Factors influencing assessment in higher education: Empirical evidence from physical education and fitness compulsory courses in Indonesia

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ABSTRACT

The present study delves into the multifarious factors underpinning students' learning assessment in higher education. Harnessing an exploratory sequential mixed methods design, it scrutinizes the evaluation of 5,564 students by 23 lecturers, taking into consideration nine distinct characteristics. In pursuit of this, ANOVA and T-test were employed to analyze the mandatory course, and three lecturers who embody distinct criteria were interviewed. Their responses were subjected to a rigorous thematic analysis. The results indicate that assessment results are significantly different based on lecturers' working experience (teaching experience [F= 20.1, p= 0.000] and age [F= 48.6, p= 0.000]), academic background (department [F= 33.8, p= 0.000] and skills [F= 30.17, p= 0.000]), and teaching load (credit unit [F= 48.7, p= 0.000], number of classes taught [F= 61.4, p= 0.000] and teaching partners [F= 79.3, p=0.000]). Meanwhile, there is no difference in assessment results based on lecturers' qualifications (certificates [t= -0.587, p= 0.557] and latest degree [F= 2.56, p= 0.074]). The qualitative analysis uncovers that four paramount factors - idealism, mindset, grading standard, and perspective - account for the variance observed in compulsory courses. The study's results underscore the need for universities to devise pedagogical strategies tailored to lecturers' attributes, given their pronounced impact on attaining the desired graduate profiles as reflected in students' academic performance in specific courses.

Keywords: physical education; higher education; assessment; lecturer characteristics

INTRODUCTION

The COVID-19 pandemic has had significant impacts on various spheres of life. Higher Education Institutions, in response, have had to rapidly adapt their teaching methods, transitioning from conventional in-person classes to online instruction. Unfortunately, this shift can potentially undermine the quality of university students' participation in the learning process, a concern substantiated by the research of Summers et al. (2021). Notably, deleterious effects on attitude, lifestyle, and mental well-being have been found in university students, so virtual education is necessary to substitute for the void left by face-to-face teaching-learning experiences (Gadi et al., 2022). Moreover, the alteration in the learning assessment regimen has also brought about significant transformation, including repercussions on educational equity (Jankowski, 2020).

Equality issues in education are exacerbated by the effect of the COVID-19 pandemic. Researchers have identified the impediments of unequal access to schooling, lack of familial

support, and limited comprehension of educational concepts and processes, as underscored by Higson (2020). Furthermore, the inability of certain schools to implement remote learning, coupled with the absence of internet connectivity in some students' homes, as pointed out by Morgan (2020), may invariably impact students' engagement in the learning process, which is a strong predictor of optimal learning outcomes upon completion of school (Summers et al., 2020). Conversely, research by Kizilcec et al. (2021) contends that online learning can promote democratic learning, thereby favoring equitable educational prospects for students from diverse socio-economic strata.

Undeniably, the disparities in students' socio-economic backgrounds are believed to intensify the learning gaps experienced during the COVID-19 pandemic. Consequently, promoting equality in students' participation in the learning process has emerged as a salient perspective in exploring learning outcomes (Sinatra et al., 2015), notwithstanding the ongoing debate over the relationship between students' participation and learning outcomes (Kahu, 2013). Research on students' participation, therefore, must be centered on genuine academic pursuits that reflect their proactive involvement rather than merely infrastructural facilities and internet connectivity. Waheed et al. (2020) observed a surge in university students' participation in accessing course content, despite predictions that limited access to gadgets, tools, internet connectivity, and digital learning technologies would impede distance learning (Santos et al., 2020). Additionally, students' participation in libraries is emphasized in predicting academic learning results, though it is still debatable (Robertshaw & Asher, 2019) primarily due to the pandemic-induced closure of school libraries, limiting access for most students (Howes et al., 2021).

University students' learning results are intricately bound to the methods employed to evaluate their progress. Learning assessment is an essential aspect of education, practiced across all levels of schooling, from primary to tertiary institutions (Huber & Skedsmo, 2016). The crux of assessment lies in appraising students' learning outcomes (Goss, 2022), which is essential for evaluating the effectiveness of educational programs within higher education (Bahous & Nabhani, 2011). The efficacy of the assessment process in delineating learning outcomes holds paramount significance in elevating the quality of the learning experience (Bahous & Nabhani, 2015) and fortifying the systems of quality assurance in Higher Education Institutions(Hendel & Lewis, 2005). The quality of Higher Education Institutions from the perspective of university students can be categorized into three dimensions: their perception of the learning process, overall satisfaction, and involvement in the learning process (Wang et al., 2018). Nevertheless, the assessment process that can truly expound the university students' learning outcome poses a challenge as it is interrelated with the assessment quality (Goss, 2022). Assessment principles, policies, and practices stand as prominent focal points in a myriad of scholarly investigations (Coates & Zlatkin-Troitschanskaia, 2019).

