Unpacking Formative Assessment Literacy Among Teachers in Confucian Cultural Contexts: An Investigation in Online Learning Environments

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This study critically examines the concept of formative assessment literacy within the realm of Confucian cultural contexts, particularly in light of the widespread adoption of virtual learning platforms and online schooling post-COVID-19. Despite the universal expectation for teachers to develop sophisticated formative assessment literacy, formidable challenges persist, specifically in Confucian heritage countries in Asia, due to inadequate formative assessment literacy and limited professional development opportunities. This paper dissects the historical and cultural barriers preventing the implementation of formative assessment in these contexts, including ingrained hierarchies, traditional utilitarianism ethos, and rigorous conformity. The transition to online platforms has further complicated this landscape, underscoring the urgency of equipping teachers with skills to navigate and leverage new educational technologies effectively.

Introduction

To enhance student learning experiences, teachers around the globe are expected to develop assessment literacy that enables them to implement sound assessment practices in the classroom (Stiggins, 1999). Assessment literacy refers to teachers' understanding of assessment processes as well as their capacities to design, select, adapt, and use assessment tasks that elicit students' understanding of the subject matter and demonstration of cross-cutting competencies (i.e., 21st-century skills) and that yield reliable and valid assessment data to inform instruction

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and student learning (Koh, 2011; Koh et al., 2018). Teachers' effectiveness in using assessment to adjust instructional practices and to improve students' learning has become a key aspect of teachers' assessment literacy (Koh et al., 2019). Clearly, formative assessment literacy has been widely seen as a pivotal component of comprehensive assessment literacy since Black and Wiliam's (1998) seminal work on the positive effects of teachers' formative assessment practices on students' learning in the day-to-day classroom. A substantial body of literature has centred around teachers' assessment literacy in general, especially teachers' formative assessment practices in the Western cultural context. In this article, we focus on teachers' formative assessment literacy in the Confucian cultural context.

Regardless of their teaching contexts, we posit that all teachers must develop a sophisticated level of formative assessment literacy. However, many teachers face two enormous challenges: inadequate formative assessment literacy and minimal professional learning opportunities for developing formative assessment literacy. The situation is more complicated in the aftermath of the unprecedented COVID-19 pandemic, particularly with the widespread adoption of virtual learning platforms and online schooling, which has emerged as a prevalent phenomenon both globally and within Confucian societies in Asia. The utilization of online formative assessment is facing an invisible hurdle in the form of non-traditional face-to-face classroom interactions inherent to the virtual learning environment.

The Context

Confucian cultural heritage context includes "chopsticks" countries, primarily in East Asia and Southeast Asia (Wang, 2015). The most notable nation is Greater China, which refers to mainland China, Hong Kong, Macau, and Taiwan. Over the centuries, from ancient times to the colonial period and the present day, these societies have embraced Confucianism as a

fundamental belief system, integrating it into every facet of life and promoting its tenets through education. Accordingly, Confucian societies have developed a strong emphasis on the pursuit of academic excellence through summative assessment, leading K–12 teachers to rely heavily on summative methods to determine student learning outcomes. Consequently, to prepare students for success, teachers teach to the test (Popham, 2001).

The Barriers

Although formative assessment is well established in Western classroom practices and is required as one of the underpinnings of teacher literacy (Popham, 2011), when the idea of formative assessment was introduced to Confucian heritage countries in Asia, tensions for K-12 teachers arose due to both historical and technological barriers.

