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Exploring the predictor of teaching quality using the job demands-resources model

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Abstract. *Introduction*. Maintaining teaching quality in higher education in Indonesia is challenging due to the significant job demands placed on lecturers, who are expected to fulfill multiple roles as educators, researchers, and mentors. *Aim*. The present research *aimed* to explore the potential of using the job demands-resources (JD-R) model to evaluate the quality of teaching in higher education. *Methodology and research methods*. This study employs structural equation modelling (SEM) using SmartPLS 3.0 software to analyse the research model based on a random sample of 285 lecturers from nineteen universities in Indonesia. *Results*. It has been established that role conflict among lecturers negatively impacts teaching quality, whereas self-efficacy positively influences it. The paper presents methods for utilising the JD-R model to examine factors related to the performance of higher education teachers. *Scientific novelty.* This study, utilising the capabilities of the JD-R model, identifies factors that influence teaching quality and presents mechanisms that underlie the relationship between role conflict and the level of self-efficacy in teaching performance among high school educators in Indonesia. *Practical significance*. The paper outlines the opportunities available to university administrations and the Indonesian Ministry of Education, Culture, Research, and Technology for making critical management decisions related to teaching quality. This includes restructuring the educational process to reduce the burden on teachers and expanding the methods used to assess their performance. These goals can be accomplished through the development of innovative organisational support systems.

Keywords: lecturer role conflict, teaching quality, job demands-resources model, self-efficacy level, teacher enthusiasm, emotional exhaustion

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Исследование предиктора качества преподавания с помощью модели JD-R

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Аннотация. *Введение.* Поддержание качества преподавания в высших учебных заведениях Индонезии является сложной задачей из-за высоких требований к работе преподавателей, которые выступают в роли не только педагогов, но и исследователей и наставников. *Цель.* Исследуются возможности использования модели «требования к работе – ресурсы» (JD-R) в оценке качества преподавания в высшей школе. *Методология, методы и методики исследования.* В этом исследовании используется моделирование структурными уравнениями (SEM) с помощью программного обеспечения SmartPLS 3.0 для проверки влияния исследовательской модели на работу 285 преподавателей, отобранных случайным образом в 19 университетах Индонезии. *Результаты*. Установлено, что конфликт ролей в работе преподавателя отрицательно влияет на качество преподавания, тогда как убежденность преподавателя в своей способности эффективно действовать в той или иной ситуации, понимаемая в исследовании как самоэффективность, положительно влияет на качество преподавания. Представлены пути использования модели JD-R для изучения факторов, связанных с производительностью труда преподавателей высшей школы. *Научная новизна*. Это исследование, опирающееся на возможности модели «требования к работе – ресурсы» (модель JD-R), выявляет факторы, влияющие на качество преподавания, и представляет механизмы, лежащие в основе взаимосвязи между конфликтом ролей и уровнем самоэффективности труда преподавателя в высшей школе в Индонезии. *Практическая значимость*. Представлены возможности администраций университетов и Министерства образования, культуры, исследований и технологий

Индонезии принимать необходимые управленческие решения, касающиеся вопросов качества преподавания, включая изменение структуры учебного процесса, с целью уменьшения нагрузки на преподавателей и расширение подходов к оценке их труда, в том числе за счет развития новых форм организационной поддержки.

Ключевые слова: конфликт ролей преподавателя, качество преподавания, модель «требования к работе – ресурсы», уровень самоэффективности, энтузиазм преподавателя, эмоциональное истощение

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Introduction

In recent decades, pedagogical studies revealed that classroom instructional practices are critical in student achievement. The scholars also revealed that the teacher's role and classroom behaviour are more closely related to student achievement than the other determinants [1, 2]. The teacher fully sets up the classroom instructional practices [3, 4, 5]. Therefore, the teacher's role is critical in providing high teaching quality.

Many scholars agree that teaching quality is a crucial aspect in shaping the educational experience and student's learning outcomes [4, 6, 7]. As revealed by previous studies, a good teacher, reflecting on their teaching strategies and classroom behaviour, has a significant impact on making a distinction in student achievement [4, 8]. Furthermore, classroom instructional processes are crucial for educational effectiveness [2, 9]. Therefore, teaching quality plays a critical role in achieving the educational goal.

Although the importance of teaching quality is evident, maintaining the teaching quality in higher education is challenging due to the high job demands of lecturers, not only as a teacher but also as a researcher [10, 11, 12]. Moreover, lecturers in Indonesia must provide social services to the community according to their expertise. Therefore, Indonesian lecturers have to run three roles simultaneously. This study examines the work-related factors that promote or reduce teaching quality and explores the underlying mechanism between them.

This study used the job demands-resources model (JD-R model) proposed by E. Demerouti, A. B. Bakker, F. Nachreiner et al. [13] as a theoretical anchor to examine the work-related factors toward teaching quality. The JD-R model is utilised due to its popularity, cross-cultural validity, and flexibility to adapt to different academic contexts and fields [10, 14]. As revealed in the JD-R model, the predictors of job performance are divided into job demands (such as workload and job role conflicts) and job resources (such as organisational climate). Furthermore, job demands and job resources have two psychological processes on job performance simultaneously:

undermining job performance through health impairment and promoting job performance through motivation or engagement [15].