The issue of assessment principles, policies, and practices in higher education hinges significantly on the educators entrusted with their execution. As such, this study seeks to explore the expertise of university lecturers in their pedagogic roles, with the aim of supporting future professional development policies (van Dijk et al., 2020). It is imperative to underscore that lecturers bear a pivotal responsibility in assessing their students' achievements and must be encouraged to prioritize assessment practices that promote high-quality learning experiences (Sulaiman et al., 2020; Yan & Cheng, 2015).

Specifically, this research focuses on the assessment process in a particular course taught by multiple lecturers. Amidst the ongoing discourse concerning students' access to resources and their active involvement in the educational journey, this study endeavors to probe whether variances in mandatory university courses can be ascribed to the attributes of the lecturers. In pursuit of this, the study sets forth the following research inquiries: do disparities manifest in obligatory courses contingent upon the traits of the lecturers, and if they do, what are the underlying factors that underpin these gaps?

METHOD

A mixed-methods approach, as advocated by Creswell & Clark (2017), provides a comprehensive solution to the research inquiries by integrating both quantitative and qualitative data. Specifically, employing an exploratory sequential mixed methods design allows for a strategic determination of the sequence of data collection (Shiyanbola et al., 2021). This is mixed-method research design that commenced with collecting quantitative data and then proceeded to qualitative data collection, as depicted in Figure 1.
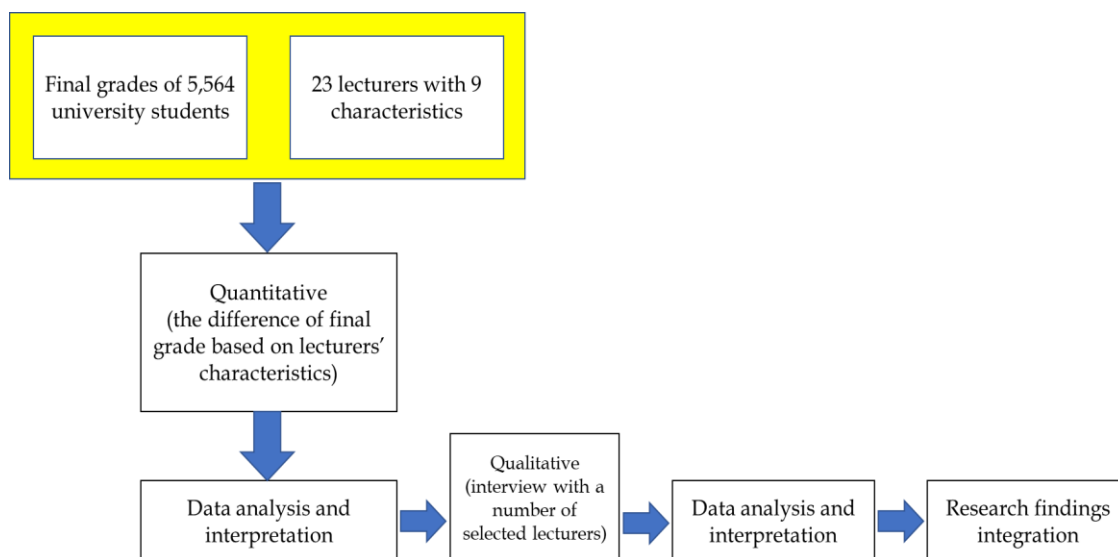
Figure 1. Exploratory sequential mixed methods design adapted from Ozer (2013)

The comparative qualitative method was carefully employed to address the initial research question. The dataset comprised the final grades of 5,564 first year students enrolled in the compulsory Physical Education and Fitness (PEF) courses at Universitas Negeri Surabaya, Indonesia. These assessment results were sourced directly from the university's Integrated Academic Information System. Besides, the study involved 23 PEF lecturers, each possessing the attributes and qualifications listed in Table 1.

