THE MEDIATING ROLE OF ASSESSMENT CONCEPTION ON LEARNING-CENTERED LEADERSHIP AND ASSESSMENT PRACTICES: EVIDENCE FROM MALAYSIAN LECTURERS

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ABSTRACT

This research focuses on the interaction between leadership that prioritizes learning and the conceptualization of assessment, exploring how these factors influence assessment practices. By examining the mediating role of assessment conception, the study seeks to enhance our comprehension of the intricate dynamics that mold educators' views on assessment practices within the larger framework of support provided by learning-centered leadership. Employing a quantitative methodology, this study utilizes Structural Equation Modeling (SEM) and relies on SPSS version 26.0 for data analysis. The research includes 400 lecturers selected from various Malaysian universities using a multistage sampling technique. These participants completed a comprehensive questionnaire evaluating their perspectives on learning-centered leadership (LCL), assessment conception, and assessment practices. The analysis incorporates SEM AMOS version 24.0 to investigate both the direct and indirect relationships among the variables. The findings suggest that assessment conception serves as a partial mediator in the relationship between learning-centered leadership (LCL) and assessment practices. Assessment practices account for 35% of the total explained variability attributed to learning-centered leadership and assessment conception. These conclusions carry substantial implications for educational institutions and policymakers alike. Recognizing the pivotal role of learning-centered

leadership (LCL) and a proper understanding of assessment conception can enhance lecturers' strategies in approaching assessment practices.

Keywords: Assessment Practice, Conception, Learning-centered Leadership (LCL)

Introduction

Assessment in higher education serves as a cornerstone for fostering student learning and institutional progress (Munna, 2021). However, its effectiveness is intricately linked to the prevailing leadership ethos within academic institutions. With the emergence of Learning-Centered Leadership (LCL) as a guiding philosophy, there is a growing emphasis on collaborative pedagogy, continuous improvement, and the cultivation of a vibrant learning environment. Yet, within the Malaysian context, the complex interplay between LCL, educators' assessment conceptions, and assessment methodologies presents a multifaceted challenge that warrants thorough exploration and analysis.

Traditionally, Malaysian academia has leaned heavily on examination-centric evaluation paradigms, often side-lining deeper learning and holistic student development (ASLI-CPPS, PROHAM & KITA-UKM, 2012). However, spurred by an increasing focus on student-centered education, a transformative shift toward holistic assessment practices are underway (Swaran et al., 2017). This paradigmatic transition encompasses a broader spectrum of assessment strategies, including both summative and formative assessments, which foster an environment conducive to robust student engagement, critical thinking, and holistic development (Gerritsen-van Leeuwenkamp et al., 2017).

Yet, amidst these sweeping changes, educators encounter significant challenges in maintaining high-quality assessment practices, aggravated by the fact that not all educators are required to undergo comprehensive assessment training as part of their professional development (Noll, 1955). Recognizing the pivotal role of educators as frontline champions of education, it becomes imperative to ensure they are equipped with the necessary support, resources, and professional development opportunities to navigate these shifts effectively and enhance their assessment literacy.

Therefore, educational leaders, as agents of institutional vision and mission play a crucial role in empowering educators to excel in assessing students amidst these dynamic changes. By providing strategic guidance, fostering a culture of collaboration, and offering targeted professional development initiatives, leaders can facilitate educators in adapting to evolving assessment practices and leveraging them to optimize student learning outcomes. Through this comprehensive study, By investigating these dynamics and synthesizing empirical evidence, we aspire to offer actionable insights and evidencebased recommendations for effective leadership strategies conducive to fostering exemplary assessment practices across diverse educational contexts and institutions. In essence, this study seeks to uncover how Learning-Centered Leadership influences educators' assessment beliefs and practices, thereby shedding light on strategies to enhance assessment quality and student learning outcomes in Malaysian higher education.