However, there are few studies of teaching quality that used job demands and job resources as predictors. The previous studies explored the predictor of teaching quality using student composition [16], knowledge, beliefs [4, 17–20], self-efficacy, and enthusiasm [4, 21, 22, 23, 24, 25]. Therefore, this study tries to address the gap by exploring the predictors of teaching quality using the JD-R model.

This study provides two main contributions. Theoretically, this study contributes to the body of literature regarding teaching quality by examining the work-related factors using another perspective and theoretical anchor, the JD-R model. Practically, this study provides critical insight and understanding to the university administrator and government (educational ministry) to take appropriate policies related to the structure of lecturer job demands. With the appropriate understanding of lecturer work-related factors, the university administrator and government can apply the right policies to promote and maintain the lecturer's teaching quality.

Literature Review

Teaching Quality

The literature and previous studies conceptualised teaching quality as an observable behaviour of teachers covering teacher-student interaction during instructional activities [4, 6, 7]. As scholars explain, teaching quality refers to the three dimensions of the specific teaching domain: cognitive activation, student support (supportive climate), and classroom management [4, 6, 26].

Cognitive activation is teaching activities that stimulate students' high-order thinking skills through selected strategies and tasks in creating challenging learning situations. According to B. Fauth, J. Decristan, A.-T. Decker et al. [4] and A.-K. Praetorius, E. Klieme, B. Herbert et al. [26], cognitive activation includes how the teacher explores the ideas, concepts, and students' prior knowledge. For example, teachers can use classroom discussion to solve problems rather than direct "true or false" questions. Classroom discussion can increase student engagement through classroom participation during learning activities [18, 26]. Therefore, cognitive activation practices can promote students' ability to reconstruct, elaborate, and integrate the information into a deeper understanding.

Besides the challenging environment, J. Baumert & M. Kunter [18] and C. R. Stefanou, K. C. Perencevich, M. DiCintio [27] also revealed that student support plays another crucial factor in promoting the students' engagement during learning activities. Student support refers to teacher-student and student-student quality interaction during learning activities [26]. The relationship represents positive and constructive interactions, such as the teacher treating students with respect, interest, and support [26, 28]. For example, even though students make mistakes or misconceptions during learning activities, teachers still give a positive approach. Furthermore, teachers provide a room for students to express different ideas, choic-

es, needs, and interests. With these practices, teachers will establish a supportive learning environment that positively affects learning goals.

Last, classroom management refers to the teachers' ability to allocate teaching time efficiently to achieve learning goals. Furthermore, the notion of classroom management also refers to the teachers' ability to prevent classroom instructional disruptions or interpersonal conflicts [20, 29]. The study by B. Fauth, J. Decristan, A.-T. Decker et al. indicates classroom management as the rules and procedures implemented by the teacher to ensure smooth transitions during teaching activities [4]. Classroom management aims to identify and foster desirable student behaviours and prevent undesirable ones [30]. The studies by A.-K. Praetorius, E. Klieme, B. Herbert et al. [26], K. Rakoczy, E.Klieme, B. Drollinger-Vetter et al. [31], T. Seidel & R. J. Shavelson [32] also revealed that a well-organised and structured classroom environment is crucial in promoting students' motivation and achievement.

Job Demands-Resources Model (JD-R Model)

The JD-R model proposed that every job may have a particular risk. E. Demerouti, A. B. Bakker, F. Nachreiner et al. classified the risks into two categories: job demands and job resources [13]. Job demands refer to "those physical, social, or organisational aspects of the job that require sustained physical or mental health and are therefore associated with certain physiological and psychological costs" [15]. Job demands will be stimulating and stressful when employees have to work hard to meet them [10, 15]. Meanwhile, job resources indicate "those physical, psychological, social, or organisational aspects of the job that are functional in achieving work goals, reduce job demands and the associated physiological and psychological costs, or stimulate personal growth, learning, and development" [15]. Therefore, job resources are a factor that reduces psychological stress and motivational factors to promote job performance.

The JD-R model has two psychological processes: negative (health impairment) and positive (motivation). First, regarding health impairment, excessive job demands positively increase exhaustion and burnout, leading to health problems and undermining job performance. Second, motivational in nature, sufficient job resources will encourage work motivation and promote job performance in turn.

In 2007, the revised version of the JD-R model assumed that job resources would interact and decrease the negative effect of job demands, specifically exhaustion [15]. The job resources will help to meet the job demands and achieve job objectives [10, 33]. In addition, the revised model of the JD-R also accommodates the mediation perspectives. Motivation and exhaustion are assumed to mediate the relationship between job demands and resources to job performance [10, 14, 15]. Moreover, the recent JD-R model suggests differentiating job resources and personal resources [34]. Personal resources (e.g. self-efficacy) refer to individual beliefs regarding how much control they have over the environment.

