik Indonesia Nomor 37 Tahun 2009 Tentang Dosen.

Pertiwi, T. P., Pangestuti, D. D., Febrian, W. D., Nove, A. H., Megavitry, R., & Imanirubiarko, S. (2024). Strategi Pengembangan Kompetensi Dosen untuk Menanggapi Tantangan Pendidikan Abad Ke-21. *Jurnal Review Pendidikan Dan Pengajaran*, 7(1), 2586–2594.

Pulungan, D. R., & Arda, M. (2019). Kompetensi Dosen dan Pencapaian Hasil Belajar

Mahasiswa. *Liabilities (Jurnal Pendidikan Akuntansi)*, 2(2), 115–124.
<https://doi.org/10.30596/liabilities.v2i2.3288>

- Rahardja, U., Lutfiani, N., Setiani Rafika, A., & Purnama Harahap, E. (2020). Determinants of Lecturer Performance to Enhance Accreditation in Higher Education. *2020 8th International Conference on Cyber and IT Service Management (CITSM)*, October, 1–7. <https://doi.org/10.1109/CITSM50537.2020.9268871>
- Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2020). Partial Least Squares Structural Equation Modeling in HRM Research. *International Journal of Human Resource Management*, 31(12), 1–26. <https://doi.org/10.1080/09585192.2017.1416655>
- Riza, S., Syarif, M., Mardatillah, F., Salam, A. J., Khafidah, W., & Yusuf, M. (2024). Improving Lecturer Competence to Encourage Innovation and Creativity in Learning. *Jurnal Ilmiah Peuradeun*, 12(1), 249–272. <https://doi.org/10.26811/peuradeun.v12i1.1078>
- Sarimanah, E. (2016). Improving Lecturers' Paedagogic Competence Through the Implementation of Lesson Study in Faculty of Teacher Training and Education of Pakuan University, Indonesia. *Journal of Education, Teaching and Learning*, 1(2), 51–55.
- Suwiyadi, Riyadi, S., & Sukrisno. (2020). Teacher's Innovation: Efforts to Improve Lecturer Performance through Competence, Motivation and Innovation. *International Journal of Innovation, Creativity and Change*, 11(5), 543–554.
- Tarigan, Z. J. H., Sutapa, I. N., Mochta, J., & Suprpto, W. (2019). Measuring Teachers' Competency in Determining Students' Satisfaction Through Electronic Internet Survey Method. *International Journal of Information and Education Technology*, 9(3), 236–240. <https://doi.org/10.18178/ijiet.2019.9.3.1206>
- Undang-Undang Republik Indonesia Nomor 14 Tahun 2005 Tentang Guru Dan Dosen.
- Usman, Usman, A. A., & Azizah, F. P. (2024). The Role of Muraqabah in Developing Pedagogical Competence Among Islamic Higher Education Lecturers. *Jurnal Pendidikan Islam*, 10(2), 43–53. <https://doi.org/10.15575/jpi.v10i2.38650>
- Utama, I., Sagala, S., & Sitompul, H. (2017). The Effect of Lecturer Competence on Work Productivity of Private Higher Education Lecturer in Aceh. *Advances in Social Science, Education and Humanities Research*, 104, 94–98. <https://doi.org/10.2991/aisteel-17.2017.21>
- Valantinaite, I., & Navickiene, V. (2024). The Phenomenon of Lecturer Competences as a Prerequisite for the Advancement of Sustainable Development Ideas in the Context of Student-Centred Studies. *Sustainability*, 16(4), 1–18. <https://doi.org/10.3390/su16041472>
- Wetzels, M., Odekerken-Schroder, G., & Van-Oppen, C. (2009). Using PLS Path Modeling for Assessing Hierarchical Construct Models: Guidelines and Empirical Illustration. *MIS Quarterly*, 33(1), 177–196. <https://doi.org/10.2307/20650284>
- Widyanto, E. A., & Mersa, N. A. (2018). The Influence of Lecturer Competence And Students Quotient on Understanding of Accounting Science (Empirical Study on Students in Accounting Department of State Polytechnic Samarinda). *International Journal of Scientific and Technology Research*, 7(12), 40–49.

- Wulandari, A. F., Winarno, A., Luturlean, B. S., & Nur, F. (2024). Explaining Gender in Moderating the Effect of Competency, Work Discipline and Job Satisfaction on Lecturer Performance. *Al-Tanzim: Jurnal Manajemen Pendidikan Islam*, 8(2), 650–663. <https://doi.org/10.33650/al-tanzim.v8i2.7193>
- Yusup, M., Mukhtar, & Risnita. (2019). The Influence of Competence, Work Participation, and Job Satisfaction of Lecturers Toward Work Productivity. *International Journal of Scientific and Technology Research*, 8(12), 628–642.