Data Collection

Quantitative data collected were students' final grades from Physical Education and Fitness (PEF) courses. These grades were compared based on the characteristics of the lecturers teaching the course. Lecturer attributes and qualifications proven to influence student final grades were employed as subject criteria analyzed. Qualitative data were collected using interview techniques involving lecturers who had certain characteristics according to the results of quantitative data analysis of student grades. In the meantime, to answer the second research question, interview sessions involving 23 lecturers with different characteristics were carried out. The guiding questions for the interviews are listed below. 1) Do you think lecturers' age influences students' assessment in the Physical Education and Fitness compulsory course? 2) Do you think lecturers' teaching experience can influence assessment? 3) Do you think lecturers of Physical Education and Fitness compulsory course's various sports expertise influence assessment? 4) Do you think the number of courses and high teaching load (classes other than Physical Education and Fitness compulsory course) affect assessment? 5) Will the assessment process be better if lecturers have teaching partners (teaching assistants)? 6) Finally, do you think the different academic backgrounds (Physical Education, Health, Recreation, Sports Coaching, and Sports Sciences) affect assessment?

Table 1. Attributes and qualifications of physical education and fitness lecturers

Lecturer Characteristic	Code	Category	F	%
Age (year old)	1	31 – 40	14	61%
	2	41 – 50	5	22%
	3	51 – 60	2	9%
	4	> 60	2	9%
Teaching Experience (years)	1	< 6	3	13%
	2	6 – 13	8	35%
	3	14 – 21	6	26%
	4	22 – 30	3	13%
	5	> 30	3	13%
Education	1	Master's	12	52%
	2	Ongoing Doctoral study	5	22%
	3	Doctoral	6	26%
Sports expertise	1	Invasion Games	6	26%
	2	Net & Wall Games	5	22%
	3	Health & Fitness	5	22%
	4	Striking & Fielding Games	2	9%
	5	Gymnastic	3	13%
	6	Athletics	2	9%
Number of courses taught	1	3 - 4	3	13%
	2	5 - 6	5	22%
	3	7 - 8	13	57%
	4	9 - 10	2	9%
Department	1	Sport sciences	4	17%
	2	Sports coaching	4	17%
	3	Sports, health, and recreation education	14	61%
	4	Special education	1	4%
Teaching partners	1	Always collaborate with a partner	7	30%
	2	Never collaborate with a partner	10	43%
	3	Occasionally collaborate with a partner	6	26%
Holding Lecturer Certification	1	Yes	20	87%
	2	No	3	13%
Teaching load (credit unit)	1	12 - 16	3	13%
	2	17 - 21	6	26%
	3	22 - 26	5	22%
	4	27 - 31	3	13%
	5	> 32	6	26%
		Total	23	100%

Data Analysis

Firstly, quantitative data in the form of the final grades were analyzed using a T-Test for lecturers' characteristics comprising two aspects. Meanwhile, the characteristics with more than two aspects were scrutinized by using ANOVA. The interview results were entered into the NVivo 12 application, and the results were subsequently codified into the relevant themes influencing university students' grade differences.

FINDING AND DISCUSSION

Finding

The research results are categorized into four aspects, namely teaching experience, lecturers' qualifications, academic background, and teaching load. The results of the ANOVA analysis is explained below.

Grade differences based on lecturer experience

The training of future teachers occurs simultaneously with the construction and preparation of a new school, typically spanning an average of two years. Upon graduation, the student cohort forms a cohesive innovative core, working collectively in the newly established school. The master's curriculum is tailored to meet the specific needs of the functional educational institution. Students actively participate in the development of the institution, including the formulation of the Concept of Activity, the creation of the general education program, and the preparation of regulatory and methodological materials. This approach allows future teachers to develop as professionals in tandem with the formation of the future school.

The teaching experience variable comprises of age and experience. The result of the analysis is enumerated in Table 2.