Grounded in the JD-R model, this study examines key variables to explore predictors of teaching quality among lecturers. Lecturer role conflict is identified as a job demand, while self-efficacy serves as a job resource, both influencing teaching

quality. Additionally, occupational well-being – measured through emotional exhaustion and teaching enthusiasm – is included as a mediating variable between these predictors and teaching outcomes.

Role Conflict and Self-Efficacy as Predictors

As conceptualised by role theory, an individual can occupy multiple roles simultaneously [35]. The lecturer is a profession with multiple roles or duties. Besides teaching duties, lecturers must conduct research activities. The lecturers constantly keep pace with science and technology development through research activities [36, 37]. The situation makes a lecturer have to run multiple roles simultaneously. Meanwhile, the scarcity model [38] revealed that someone with too many job roles is more likely to experience role conflict due to a lack of energy and time. The other studies also revealed that role conflict occurs when the roles overlap and are incompatible [39, 40], unable to meet all the roles' expectations [35], and one role's performance interferes with another role [39].

Furthermore, previous studies by L. Xu [11], M. A. Rafsanjani, L. Hakim, N. Laily [41], M. A. Rafsanjani, M. A. Ghofur, D.Fitrayati [42] also show that lecturers who run multiple roles simultaneously are prone to role conflict due to a lack of energy and time. The role conflict makes lecturers suffer because of time and energy constraints [10, 11, 43]. The situation makes a lecturer more focused on one role and less on the other roles. The other findings show that raising job demands undermines employee performance [44] and innovative behaviours [45, 46, 47]. Relying on the previous findings, we hypothesised that multiple lecturer roles lead to job role conflict that negatively affects teaching quality.

A. B. Bakker and E. Demerouti [34] recommended focusing more on personal resources when applying the recent JD-R model. The current study used self-efficacy as another variable to predict teaching quality. In general, self-efficacy is conceptualised as individual beliefs about their ability to handle complex tasks [48, 49]. Regarding the teaching domain, teachers' self-efficacy refers to the teachers' beliefs about the capability to teach the subject matter and to meet the desired student learning outcomes even though teaching challenging students [10, 48, 50, 51].

The literature evidenced that teachers' self-efficacy positively predicts teacher effectiveness [50, 52] and teaching quality [25, 53]. Furthermore, teachers with high self-efficacy tend to have a high teaching passion [10, 54]. Besides, they also show more persistence and less stress in facing challenging students [48, 50] and are motivated to promote teaching performance [10]. Teacher with high self-efficacy also shows a willingness to invest more time and energy in planning and teaching activities and be more open to new perspectives (e.g. ideas and methods) [10, 51]. Therefore, we hypothesised that teachers' self-efficacy positively affects teaching quality.

Occupational Well-Being as a Mediator

The current study also examined the mediation effect as recommended by the revised model of JD-R. We used occupational well-being as a mediator between the antecedents (lecturer role conflict and self-efficacy) and the consequent variable (teaching quality). R. M. Ryan & E. L. Deci conceptualised occupational well-being

as the most appropriate condition of psychological and work experience [55]. The literature proposed two constructs (emotional exhaustion and work enthusiasm) as occupational well-being indicators [56, 57, 58]. We used occupational well-being to accommodate the two contradictory psychological processes of the JD-R model: negative and positive processes. Emotional exhaustion and work enthusiasm were selected as mediating variables to explain the negative and positive effects of the antecedents (lecturer role conflict and self-efficacy) and the consequent variable (teaching quality). The details will be explained as follows.

The first construct of occupational well-being is emotional exhaustion. Emotional exhaustion, attributed to chronic fatigue, debilitation, and being worn out, is a critical dimension of burnout that comes from stress or job demands [10, 59]. Previous studies by C. Cao, L. Shang, Q. Meng and L. Xu show that emotional exhaustion is affected by lecturer role conflicts [10, 11]. Meanwhile, emotional exhaustion also plays a role in reducing job performance [60, 61, 62, 63]. Furthermore, other literature also indicates that emotional exhaustion mediates the link between self-efficacy and teaching quality. The arguments came from the studies that revealed self-efficacy plays a crucial role in reducing emotional exhaustion [10, 34, 64]. Therefore, we can postulate that emotional exhaustion plays a role in mediating the effect of lecturer-role conflict and self-efficacy on teaching quality.

The second construct of occupational well-being is work enthusiasm. The scholars found high job demands have a negative effect on work enthusiasm [56, 57, 65]. Meanwhile, S. Wenström, S. Uusiautti and K. Määttä noted that work enthusiasm increases work performance [66]. Similarly, another study by R. T. Borst, P. M. Kruyen, and C. J. Lako found that work engagement, which indicates work enthusiasm, mediates the link between job demands and job outcomes [67]. Furthermore, the study by A. Klaeijsen, M. Vermeulen and R. Martens indicates that work enthusiasm also mediates the link between self-efficacy and innovative teaching [68]. Teachers with strong self-efficacy show better teaching enthusiasm, and vice versa [50, 69]. Accordingly, we hypothesised that work enthusiasm mediates the effect of lecturer role conflict and self-efficacy on teaching quality.