Figure 1. Conceptual framework of the study

Literature Review

The Ministry of Higher Education (KPT) in Malaysia emphasizes the importance of generic skills that graduates must possess in order to thrive in a competitive global environment, as outlined in the Malaysian Education Development Plan 2015-2025. As a result, the plan aims to focus on using assessment to promote the development of these skills (Sulaiman et al., 2020), which include communication, teamwork, problem-solving, creativity, and innovation, as indicated by Chan et al. (2017). Although assessments continue to be used to evaluate student performance, the assessment techniques have improved significantly. Assessments are not only used for awarding certificates but also for evaluating student learning, as relying solely on end-of-semester exams cannot increase graduates' marketability since success depends heavily on knowledge application.

The landscape of higher education assessment is evolving, necessitating lecturers to adopt both summative and formative assessment methods to effectively gauge student learning. However, implementing the new standard of assessment, termed OBE (Outcome Based Learning), poses a formidable challenge, demanding considerable time and a high level of competency from lecturers. Despite this, reports indicate a deficiency in assessment skills among lecturers, particularly in formative assessment, leading to inconsistent performance. This underscores the critical role of leaders in motivating and monitoring lecturers to ensure effectively execution of their assessment responsibilities. Numerous studies underscore the profound impact of leadership on educator performance in this context.

The Relationship Between LCL and Conception on Assessment

LCL has its origins in different leadership theories, including transformational, distributed, and instructional leadership, as leadership solely focused on education management was deemed insufficient. Educational leaders play a crucial role in creating a vision and establishing clear goals that guide organizational activities, which is a crucial aspect of effective leadership in educational institutions, according to Akgun (2021). A study by Er (2021) on 426 educators in Turkey found that leaders who practice LCL significantly contribute to teachers' belief in their own practices. As a result, this improves school performance as it mediates the relationship between LCL and teacher commitment. Numerous studies have shown that leaders in educational institutions have a significant impact on educators' confidence in their ability to perform actions that result in student learning, such as Alanoglu (2023), and Kalman (2023).

Therefore, the first research question (RQ) was stated as:

RQ1: Did LCL significantly relate to Malaysian lecturer conception?

The Relationship Between Assessment Conception and Assessment Practices

Conception is one of the relatable research topics that was investigated when dealing with assessment practices. Brown (2004) worked on teachers' conception of assessment practices, and four inventories were formulated namely improvement, student accountability, university accountability, and irrelevant. Previous research acknowledges the importance of educators' conceptions that triggered their responses and implement the assessment practice (Brown & Michaelides, 2011). Many studies emphasize the importance of investigating educators' conceptions of assessment to enhance assessment practice (Barnes et al., 2015; Brown 2004). Middleton (2017) studied the relationship between teachers' assessment conceptions and their assessment practices. Teachers in Belize completed a questionnaire regarding their assessment practices and beliefs. Their assessment practices were consistent with their assessment conception because teachers agreed on both the improvement and student accountability conception.

In contrast, Azis (2015) finding revealed the contradiction between teacher belief and their assessment practices. Using a mixed method approach, 107 English educators completed the TCoA inventory showed teachers strongly advocated for formative assessment for student learning improvement but favoured more in summative assessment such as grading to show achievement. Therefore, the second RQ was stated as:

RQ2: Did conception significantly relate to lecturer assessment practice?

The Relationship Among LCL, Assessment Conception and Assessment Practice

LCL is exclusively used in educational institutions but limited research to comprehend the impact of LCL on educational institution processes and outcomes (Hallinger et al., 2017; Liu et al., 2016). LCL promoted educator learning and belief (Liu et al., 2016), faculty trust in schools (Farnsworth, 2015),

and improved student learning outcomes, according to findings from a small amount of research that treated LCL as an independent variable. In addition, according to Hallinger et al. (2017), learning-centered leadership has a positive significance on teacher agency (engagement in school change and improvement processes) and trust. LCL emphasizes educators' professional learning and professional learning would greatly assist the change in their practices.