Table 2. Grade differences based on lecturer experience

Lecturer Characteristic	Category	N	Mean	SD	F	p	Note
Age	(1) 31 - 40	3,590	81.7	10.8	48.6	0.000	1>2>3, 3<4
	(2) 41 - 50	1,193	80.4	10.5			
	(3) 51 - 60	514	75.9	8.4			
	(4) 60 <	267	81.6	5.1			
Teaching experience	(1) < 6	592	80.9	12.9	20.1	0.000	1=2=3=5>4
	(2) 6 - 13	2,043	81.5	9.9			
	(3) 14 - 21	1,688	81.5	10.8			
	(4) 22 - 30	736	77.7	11.1			
	(5) 30 <	505	80.8	5.8			

University students taught by 31 to 40-year-old lecturers totaled 3,590 students with an average grade of 81.7 and a standard deviation of 10.8. Lecturers who are 41 to 50 years old taught 1,193 students with an average grade of 80.4 and a standard deviation of 10.5. Lecturers who are 51 to 60 years old taught 514 students with an average grade of 75.9 and a standard deviation of 8.4. Lecturers aged 60 or more taught 267 students with an average grade of 81.6 and a standard deviation of 5.1. University students' grade differences are significant if F is 48.6 and p= 0.000. The difference in compulsory university courses taught by lecturers aged 31-40 with 41-50 is 1.32, p= 0.001. The difference in university students' grades taught by lecturers aged 31-40 and 51-60 is 5.81, p= 0.000. The difference in university students' grades taught by lecturers aged 31-40 and above 60 is 0.073, p= 1.000. The difference in university students' grades taught by lecturers aged 41-50 with 51-60 is 4.48, p= 0.000. The difference in university students' grades taught by lecturers aged 41-50 and above 60 years old is -1.25, p= 0.45. The difference in university students' grades taught by lecturers aged 51-60 and above 60 is -5.73, p= 0.000.

Lecturers with teaching experience under 6 years taught 592 students with an average grade of 80.9 and a standard deviation of 12.9. Lecturers with six to thirteen years of teaching experience taught 2,043 students with an average grade of 81.5 and a standard deviation of 9.9. Lecturers with teaching experience of 14 - 21 years taught 1,688 students with an average grade of 81.5 and a standard deviation of 10.8. Lecturers with teaching experience of 22 - 30 years t taught 736 students with an average grade of 77.7 and a standard deviation of 11.1. Lecturers with teaching experience >30 years taught 505 students with an average grade of 80.8 and a standard deviation of 5.8. The difference in university students' grades taught by lecturers with teaching experience under 6 years and 6-13 years is -0.668, p= 1.000. Teaching experience under

6 years and 14-21 years is -0.6149, p= 1.000. Teaching experience under 6 years and 22-30 years is 3.12, p= 0.000. Teaching experience under 6 years and above 30 years is 0.0692, p= 1.000. Teaching experience 6-13 and 14-21 years is 0.0531, p= 1.000. Teaching experience 6-13 and 22-30 years is 3.79, p= 0.000. Teaching experience 6-13 and above 30 years is 0.7373, p= 1.000. Teaching experience 14-21 and 22-30 years is 3.73, p= 0.000. Teaching experience 14-21 and above 30 years is 0.6841, p= 1.000. Teaching experience 22-30 and above 30 years is -3.05, p= 0.000.

Grade differences based on lecturers' qualifications

The lecturers' qualifications variable is composed of university degrees and lecturer certifications. The result of the analysis is presented in Table 3.

Table 3. University students' grade differences based on lecturers' qualifications

Lecturer Characteristic	Category	N	Mean	SD	F/t	p	Note
Education	(1) Master's	2,708	80.6	10.5	F= 2.56	0.074	1=2=3
	(2) Ongoing Doctoral study	1,532	81.2	11.5			
	(3) Doctoral	1,324	81.1	9.2			
Holding Lecturer Certification	(1) Yes	5,106	80.9	10.4	t= -0.587	0.557	1=2
	(2) No	458	81.2	11.9			

Lecturers with Master's degrees teach 2,708 students with an average grade of 80.6 and a standard deviation of 10.5. Lecturers with ongoing Doctoral studies taught 1,532 students with an average grade of 81.2 and a standard deviation of 11.5. Lecturers with Doctoral degrees teach 1,324 students with an average grade of 81.1 and a standard deviation of 9.2. The grade difference between lecturers with Master's degrees and ongoing Doctoral study is -0.6961, p= 0.114. The grade difference between lecturers with Master's degrees and Doctoral is -0.5628, p= 0.329. The grade difference between lecturers with ongoing Doctoral study and Doctoral degrees is 0.1333, p= 0.3936.

Certified lecturers taught 5,106 students with an average grade of 80.9 and a standard deviation of 10.4. Uncertified lecturers taught 458 students with an average grade of 81.2 and a standard deviation of 11.9. The grade difference is -0.3 with t= -0.587 and p= 0.557.