Current Study and Hypotheses

This study uses the JD-R model as a theoretical anchor to predict the outcome variable, teaching quality. Specifically, this study uses lecturer role conflict as job demands and self-efficacy as personal resources to predict teaching quality directly. Furthermore, this study accommodates the revised version of the JD-R model by including the mediation perspectives using occupational well-being in the research model. The mediation model was performed to enhance understanding of the relationship between the predictor and outcome variables. In detail, we use emotional exhaustion and teaching enthusiasm as mediating variables in the relationship between predictor and outcome variables.

According to the literature review, we draw the conceptual research model (Figure 1) and present the research hypotheses as follows:

H1. Lecturers' role conflict negatively affected teaching quality.

H2. Self-efficacy positively affected teaching quality

H3. Emotional exhaustion mediates the link between lecturers' role conflict and teaching quality.

H4. Teaching enthusiasm mediates the link between lecturers' role conflict and teaching quality

H5. Emotional exhaustion mediates the link between self-efficacy and teaching quality.

H6. Teaching enthusiasm mediates the link between self-efficacy and teaching quality.

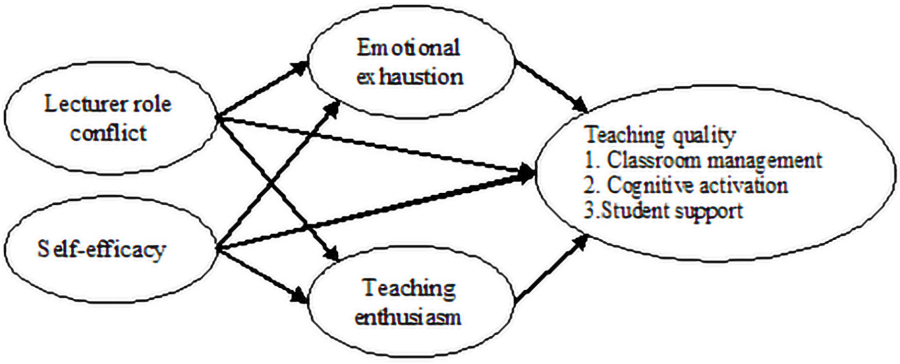

Fig. 1. Conceptual research model

Methodology, Materials, and Methods

Participants

This study was conducted on 285 lecturer participants from nineteen universities in Indonesia. We used an online questionnaire to reach the research participants. We invited the participants through email containing the explanation of the research objective, significance, observed variables, and questionnaire link. All the research participants were voluntary. The respondents' characteristics are shown in Table 1.

Table 1

Respondents' characteristics (n = 285)

		n	%
Gender	Male	132	46%
	Female	153	54%
Educational background	Master	168	59%
	Doctor	117	41%

Instruments

Lecturer role conflict. We adopted five items of the work-family conflict scale by R. G. Netemeyer, J. S. Boles, R. McMurrian with slight modifications to measure lecturer role conflict [40]. This scale addresses the inter-role conflict, such as how the volunteer role interferer teacher and researcher roles (sample item "the demands of my volunteer role interfere with my teaching and research activities").

Self-efficacy. We adopted a scale by R. Schwarzer & G. S. Schmitz [70] to measure lecturer self-efficacy, which comprises ten items. The scale has been validated worldwide [71]. The scale addresses relevant aspects such as the interaction between teacher and students, teacher and parents, and colleagues (sample item "I am convinced that, as time goes by, I will continue to become more and more capable of helping to address my students' needs").

Emotional exhaustion. We adopted nine items of MBI-ES (Maslach Burnout Inventory – Educators Survey) developed by C. Maslach, S. E. Jackson, R. L. Schwab to measure the emotional exhaustion of lecturers [72]. This scale captures the lecturer's chronic tiredness and fatigue feeling (sample item "I feel emotionally drained"). Widhianingtanti L. T. & van G. Luijtelaar translated and validated this scale among Indonesian participants [73].

Teaching enthusiasm. We adopted four items developed by M. Kunter, Y.-M. Tsai, U. Klusmann et al. to measure the teaching enthusiasm of lecturers [74]. The items capture enthusiasm on subject-related and teaching-related (sample item "I teach (subject) in this class with great enthusiasm"). The scale demonstrated good predictive validity [28, 75].

Teaching quality. We adopted eighteen items developed by L. Schlesinger, A. Jentsch, G. Kaiser et al. [76]. This scale captures three dimensions of teaching quality (five items of cognitive activation, seven items of student support, and six items of classroom management) with the sample item "I present challenging tasks".