In summary, the aforementioned research indicates a strong correlation between LCL behaviours and assessment practices. However, these studies have not explored the potential mediating mechanism that connects the behaviours of higher institution leaders to educator assessment practices. In other words, while it is logical to assume that the behaviours of higher institution leaders influence assessment practices through their impact on organizational change-related culture, there is also the possibility that another variable, such as educators' changing conception of assessment, may facilitate the influence of leaders' behaviors on educators' assessment practices. Clearly, the existing studies have not probed into the underlying mechanism through which LCL influences lecturer assessment practices. Recognizing this gap, the researcher has taken the initiative to investigate the relationship between LCL, assessment conception, and assessment practices, as depicted in Figure 1. This aspect has been largely overlooked in the education literature, particularly in determining whether the relationship between LCL and assessment practices is mediated by lecturer conception. Therefore, RQ3 seeks to explore:

RQ3: Did Assessment Conception Mediate the Relationship Between LCL and Assessment Practices of the Lecturer?

Research Methodology

The present study utilizes a cross-sectional causal research design to investigate the anticipated impact of changes in independent variables on the dependent variable. Data were collected from a sample of 400 lecturers employed in Malaysian higher education institutions using multistage sampling methodology for more representative samples.

Instrument and Questionnaires

Data for this research was gathered through the use of a closed-ended standardized questionnaire. Table 1 summarizes the number of items used for each subconstructs, sources of adapted questionaires, and scale interval. The final section of the questionnaire is dedicated to collect demographic characteristics of the respondents.

Construct	Subconstruct	No of items	Adapted from	Scale
Conception	Student Account	7	Brown (2006)	1-10
	University Account	7		
	Irrelevance	4		
	Improvement	7		
Assessment Practices	Design	5	Hassan et al., (2022)	1-10

Table 1. Research Instruments Utilized

	Administration	5		
	Application	4		
	Interpretation	5		
Learning-centered	Vision	3	Liu et al., (2016)	1-10
leadership	Learning support	6		
	Role Model	7		
	Total	60		

Demographic characteristics

The sample comprised 400 participants, with 37% (N=150) being male lecturers and 63% (N=250) being female lecturers. A majority of respondents had teaching experience ranging from 11 to 15 years, accounting for 34% (N=130) of respondents, followed by 16 to 20 years at 23.6% (N=90), then 6 to 10 years at 22.4% (N=86), less than 5 years at 12% (N=46), and more than 21 years at 8% (N=31). The majority of respondents, 59% (N=224), held a Master's degree, followed by 36% (N=137) with a PhD. The remaining 5% (N=18) held a bachelor's degree.

Descriptive Statistics of Respondents

The interpretation of descriptive analysis is referring to the procedure outlined by Best and Khan (1977). Lecturers overwhelmingly prioritize learning support for improvement in their assessment practices, followed by considerations of university accountability, student accountability, and irrelevance. While they do not completely dismiss the irrelevance of assessment, they firmly believe in its crucial role in facilitating student learning progress (Table 2). Regarding assessment practices, lecturers acknowledge proficiency in all four factors, particularly in designing the assessment (Table 3). Meanwhile, Table 4 shows that respondents perceive their leaders as someone who clearly project their vision on assessment and often provide support in resolving assessment-related issues, but are modest in possessing qualities to be idolized and followed by.

Subconstruct	Average Mean	Std.Dev	Indicator
Improvement	8.64	1.06	Very high
Irrelevance	6.77	1.99	High
Student Account	7.27	1.57	High
University Account	7.45	1.36	High

Table 2: The Average Mean and Standard Deviation of Conception Subconstructs

 Table 3: The Average Mean and Standard Deviation of Assessment Practices

 Subconstructs

Subconstruct	Average Mean	Std.Dev	Indicator
Design	8.24	0.96	Highly skilled
Administration	7.75	1.02	Skilled

Application	7.86	1.01	Skilled
Interpretation	7.82	1.09	Skilled

Table 4: The Average Mean and Standard Deviation of LCL Subconstructs

Subconstruct	Average Mean	Std.Dev	Indicator
Vision	7.45	1.55	High
Learning support	7.12	1.51	High
Role Model	6.55	1.74	Moderate

Confirmatory Factor Analysis Results

For inferential analysis, this study employs structural equation modeling (SEM), where Confirmatory Factor Analysis (CFA) needs to be conducted before the hypothesis model testing. Figure 2 displays the measurement model utilized in the study, which exhibited above minimal requirement fitness indices according to Hair et al (2014) in meeting the criteria for construct validity. Detailed information on these indices can be found in Table 5. Table 6 presents factor loading values, AVE, and CR for the measurement model, indicating that the requirement of unidimensionality is satisfied as all item factor loadings exceed 0.6.