Grade differences based on Lecturers' academic background

The lecturers' academic background variable comprises sports expertise and academic background or department as the lecturers' homebase. The result of the analysis can be found in Table 4. Lecturers who are experts in Invasion Games taught 1,104 students with an average grade of 82.7 and a standard deviation of 8.3. Lecturers who are experts in Net & Wall Games teach 1,195 students with an average grade of 79.5 and a standard deviation of 11.5. Lecturers who are experts in Health & Fitness taught 1,656 students with an average grade of 82.2 and a standard deviation of 11. Lecturers who are experts in Striking & Fielding Games taught 411 students with an average grade of 80.3 and a deviation standard of 4.9. Lecturers who are experts in Gymnastics teach 689 students with an average grade of 79.9 and a deviation standard of 11.8. Lecturers who are experts in Athletics teach 509 students with an average grade of 77.4 and a standard deviation of 10.5. The difference in university students' grades taught by lecturers with expertise in Invasion Games and Net & Wall Games is 3.21, p= 0.000. Expertise in Invasion Games with Health & Fitness is 0.4943, p= 1.000. Expertise in Invasion Games with Striking & Fielding Games is 2.47, p= 0.001. Expertise in Invasion Games with Gymnastic is 2.85, p= 0.000. Expertise in Invasion Games with Athletics is 5.36, p= 0.000. Expertise in Net & Wall Games with Health & Fitness is -2.71, p= 0.000. Expertise in Net & Wall Games with Striking & Fielding Games is -0.7316, p= 1.000. Expertise in Net & Wall Games with Gymnastics is -0.3563, p= 1.000. Expertise in Net & Wall Games with Athletics is 2.15, p= 0.001. Expertise in Health &

Fitness with Striking & Fielding Games is 1.98, p= 0.008. Expertise in Health & Fitness with Gymnastics is 2.36, p= 0.000. Expertise in Health & Fitness with Athletics is 4.87, p= 0.000. Expertise in Striking & Fielding Games with Gymnastics is 0.3752, p= 1.000. Expertise in Striking & Fielding Games with Athletics is 2.88, p= 0.000. Expertise in Gymnastic with Athletics is 2.5108*, p= 0.001.

Table 4. PEF grade differences based on lecturers' academic background

Lecturer Characteristic	Category	N	Mean	SD	F	p	Note
Sports expertise	(1) Invasion Games	1,104	82.7	8.3	30.17	0.000	1>2>4>5 >6, 1=3
	(2) Net & Wall Games	1,195	79.5	11.5			
	(3) Health & Fitness	1,656	82.2	11.0			
	(4) Striking & Fielding Games	411	80.3	4.9			
	(5) Gymnastic	689	79.9	11.8			
	(6) Athletics	509	77.4	10.5			
Department	(1) Sports sciences	1,090	79.8	11.1	33.8	0.000	2>1=3>4
	(2) Sports coaching	1,042	83.5	10.1			
	(3) Sports, health, and recreation education	3,300	80.5	10.4			
	(4) Special education	132	77.0	3.0			

Lecturers from the Sports Sciences department taught 1,090 students with an average grade of 79.8 and a standard deviation of 11.1. Lecturers from the Sports Coaching department teach 1,042 students with an average grade of 83.5 and a standard deviation of 10.1. Lecturers from Sports, Health, and Recreation Education teach 3,300 students with an average grade of 80.5 and a standard deviation of 10.4. Lecturers from Special Education taught 132 students with an average grade of 77 and a standard deviation of 3.0. The difference in university students' grades taught by lecturers from Sports Sciences and Sports Coaching is -3.71, p= 0.000. Sport Sciences with Sports, Health, and Recreation Education department is -0.6874, p= 0.351. Sport Sciences and Special Education department are 2.82, p= 0.019. Sports Coaching and Sports, Health, and Recreation Education department are 3.01, p= 0.000. Sports Coaching and Special Education department are 6.53, p= 0.000. Sports, Health, and Recreation Education and Special Education department is 3.5154*, p= 0.001.