Data Analysis

This study used structural equation modelling (SEM) through SmartPLS 3.0 software to examine the research model. We followed a three-stage process, including model specification, outer model evaluation, and inner model evaluation [77]. In detail, first, we drew model specifications, both inner and outer models. Second, we evaluated the outer model (validity and reliability of measurement). Third, we evaluated the inner model through the coefficient of determination (R^2), cross-validated redundancy (Q^2), and path coefficients. In addition, we performed a hierarchical construct model (HCM) for the teaching quality construct due to its multidimensional nature (classroom management, cognitive activation, and student support).

Results

According to the three steps of PLS-SEM by J. F. Hair, M. Sarstedt, L. Hopkins et al. [77], first, we specified both inner and outer research models. For the inner or structural model, we drew the relationships between the constructs from the literature review and previous studies (Figure 1). For the outer model, we used reflec-

tive indicators to measure the constructs due to the variable's scale. Second, we performed the two steps for outer model evaluation, first-order and second-order stages.

First-Order Measurement Model

We performed the first-order measurement to examine the convergent validity (factor loadings and AVE), discriminant validity, and composite reliability of all constructs. During the analysis, we dropped one item because the factor loadings were less than 0.7 (CM2). The result (Table 1) shows that the convergent validity of the measurement is established. It is evidenced by the factor loadings of the items for all constructs, which are higher than 0.7, and the AVE of each dimension is higher than 0.5 [78]. Furthermore, the composite reliability of all constructs was higher than 0.7.

Table 2

First-order construct loadings, AVE, and composite reliability

Construct	Item	Factor loading	AVE	Composite reliability
Lecturer role conflict (LRC)	LRC1	0.928	0.724	0.929
	LRC2	0.855		
	LRC3	0.830		
	LRC4	0.826		
	LRC5	0.810		
Self-efficacy (SE)	SE1	0.946	0.715	0.961
	SE2	0.871		
	SE3	0.829		
	SE4	0.746		
	SE5	0.872		
	SE6	0.807		
	SE7	0.837		
	SE8	0.811		
	SE9	0.861		
	SE10	0.857		
Emotional exhaustion (EE)	EE1	0.920	0.730	0.960
	EE2	0.872		
	EE3	0.870		
	EE4	0.915		
	EE5	0.708		
	EE6	0.860		
	EE7	0.777		
	EE8	0.835		
	EE9	0.909		

Teaching enthusiasm (TE)	TE1	0.922	0.703	0.904
	TE2	0.927		
	TE3	0.717		
	TE4	0.767		
Cognitive activation (CA)	CA1	0.945	0.839	0.963
	CA2	0.946		
	CA3	0.859		
	CA4	0.894		
	CA5	0.932		
Student support (SS)	SS1	0.792	0.704	0.943
	SS2	0.825		
	SS3	0.791		
	SS4	0.831		
	SS5	0.893		
	SS6	0.914		
	SS7	0.820		
Classroom management (CM)	CM1	0.812	0.799	0.952
	CM3	0.921		
	CM4	0.906		
	CM5	0.878		
	CM6	0.947		

Second-Order Measurement Model

We also performed the second-order measurement due to the multidimensional construct of the teaching quality variable. The teaching quality consists of three dimensions (cognitive activation, student support, and classroom management). The result shows that factor loadings of all dimensions are acceptable (higher than 0.7) with *t*-values > 1.96 and *p*-values < 0.001. Furthermore, Table 3 shows the AVE and composite reliability of all dimensions are higher than 0.5 and 0.8. Additionally, this study used the C. Fornell's and D. F. Larcker's method [79] to examine the discriminant validity (Table 4). The result shows that the discriminant validity of this study was established.

Table 3

Second-order construct loadings, t-values of dimensions

Construct	Dimensions	Factor loading	*t-value*	AVE	Composite reliability
Teaching quality	Cognitive activation (CA)	0.947	145.991*	0.711	0.977
	Student support (SS)	0.975	390.662*		
	Classroom management (CM)	0.958	187.607*		

Note: *significant at the level of 0.001.

Table 4

AVE and composite reliability of the second-order constructs

Constructs	AVE	Composite reliability
Lecturer role conflict (LRC)	0.724	0.929
Self-efficacy (SE)	0.715	0.961
Emotional exhaustion (EE)	0.730	0.960
Teaching enthusiasm (TE)	0.703	0.904
Cognitive activation (CA)	0.839	0.963
Student support (SS)	0.704	0.943
Classroom management (CM)	0.799	0.952

Table 5

Discriminant validity

	LRC	SE	EE	TE	CA	SS	CM
LRC	**0.851**						
SE	-0.509	**0.845**					
EE	0.402	-0.562	**0.854**				
TE	-0.431	0.403	-0.542	**0.839**			
CA	-0.661	0.416	-0.479	0.440	**0.916**		
SS	-0.514	0.413	-0.511	0.486	0.482	**0.839**	
CM	-0.490	0.545	-0.547	0.494	0.452	0.515	**0.894**

Note: The bold numbers on the diagonal are the square roots of AVE.

