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## Teacher educators' policy literacy of the deep learning approach: The curriculum design and practices

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### Abstract

This qualitative case study examines how teacher educators' policy literacy shapes the integration of Indonesia's government-endorsed deep learning (DL) approach within Teacher Education Programs (TEPs). Through semi-structured interviews with six teacher educators from four private universities across Jakarta, Bandung, Jambi, and Palembang, the study investigated: (1) how EFL teacher educators conceptualize and demonstrate policy literacy regarding DL, (2) how they translate DL principles into curriculum design and pedagogical practice, and (3) what systemic and institutional barriers impede coherent integration. Thematic analysis of the interview data revealed a persistent policy-practice gap characterized by limited policy literacy, inconsistent pedagogical translation, and structural impediments. While participants demonstrated conceptual recognition of reform goals, their policy literacy remained superficial, lacking the interpretive capacity to operationalize DL principles effectively. Findings of the study show that effective curriculum reform requires transitioning from policy diffusion to pedagogical assimilation through sustained development of interpretive competence, collaborative sense-making platforms, and institutional scaffolding.

### Keywords

Curriculum reform, deep learning approach, pedagogical translation, policy literacy, teacher education programs

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## Introduction

Teacher Education Programs (hereafter TEPs, also known as teacher training institutions) play a pivotal role in shaping teacher quality through the structured courses and professional preparation they offer during the pre-service phase. A meta-analysis conducted by Zhang et al. (2024) revealed that well-structured TEPs promote a moderate to strong effect on the development of teachers' global competencies, particularly in enhancing their professional knowledge and skills during the pre-service stage. However, the extent and consistency of this impact, as suggested earlier, seem to rely on how coherently theory and practice are integrated within the program. Within this context, TEPs should not be perceived solely as a training mechanism but as a critical institutional framework for mediating the complex interaction between pedagogical theory, contextual realities, and continually evolving professional standards (Osiesi & Blignaut, 2025; Tatto, 2021; van Bommel et al., 2025).

To bridge pedagogical theory, classroom realities, and evolving professional standards, effective TEPs should not merely offer structured coursework. Rather, they develop reflective and adaptive teachers capable of navigating diverse and rapidly changing educational contexts (van Bommel et al., 2025). van Bommel et al. (2025) argue that teachers' adaptability has become a defining dimension of teacher professionalism, enabling them to respond effectively to shifting social and economic demands, the diversity of school environments, and the heterogeneous nature of students. In other words, the demand for curricula that intentionally integrate twenty-first-century skills such as problem-solving, collaboration, and critical thinking cannot be disregarded and has become an urgent necessity to prepare future teachers for complex instructional realities. Curriculum development in TEPs, thus, should be understood as more than an administrative exercise. It constitutes a conceptual framework that structures, defines, and transmits the essential knowledge, skills, and professional dispositions necessary for effective teaching in an increasingly dynamic and complex educational context (Osiesi & Blignaut, 2025).

In addition to fostering the acquisition of knowledge, pedagogical competencies, and professional dispositions, curriculum development in TEPs should be closely aligned with national education policies and the officially mandated approaches to teaching and learning (Chisingui & Costa, 2020; Figueroa-Vargas & Casillas-Martín, 2024; Getenet, 2025). Such alignment ensures coherence between institutional practices and governmental expectations, as governments are responsible for maintaining teacher quality through professional standards that guarantee consistent preparation and the continuous enhancement of teaching competence (Getenet, 2025) and for addressing the continuously evolving educational demands of teachers and society (Toom & Husu, 2024).

Unfortunately, a growing body of literature indicates that national curriculum policies in some countries often fail to align with the curricula implemented in teacher education programs (TEPs), revealing a persistent gap between policy intentions and institutional practices that undermines the effective preparation of future teachers (Johnson et al., 2020; Lambert & Penney, 2020a; Macalister & Phonekeo, 2024). The central issue highlighted in the literature concerns the lack of coherence among different components of the education system—a concept widely referred to as curriculum alignment (Johnson et al., 2020). Johnson et al. (2020) argue that the curriculum prescribed by national policy, often referred to as the

prescribed curriculum, reflects a top-down intent for what should be taught. Unfortunately, this prescribed curriculum is frequently misaligned with the enacted curriculum - the actual instruction and pedagogical practices occurring in classrooms and teacher education institutions.