Grade differences based on lecturers' teaching load
The lecturers' teaching load variable comprises the number of courses, teaching partners, and total credit unit. The result of the analysis is detailed in Table 5. Lecturers with 3-4 classes teach 445 students with an average grade of 85.8 and a standard deviation of 5.5. Lecturers with 5 - 6 classes teach 856 students with an average grade of 81.2 and a standard deviation of 11.9. Lecturers with 7-8 classes teach 3382 students with an average grade of 79.6 and a standard deviation of 9.7. Lecturers with 9 - 10 classes taught 881 students with an average grade of 82.9 and a standard deviation of 12.6. There is a 4.61 point difference in the grades of university students taught by lecturers with 3-4 courses and 5-6 students, p=0.000. 3.1-4 is 6.16 with 7-8 courses, p= 0.000. 3-4 with 9-10 classes is 2.91, p= 0.000. 5-6 with 7-8 classes is 1.55, p= 0.001. 5-6 with 9-10 classes is -1.69, p= 0.004. 7-8 with 9-10 classes is -3.25, p= 0.000.

Lecturers with partners teach 1,627 students with an average grade of 78.5 and a standard deviation of 9.2. Lecturers without partners teach 2,228 students with an average grade of 81.1 and a standard deviation of 10.9. Lecturers who occasionally worked with partners taught 1,709 students with an average grade of 83 and a standard deviation of 10.6. The difference in university students' grades between lecturers with partners and those without partners is -2.60, p= 0.000. Meanwhile, the difference in university students' grades of lecturers who partner with lecturers

who sometimes have partners is -4.49, p= 0.000. University students' marks differ by -1.89, p=0.000, between lecturers who occasionally have a partner and lecturers who don't.

Table 5. University students' grade differences based on lecturers' teaching load

Lecturer Characteristic	Category	N	Mean	SD	F	p	Note
Number of courses taught	(1) 3 - 4	445	85.8	5.5			
	(2) 5 - 6	856	81.2	11.9	61.4	0.000	1>4>2>3
	(3) 7 - 8	3382	79.6	9.7			
	(4) 9 - 10	881	82.9	12.6			
Teaching partners	(1) Always collaborate with a partner	1627	78.5	9.2			
	(2) Never collaborate with a partner	2228	81.1	10.9	79.3	0.000	3>2>1
	(3) Occasionally collaborate with a partner	1709	83.0	10.6			
Total credit unit	(1) 12 - 16	503	81.4	12.7			
	(2) 17 - 21	1386	80.0	9.3			
	(3) 22 - 26	1198	79.1	10.4	48.7	0.000	5>1>2=3=4
	(4) 27 - 31	863	79.0	10.3			
	(5) > 32	1614	83.7	10.3			

Lecturers with a total credit unit of 12-16 taught 503 students with an average grade of 81.4 and a standard deviation of 12.7. Lecturers with a total credit unit of 17-21 teach 1386 students with an average grade of 80 and a standard deviation of 9.3. Those with total credit units 22 - 26 taught 1,198 students with an average grade of 79.1 and a standard deviation of 10.4. Lecturers with total credit units 27-31 taught 863 students with an average grade of 79 and a standard deviation of 10.3. Those with total credit units > 32 taught 1,614 students with an average grade of 83.7 and a standard deviation of 10.3. The difference in university students' grades taught by lecturers with 12-16 and 17-21 credit units is 1.39, p= 0.093. The difference in university students' grades taught by lecturers with 12-16 and 22- 26 credit units is 2.28, p= 0.000. The difference in university students' grades taught by lecturers with 12-16 and 27-31 credit units is 2.40, p= 0.000. The difference in university students' grades taught by lecturers with 12-16 credit units and those with > 32 credit units is -2.29, p= 0.000. Meanwhile, the difference in university students' grades taught by lecturers with 17-21 credit units and those with 22 - 26 credit units is 0.8906, p= 0.287. The difference in university students' grades taught by lecturers with 17-21 credit units and those with 27-31 credit units is 1.0056, p= 0.246. The difference in university students' grades taught by lecturers with 17-21 and > 32 credit units is -3.68, p= 0.000. The difference in university students' grades taught by lecturers with 22-26 and 27-31 credit units is 0.115, p= 1.000. The grade difference of university students taught by lecturers with 22-26 and > 32 credit units is -4.58, p= 0.000. The difference in university students' grades taught by lecturers with 27-31 and > 32 credit units is -4.69, p= 0.000.

Factors influencing university students' learning outcomes

The factors affecting university students' learning outcomes were investigated by conducting interviews with three selected lecturers based on the significant criteria. The outcomes of the interviews were used to identify codes, which have been listed in Table 6.