After the outer model has been specified, we evaluate the inner model through the coefficient of determination (adjusted R^2), cross-validated redundancy (Q^2), and path coefficients (examine the hypotheses). The result (Table 5) shows R^2 of all endogenous variables (emotional exhaustion, self-efficacy, and teaching quality) above 0.75, which means the research model has a substantial level of predictive accuracy [77, 78]. Furthermore, the result also shows that Q^2 is larger than 0 (zero), indicating that all the exogenous variables have predictive relevance for the endogenous variables under consideration [77, 78].

Table 6

Adjusted R^2 and Q^2

Relationship	*Adj.* R^2	Q^2
LRC and SE → EE	0.828	0.599
LRC and SE → TE	0.782	0.530
LRC, SE, EE, and TE → TQ	0.963	0.682

Note: LRC – Lecturer role conflict; SE – Self-efficacy; EE – Emotional exhaustion; TE – Teaching enthusiasm; CA – Cognitive activation; SS – Student support; CM – Classroom management.

The last stage of the multiple-stage process of PLS-SEM is examining the path coefficient (hypotheses). Table 6 shows that all the hypotheses are supported. In detail, the first hypothesis shows that lecturer role conflict has a direct negative effect on teaching quality (β = -0.581, t = 19.124, and Sig = 0.000). Second, self-efficacy has a direct positive effect on teaching quality (β = 0.012, t = 5.936, and Sig = 0.003). Third, emotional exhaustion mediates the relationship between lecturer role conflict and teaching quality (β = -0.117, t = 2.862, and Sig = 0.004). Fourth, teaching enthusiasm mediates the relationship between lecturer role conflict and teaching quality (β = -0.043, t = 2.736, and Sig = 0.006). Fifth, emotional exhaustion mediates the relationship between self-efficacy and teaching quality (β = 0.036, t = 2.698, and Sig = 0.007). Sixth, teaching enthusiasm mediates the relationship between self-efficacy and teaching quality (β = 0.193, t = 5.022, and Sig = 0.000).

Table 7

Summary of the tested hypotheses

Hypotheses	Relationship	β-value	S.E.	*T-value*	*P-value*	Remarks
Direct effect						
H1	LRC → TQ	-0.581	0.039	19.124	0.000	Supported
H2	SE → TQ	0.012	0.035	5.936	0.003	Supported
Mediation effect						
H3	LRC → EE → TQ	-0.117	0.041	2.862	0.004	Supported
H4	LRC → TE → TQ	-0.043	0.016	2.736	0.006	Supported
H5	SE → EE → TQ	0.036	0.013	2.698	0.007	Supported
H6	SE → TE → TQ	0.193	0.038	5.022	0.000	Supported

Note: LRC – Lecturer role conflict; SE – Self-efficacy; EE – Emotional exhaustion; TE – Teaching enthusiasm;

CA – Cognitive activation; SS – Student support; CM – Classroom management.

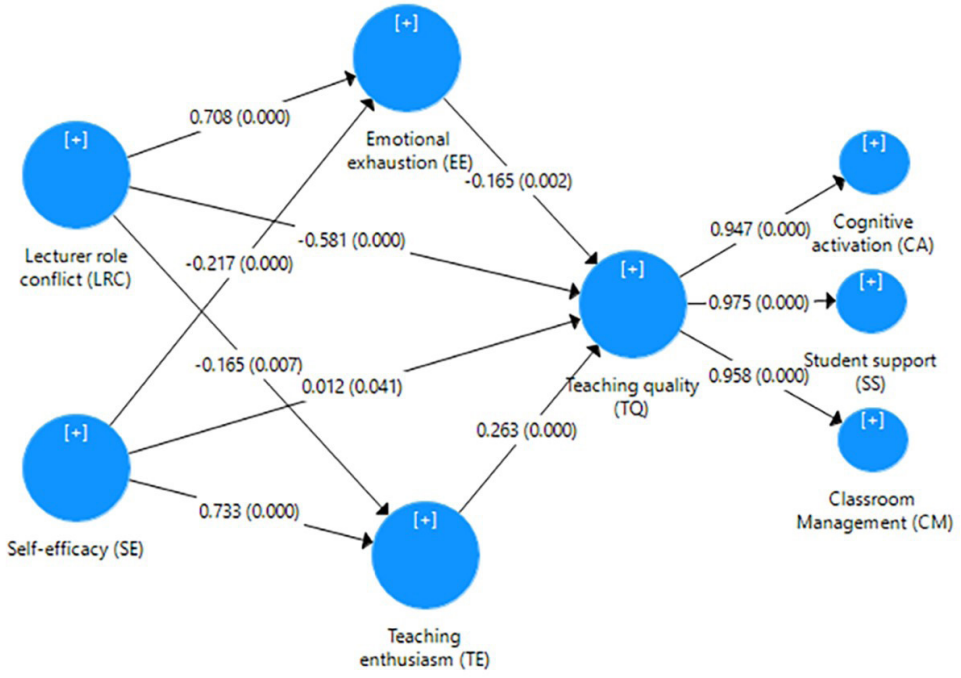

Fig. 2. Result of the structural model analysis

Discussion

The Roles of Lecturer Role Conflict and Self-Efficacy

The result shows that lecturer role conflict was negatively affected on teaching quality. In this regard, more job roles for lecturers lead to higher job demands, making them more likely to experience job role conflicts and undermining teaching quality. Furthermore, lecturers with too many job roles, specifically Indonesian lecturers, who have to fulfill the three roles simultaneously, are more prone to experiencing stress due to the high job demands that drain time and energy. Consequently, they have no more time and space to create some creativity in teaching roles. Therefore, lecturers with too many job roles lead to job role conflict and reduce their teaching quality.