First, the ineradicable thought of filial piety, stemming from Confucius's idea of *Li* (feudal propriety), solidifies the hierarchical relationship between teacher and student that the former possesses supreme authority over the latter. Xunzi, another important Confucian philosopher after Confucius, juxtaposed teachers with nature, lords, and parents as one societal underpinning element (Machle, 1993). This greatly jeopardized the everyday reciprocal interactions in implementing formative assessment, especially providing feedback. One of the principles of formative assessment literacy in practice is to engage student involvement in assessment (Chappuis & Stiggins, 2002, p. 41). When Bloom (1969) defined the terminology of formative assessment, he pointed out that its initial purpose was to provide feedback in the teaching-learning process. That is, the foundation of formative assessment is deploying teacher feedback, and the duty of teachers within formative assessment is "to assess the work and provide feedback" (Yorke, 2003, p. 478). Nevertheless, local teachers tend to employ didactic teaching approaches to manage the classroom, while students acquiesce to the absolute authority

of the teacher by remaining silent. The existence of such a "silent" classroom hinders the establishment of equitable feedback practices in formative assessment, which contravenes the notion that students are expected to be "active participants" (Heritage, 2007, p. 141) in accordance with the principles of formative assessment.

Secondly, the traditional utilitarianism ethos rooted in *Ke-Ju* (Imperial Examinations) has resulted in a societal obsession with exclusively emphasizing academic outcomes, disregarding the importance of the student learning process (Ko, 2017). Historically, Confucius established a connection between the utilitarian objective of education and bureaucratic employment (Confucius, 2007), which has pervaded the societal mindset to the present day. Moreover, the content of *Ke-Ju is* solely comprised of Confucian Classics, which need to be more relevant to practical applications in the real world (Feng, 1995). Consequently, the monotonous outcome of student learning was obtaining admission to an ancient governmental position. On the other hand, formative assessment is focused on holistic learning procedures, marking every learning phase to progress students' learning visibly and gradually (Sadler, 1998). For example, teachers can utilize synchronous or asynchronous formative assessment approaches to support student learning processes (Khan & Khan, 2018), aided by either paper-based portfolios or online technology, which provide dynamic and multi-dimensional means of documenting students' seemingly insignificant yet enduring learning accomplishments. By prioritizing daily academic progress over ultimate outcomes, this formative approach can substantially enhance the significance of the overall learning process.

Third, rigorous adherence to conformity is another significant Confucian ritual. According to Confucius, he comprehended nature's mandate and posited that human beings ought to coexist in peace with nature, others, and oneself, which he termed as *He* (harmony)

(Tan, 2013). Consistent with this notion, Confucian culture instills the habit of practicing moderation in public, such as wearing a mask, as a guiding doctrine (Liang, 1975). However, a crucial aspect of formative assessment is the individualized assessment process (Popham, 2008). Research on Chinese students' implementation of formative assessment has revealed that Chinese students prefer to display introverted tendencies (Ding & Chew, 2019). Accordingly, a predilection exists to emulate their peers' evaluative schemas and substance. Innately, teachers and students are inclined to reticence when confronted with the prospect of incorporating diverse formative assessment approaches.

Implications for Online Assessment Practices

Our argument is that the fundamental features of an online learning environment can impede the effective implementation of formative assessment in Confucian educational settings. For instance, virtual classrooms and online feedback can function synchronously and asynchronously (Khan & Khan, 2018). This duality may influence the immediate delivery of feedback (Schuldt, 2019), which is typically prompt in traditional face-to-face settings with clear human cues. Thus, addressing the challenge of implementing formative assessment in Confucian cultures within an online context necessitates that teachers overcome the historical and cultural influences of Confucianism. This involves embracing their ability to create and administer formative assessment tasks that provide high-quality feedback, as well as developing virtual learning environments that are effective and leveraged by new educational technologies. Using mixed methods data sources, we suggest researchers examine the intricacy of implementing formative assessment by teachers in Confucian nations amidst the prevalence of online learning mandates and proffer recommendations for enhancing local teacher training programs in the future. In conclusion, the provision of high-quality professional learning opportunities need to be

made available for teachers to learn how to design and implement formative assessments that align with local socio-economic, political, and cultural contexts, as well as to leverage new technologies such as AI, machine learning, and data analytics for intelligent formative assessment, which in turn contributes to improvement in students' learning experiences and outcomes.

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