Table 6. Code analysis

No	Code	Files	References
1	Mindset	3	3
2	Assessment standard	2	7
3	Point of view	2	3
4	Idealism	2	2
5	Learning objectives	1	2
6	Assistant competence	1	1
7	Assistant compliance	1	1
8	Communication skills	1	1
9	Final-year students	1	1
10	Number of other workloads	1	1
11	Policy	1	1
12	Realism	1	1
13	Recognizing students	1	1
14	Task management	1	1
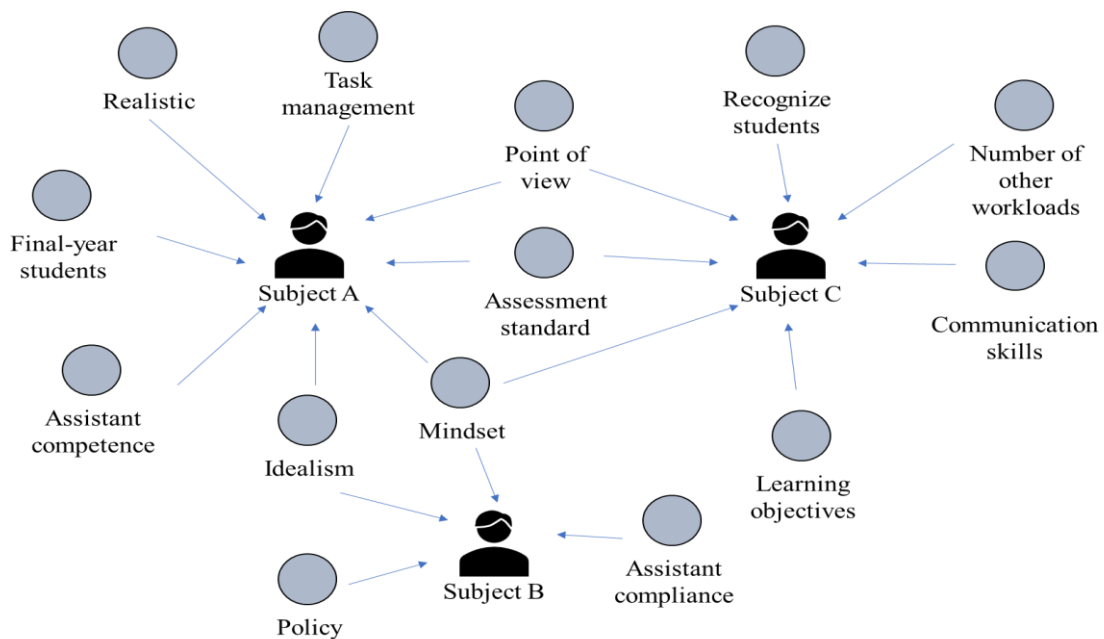
Figure 2. Visualization of Grade Differences of University Students based on Lecturers' Codes

Based on the analysis, it can be concluded that the lecturers uttered 14 different codes that influence the learning outcomes of university students. The codes are mindset, assessment standard, point of view, idealism, learning objectives, assistant competence, assistant compliance, communication skills, final-year students, number of other workloads, policy, realism, recognizing students, and task management. The researchers then connect the codes between lecturers, obtaining the thematic visualization of the interview result as indicated in Figure 2. It indicates four main interrelated factors between the lecturers that cause differences in university students' learning outcome: idealism, mindset, assessment standards, and point of view.

Discussion

The present study focuses on exploring the factors affecting students' learning assessment in higher education institutions. The initial phase of the research aims to determine if there exist any disparities in the learning outcome of university students with regard to their lecturers' characteristics. Such factors as lecturers' teaching experience, age, academic background, sports expertise, teaching load, number of courses taught, and teaching partners have been identified to influence differences in university students' learning outcomes.

The factor of the lecturers' teaching experience is determined by two variables, namely age and teaching experience. Age is closely related to experience where older lecturers tend to have more experience in teaching. The findings indicate that the lower the lecturers' experience, the higher the grades of compulsory university courses. This phenomenon may be attributed to the COVID-19 pandemic, in which higher education institutions had to quickly switch their teaching method from face-to-face to remote or distance learning (Cahyadi et al., 2021). Numerous studies have reported that online learning is a growing trend (Martin et al., 2020) that is expected to continue expanding (Allen & Seaman, 2017). While the COVID-19 pandemic only lasted for a year, during that time, Indonesian educational institutions adopted online learning. After a year, there were plans to revert to face-to-face teaching. Unfortunately, these plans were met with negative reactions from the public (Nurmawiya & Harvian, 2022).