This finding confirmed the previous study that lecturers with multiple roles simultaneously are vulnerable to experiencing job role conflict [11, 38, 41], raising job demands, and undermining job performance [44]. Furthermore, the present finding aligns with the previous studies that found the higher the job demands, the lower the innovative behaviour [45, 46, 47]. The current study also echoed the scarcity model by W. Moore [38], who argues that too many job roles lead to a high workload, which causes job role conflict. In addition, this study revealed that lecturers with

many job roles tend to focus more on one role and ignore the other. This situation leads lecturers to focus more on the roles that give them more gains than others. This finding aligns with the divergent reward model that assumes teaching and research offer different reward schemes [80].

The present finding also revealed that self-efficacy plays an important factor in teaching quality due to its positive effect. This study shows that lecturers with high self-efficacy tend to work harder and more persistently than those with low self-efficacy. They are willing to invest more time and energy in pursuing teaching goals. This finding is in line with previous studies that revealed teachers with high self-efficacy tend to show a high work passion even though they have to teach challenging students or the work goals are difficult to achieve [10, 54, 81]. Besides, lecturers with high self-efficacy also show strong self-regulation, which could develop their work motivation for better performance. Supporting our finding, the previous study found that high self-efficacy is closely related to motivation and job performance [10].

Furthermore, this study found that high self-efficacy lecturers show better confidence in their capability to teach the subject matter and achieve the teaching goals. They also show more open-mindedness to implementing new teaching ideas or methods. The present findings evidence that self-efficacy is a beneficial feature in the teaching quality of lecturers. The current findings strengthen the previous studies revealed self-efficacy positively affected teaching effectiveness [50, 52] and teaching quality [25, 53]. Therefore, the higher the lecturer's self-efficacy, the better the teaching quality.

Mediation Effect of Emotional Exhaustion and Teaching Enthusiasm

The result shows that both emotional exhaustion and teaching enthusiasm significantly mediate the link between lecturer role conflict and teaching quality, as well as the link between self-efficacy and teaching quality. The present finding shows that emotional exhaustion and teaching enthusiasm play a role as mediating variables and explain the underlying relationship between the predictor (lecturer role conflict and self-efficacy) and the outcome variable (teaching quality).

First, this study revealed that lecturer, who experiences job role conflict due to high job demands, shows high emotional exhaustion and low teaching quality. This finding is in line with the JD-R model that explains job demands closely related to emotional exhaustion. The lecturer, who runs many roles simultaneously, is more vulnerable to experiencing job role conflict due to high job demands. High job demands can be transmitted into job stressors when the employee requires high effort to meet the expectations [15]. This situation will promote emotional exhaustion, which in turn undermines the teaching quality. This finding is consistent with the studies by C. Cao, L. Shang, Q. Meng and V. W. Wong, L. A. Ruble, Y. Yu et al., who showed that high emotional exhaustion would prevent the teacher from innovative behaviour [10] and decrease the teaching quality [82]. For example, a lecturer who runs many job roles leads to a high workload and raises emotional exhaustion due to a lack of time and energy. This situation gives a lecturer no time to make better teaching preparations, such as making plans to implement new teaching methods or strategies. Therefore,

this study strengthens the previous findings that emotional exhaustion mediates the relationship between job demands and job performance [59, 83].

Second, the current study evidenced that teaching enthusiasm also mediates the link between lecturer role conflict and teaching quality. The current study revealed the high job demands experienced by the lecturer due to running many roles simultaneously, lowering the teaching enthusiasm, which in turn reduces the teaching quality. This finding is in line with the previous studies that explain that high job demands will reduce work enthusiasm [56, 57, 65]. Furthermore, S. Wenström, S. Uusiautti, K. Määttä found that teacher enthusiasm is positively linked to working engagement, promoting productivity and teaching quality [84]. In other words, this study proves that a lecturer who runs too many job roles leads to high job demands and increases the potential for stress, reducing teaching enthusiasm. With low teaching enthusiasm, the work engagement of lecturers will decrease, which undermines the teaching quality. Therefore, our findings prove the previous study by R. T. Borst, P. M. Kruyen, C. J. Lako, who concluded that work enthusiasm mediates the relationship between job demands and job performance [67].