Figure 2: The Pooled-CFA Results to validate three constructs simultaneously

Furthermore, the measurement model meets criteria for convergent validity and reliability as CR and AVE values exceeding 0.6 and 0.5, respectively. Additionally, correlations among the three study constructs were similar but not identical, indicating differential relationships between constructs. These results revealed no evidence of multicollinearity, as no correlation coefficient exceeded 0.90 for discriminant validity is demonstrated in Table 7.

Table 5: The assessment of fit for the Measurement Model

Category	Name of Index	Present model	Comment
Parsimonious Fit	Chisq/df	2.288	Minimum requirement < 3.0
Incremental fit	CFI TLI	0.962 0.948	Minimum requirement > 0.85 Minimum requirement > 0.85
Absolute fit	RMSEA	0.072	Minimum requirement < 0.1

Table 6: Validity and Reliability Test of the Measurement Model

Construct	Item	Factor Loading	CR (above 0.6)	AVE (above 0.5)
LCL	Vision	0.81	0.855	0.663
	Learning support	0.88		
	Role Model	0.76		
Assessment	Design	0.68	0.896	0.689
Practice	Administration	0.72		
	Application	1.00		
	Interpretation	0.88		
Conception	Improvement	0.68	0.663	0.335
-	Irrelevance	0.45		
	Student Account	0.55		
	University Account	0.61		

Table 7: Summary of Discriminant Validity

Construct	LCL	Conception	Assessment Practice
LCL	0.81		
Conception	0.48	0.60	
Assessment Practice	0.56	0.56	0.83

Model Testing

Figure 3 presents the outcomes of our structural model crafted to examine the intricate relationship between Learning-Centered Leadership (LCL), educators' conception, and assessment practices. Through Structural Equation Modeling (SEM) analysis, a significant factor loading weights within the hypothesized model was observed. Remarkably, the chi-square norm, standing at a commendable value of 2.288, comfortably surpasses the prescribed threshold of below 5 as stipulated by Hair et al. (2014), thus attesting to the model's robustness. Furthermore, the Tucker-Lewis Index (TFI) and Comparative Fit Index (CFI), both surpassing the critical threshold of 0.90 with values of 0.948 and 0.962, respectively, underscore the model's excellent fit to the data. Additionally, the Root Mean Square Error of Approximation (RMSEA) of 0.072, falling below the accepted cut-off value of 0.080, further solidifies the model's credibility and appropriateness. In summation, the estimations derived from our structural model demonstrate a remarkable alignment with the empirical data, affirming the model's

efficacy in capturing the intricate dynamics between LCL, educators' conception, and assessment practices in Malaysian higher education.

On the other hand, the findings clearly showed that, firstly, LCL was significantly related to conception of lecturer on assessment (RQ1). This was due to the fact that the regression path coefficients between LCL and conception (.48) which measure the effects of the exogenous construct on the endogenous construct was significant with p-value of 0.001 (Table 8; Figure 3). This implied that LCL influenced on conception whereby changes in conception were the result of changes in assessment practices.



Figure 3. The Standardized Regression Path Coefficient among constructs in the model.

Construct	Path	Construct	Std estimate	<i>p</i> -value	Result
Conception	<	LCL	0.48	0.001	Significant
AssessmentPractice	<	Conception	0.46	0.001	Significant
AssessmentPractice	<	LCL	0.21	0.01	Significant

Table 8. The regression coefficient and its significance.