Implementing distance learning requires lecturers to possess various skills that can facilitate and enhance learning activities (Evi et al., 2021). However, many lecturers, particularly those who are older, encounter challenges in creating innovative methodologies for online learning (Kubrushko et al., 2020). This issue is not limited to less developed countries; even developed countries face this challenge (Yuting et al., 2022). Therefore, it is imperative to develop the digital literacy skills of lecturers, which is an essential aspect of their professional development (Nguyen & Habók, 2023). Moving forward, education development should integrate elements of information technology literacy, particularly for lecturers in higher education institutions, as their competencies and motivation have a significant impact on their work performance. Improving lecturers' performance should ultimately enhance the quality of learning services (Susanti et al., 2019).

The lecturers' academic background is an important factor that influences university students' learning outcomes. This factor is indicated by the lecturers' department and sports expertise. The research shows that grouping lecturers into specific departments and specializations is crucial to ensure the relevance of the learning content to the learning outcomes. Lecturers with suitable academic backgrounds are necessary to teach specific courses, such as Physical Education and Fitness (D'isanto, 2019). In relation to this, the Indonesian government has implemented laws and regulations to guarantee that all lecturers have the required academic background (D'elia, 2019).

Expert lecturers ensure that the learning content is relevant to the learning outcomes, which leads to higher grades for university students (Elia & Uk, 2020). Their research results indicate that lecturers from the Sport Coaching Education department give the highest grades to their students. Besides, invasion games may provide a learning experience for university students to experience the real-life state of popular competitive sports, such as football, thus maximizing their performance in class (Farias et al., 2019; Gouveia et al., 2019; Prieto-Ayuso et al., 2019). It means growing students' interest in course content is essential to increase learning outcomes. Thus, academic background and expertise seem to be appropriate characteristics that can differentiate the learning outcomes of university students.

The teaching load of lecturers is the final factor that was discovered to influence the learning outcomes of university students. This factor is composed of various variables such as credit unit, course number, and teaching partner. The results of the study revealed that a lower teaching load is positively correlated with higher grades in compulsory courses. This outcome supports the theory that teaching load affects the time and effort lecturers dedicate to lesson preparation and delivery. Other researchers have also established that the number of teaching hours per week, as part of the teaching load, affects teaching quality and negatively affects the evaluation process of students due to the lecturer's limited time for addressing their concerns (Eckhaus & Davidovitch, 2019). Therefore, creating policies that equitably distribute the teaching

load among lecturers is essential, taking into consideration the number of students and the appropriateness of time. By reducing the teaching load, lecturers can focus more on teaching and assessing students' performance.

Furthermore, qualitative data show that university students' grade differences may occur due to four main factors, namely idealism, mindset, assessment standard, and point of view. While the assessment standard has been agreed upon and has become a standard procedure in assessment, idealism, mindset, and point of view can still influence the weight of assessment of each aspect in the assessment standard. This is why each university student's grades may differ from lecturer to lecturer. The assessment standard employed at Universitas Negeri Surabaya encompasses four aspects, students' participation, assignments, mid-term test, and final exams, which collectively are reasonable to determine students' learning outcomes (Suroto et al., 2022). However, the assessment of these four aspects hinges on the individual lecturer's idealism, mindset, and point of view. It is worth noting that different perceptions of the three factors may cause disproportion and unfairness in the assessment process, which has been highlighted in many higher education institutions (Bazvand & Rasooli, 2022). Given that lecturers hold the authority to evaluate their students, universities must take into account the unique characteristics of each lecturer when assigning classes, particularly in popular or mandatory courses taught by multiple lecturers with diverse backgrounds, as suggested by the findings.

CONCLUSION

Based on what the findings and discussion present, this study offers insightful understandings into the complex interaction of factors influencing university students' learning outcomes. The learning outcomes of college students in the same compulsory courses taught by multiple lecturers exhibit variations attributable to the individual characteristics of the lecturers. The learning outcomes may vary based on such factors as the lecturer's experience, academic background, and teaching load. Additionally, these distinctive characteristics of lecturers can also influence the weight of the four primary differential factors in learning assessment, including standard, idealism, mindset, and point of view. Given that lecturers have a significant impact on students' academic performance in certain courses, which is reflected in students' attainment of the intended graduate profiles, ongoing initiatives to encourage open discussion among lecturers might further improve learning results.

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