Third, this study also revealed that emotional exhaustion mediates the link between self-efficacy and teaching quality. The lecturer with high self-efficacy shows lower emotional exhaustion and higher teaching quality than the lecturer with low self-efficacy. Supporting our findings, the JD-R model explains that personal resources (such as self-efficacy) will interact and minimise the negative impact of job demands, such as emotional exhaustion [34]. Furthermore, E. M. Skaalvik & S. Skaalvik showed that self-efficacy is negatively related to emotional exhaustion [84]. This study showed that lecturers with higher self-efficacy are more likely to manage their emotions when faced with high job demands than lecturers with lower self-efficacy. As argued by V. W. Wong, L. A. Ruble, Y. Yu et al., teachers with lower emotional exhaustion are less likely to experience stress [82], which means promoting teaching quality is more likely than lecturers with high emotional exhaustion. In other words, this study revealed the role of emotional exhaustion in the relationship between self-efficacy and teaching quality, functioning as a mediating variable. Therefore, the current findings strengthen previous studies that found low teacher self-efficacy may increase emotional exhaustion, which may reduce job performance [84, 85].

Last, this study shows that teaching enthusiasm significantly mediates the link between self-efficacy and teaching quality. Lecturer with high self-efficacy shows high teaching enthusiasm and teaching quality. Furthermore, current findings revealed that self-efficacy positively promotes teaching quality through teaching enthusiasm. In detail, high teaching enthusiasm makes lecturers more engaged in teaching roles, such as showing a willingness to learn and more confidence to implement new teaching methods, which contributes to increasing the teaching quality. Therefore, this study supports previous findings suggesting that intrinsic motivation (teaching enthusiasm) mediates the relationship between self-efficacy and job performance [68, 86, 87].

Conclusion and Implications

We found that lecturer role conflict and self-efficacy are significant predictors of teaching quality, with contrasting effects. Higher levels of role conflict are associated with lower teaching quality, while higher self-efficacy leads to improved teaching quality. Additionally, the study highlights an important pathway from role conflict and self-efficacy to teaching quality, mediated by emotional exhaustion and teaching enthusiasm. These mediators help explain the underlying mechanism by which role conflict and self-efficacy influence teaching quality.

This study provides both theoretical and practical implications. Theoretically, this study contributes to the literature by finding the work-related factors of teaching quality using another perspective, the job demands-resources model (JD-R model). We revealed that role conflict became a job demand among lecturers, while self-efficacy acts as a personal resource. In detail, role conflict negatively predicts teaching quality, while self-efficacy has a positive effect. The current finding strengthens the JD-R model that explains the dual processes of job demands and resources on job performance, negative (health impairment) and positive (motivation) [13]. As proposed by W. B. Schaufeli & T. W. Taris, the JD-R model has good cross-cultural validity and flexibility [14]. This study proved that the educational researcher could adopt the JD-R model to explore job performance-related factors. Furthermore, this study also explains the underlying mechanism of the relationship between lecturer role conflict and self-efficacy as predictors and teaching quality as an outcome. Emotional exhaustion and teaching enthusiasm mediate the relationship between the predictors and outcome.

Practically, this study provides several points for the stakeholders' understanding. First, it is related to the lecturer role conflict. As found, lecturer role conflict negatively predicts teaching quality due to the high workload that will drain time and energy and play as a trigger for stress. We suggest that the university or related institutions redesign the job structure to reduce the lecturers' workload. Based on the research by C. Cao, L. Shang, Q. Meng, designing teachers' one-size-fits-all working requirements is ineffective in promoting motivation and performance due to the differences in teaching and research ability [10]. Accordingly, we also suggest the related parties give more flexibility to lecturers to choose or increase their job roles based on their features, preferences, capabilities, and performance. Furthermore, Indonesian universities usually give rewards for research and publishing in reputable journals more than teaching activities. This situation makes some lecturers focus more on the research role and neglect the teaching role, leading to a decrease in teaching quality. Accordingly, we suggest the universities evaluate the system of teaching and research schemes. Through the balanced reward system, we expect to minimise the job role conflict, which reduces emotional exhaustion and increases teaching enthusiasm.

The second is self-efficacy. This study revealed both the direct effect of self-efficacy on teaching quality and the indirect effect of self-efficacy through emotional

exhaustion and teaching enthusiasm, showing the crucial role of self-efficacy. Accordingly, we suggest that the university nurtures lecturers' self-efficacy through more responsibility and autonomy in teaching activities. In other words, lecturers can develop their ideas and creativity by providing more space and autonomy. The university also invites the lecturers to engage more in policy-making, especially related to teaching practices. In addition, the university could provide organisational support and a supportive working environment. Through these policies, the raising of lecturers' self-efficacy could be expected.

Limitations

This study has several limitations. First, we do not include demographic information (such as work experience, age, race, and marital status), which may be considered to understand the job demands and personal resources. Second, our result about the relationship between the variables comes from the cross-sectional design. Therefore, longitudinal research is needed to confirm or validate our findings.

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