Next, the findings also showed that conception was significantly related to assessment practices (RQ2) with the *p*-value of .001 and the regression weight of .46 (Table 8; Figure 3). Clearly, the above results demonstrated the significance for the subsequent path whereby the stronger the conception on assessment, the greater the enhancement of assessment practices. Thus conception was a strong predictor of assessment practices as predicted.

Next, the study also found that conception mediated the relationship between LCL and assessment practices (RQ3). The indirect effect of LCL on assessment practices through conception enhancement (LCL \rightarrow conception \rightarrow assessment practices) was .22 (.48 × .46) and the direct effect of

LCL on assessment practices was .21 (Table 8; Figure 3). Since the indirect effect of LCL on assessment practices through conception was greater than the direct effect of LCL on assessment practices (.22>.21), the mediation occurred. In other words, lecturer conception on assessment was a mediator that intervened between LCL and assessment practices while facilitating the relationship between them. Further, as the direct effect (LCL \rightarrow assessment practices) was low significant (p = .01) (Table 8) after the mediator entered the model, conception was indeed a partial mediator. Simply put, LCL exerted its influence on assessment practices via lecturer conception an assessment. However, without conception, the influence of LCL on lecturer assessment practices was weak. Through conception, the impact of LCL on assessment practices. Next, in order to validate the mediator, bootsrapping was performed. After comparing the findings in Table 9 with those in Table 8, it can be inferred that the results from the bootstrapping analysis are consistent with those in Table 8. These results suggest that lecturer assessment conception partially serves as a mediator in the relationship between LCL and lecturer assessment conception partially serves as a mediator in the relationship between LCL and lecturer assessment practices.

Table 9. The bootstrapping results to confirm mediation test

	Indirect effect	Direct	
Bootstrapping value	0.092	0.082	
Probability value	0.001	0.005	
Results on mediation	Significant	Significant	

Discussion

The findings of this study provide valuable insights into the relationship between learning-centered leadership (LCL), lecturer conception of assessment, and assessment practices. Firstly, the results revealed a significant positive relationship between LCL and lecturer's conception of assessment, confirming our first research question (RQ1). This indicates that leaders in higher education institutions who demonstrate strong LCL qualities are more likely to influence lecturers' perception and understanding of assessment concept. This finding aligns with previous research highlighting the importance of leadership in shaping educators' beliefs and practices (Mei Kin et al., 2018)

Secondly, the study also found a significant positive relationship between lecturer's conception of assessment and their assessment practices, supporting our second research question (RQ2). This suggests that lecturers who hold a more positive and comprehensive understanding of assessment are more inclined to implement effective assessment practices. This underscores the critical role of educators' beliefs and conceptions in shaping their professional practices. This finding is consistent with previous researchers (Middleton, 2017; Barnes et al., 2015; Remesal, 2009; Brown 2004).

Furthermore, the findings indicated that lecturer's conception of assessment partially mediated the relationship between LCL and assessment practices, addressing our third research question (RQ3). This mediation suggests that while learning-centered leadership directly influences assessment

practices to some extent, a significant portion of this influence operates through lecturers' conception of assessment. This underscores the importance of considering educators' beliefs and perceptions as intermediating factors in the implementation of assessment practices.

Conclusion

In conclusion, this study provides evidence of the complex interplay between LCL, lecturer conception of assessment, and assessment practices in higher education institutions. The results underscore the critical role of leadership in shaping educators' beliefs and practices, particularly in the realm of assessment. Leaders who exhibit strong LCL qualities are more likely to influence lecturers' understanding and implementation of assessment practices.

Additionally, the findings highlight the importance of educators' conceptions of assessment in driving their professional practices. Lecturers who hold positive and comprehensive beliefs about assessment are more likely to engage in effective assessment practices. Moreover, lecturer's conception of assessment was found to partially mediate the relationship between LCL and assessment practices, emphasizing the need to consider educators' beliefs as intermediating factors in the implementation of educational initiatives.

Overall, these findings have important implications for educational leaders and policymakers in higher education institutions. Fostering a culture of LCL and providing support for educators to develop positive and comprehensive conceptions of assessment can enhance the quality of assessment practices and ultimately contribute to improved student learning outcomes.

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