The prominent contributing factors to such a misalignment include teacher educators' limited awareness and understanding of policy frameworks (Akyeampong, 2017; Baker et al., 2021; Feng et al., 2025), besides their insufficient dissemination and coordination among policymakers, and the inherent complexity of interpreting and translating policy into practice (Finnanger & Prøitz, 2024). In the current qualitative case study, we aimed to explore how teacher educators' awareness of curriculum reforms influences the extent to which they incorporate these changes into their teacher education program (TEP) curricula. Focusing on the implementation of the deep learning approach as one of the key elements of curriculum reform in Indonesia, this study seeks to address two research questions: 1) How do EFL teacher educators conceptualize and demonstrate policy literacy regarding the government-endorsed deep learning approach? 2) In what ways do teacher educators translate deep learning principles into their curriculum design and pedagogical practice? 3) What systemic and institutional barriers impede the coherent integration of deep learning pedagogy in teacher education programs?

## Literature Review

### *Curriculum reform in Indonesia: Endorsing deep learning as a national pedagogical approach*

Recently, deep learning (DL) approach has emerged as a critical element within Indonesia's ongoing curriculum reform. Conceptually, DL serves as an organizing lens that prioritizes cognitive depth, encompassing knowledge transfer, metacognitive awareness, and conceptual coherence. It synthesizes constructivist, inquiry-based, and sociocultural perspectives on learning into a coherent pedagogical orientation (Fiorella, 2023; Sasson et al., 2022; van Loon et al., 2021). Moreover, pedagogically, DL is distinguished from "surface" and "strategic" approaches in two key respects. First, it emphasizes sustained and structured tasks that require learners to construct, justify, and apply concepts across contexts. Second, it centers on assessment for learning, such as formative assessment, rather than the exclusive use of summative measures (Lytras, 2023; Wei, 2023). Beyond its cognitive dimensions, DL promotes the development of learning dispositions such as critical thinking, collaboration, and epistemic resilience, which must be explicitly operationalized as measurable outcomes if systemic reform is to be sustained.

The wide implementation of DL at the national level in Indonesian schools fundamentally requires targeted investment that extends well beyond curriculum documentation. This includes strengthening teacher learning communities, designing formative assessment systems, and developing instructional leadership capable of sustaining pedagogical change (Chang et al., 2025).

Empirical evidence and case studies indicate that when teacher education centers and school networks build teachers' capacity to design cognitively demanding tasks and interpret formative data, measurable gains in student engagement and knowledge transfer domains

transfer (Bahari et al., 2025; Karataş et al., 2025; Lim et al., 2020). The interrelation between these variables indicates the need for more structured teacher capacity-building through TEP that integrates the design of cognitively demanding tasks with mastery-oriented formative assessment. The efforts to address these needs might lead to more coherent instructional practices and enable teachers to align their classroom activities with deeper learning objectives. Moreover, this approach would foster greater student engagement through relevance and active participation, as well as enhanced knowledge transfer through an explicit focus on application and higher-order problem-solving (Osiesi & Blignaut, 2025).

It is important to highlight that the successful implementation of DL might rely on three interrelated aspects: teacher education models that integrate demonstration, coaching, and collegial inquiry; curriculum materials, performance-based assessments; and the pragmatic use of digital platforms for formative feedback (Chamba & Chikusvura, 2024; Estrada-Araoz et al., 2023; Revina et al., 2023). Thus, full alignment among policy, assessment, teacher support, and infrastructure should be considered to scale up nationwide dissemination of the DL approach, together with iterative piloting and a strong commitment to equity to ensure that deep learning opportunities reach all learners. In other words, national endorsement of DL needs to translate into sustained systemic support, rather than rhetorical adoption within curriculum texts alone transfer (Lim et al., 2020).

### *Teacher educator awareness of curriculum reform*

To address curriculum reform and its successful implementation, we indicate teacher educator awareness as a critical determinant of how effectively deep-learning pedagogy is assimilated and sustained. Teacher educators-in this context, those who train, mentor, and support in-service teachers during teacher education programs-must themselves develop a profound understanding of curriculum aims, pedagogical design, and assessment frameworks to guide meaningful classroom change (Khine, 2022). Teacher educators should be aware of and need to reconceptualize their roles as designers of high-cognitive-demand learning, developers of formative assessment literacies, and facilitators of teacher inquiry (Willison, 2024).

However, evidence shows that teacher educators' policy awareness extends beyond access to curriculum documents; it requires policy literacy—an interpretive capacity to translate mandated frameworks into program design and instructional decision-making (Baker et al., 2021; Hordern & Brooks, 2024). Without structured institutional mediation, teacher educators often enact surface-level compliance, reproducing policy terminology without redesigning pedagogical and assessment logics (Revina et al., 2023). Sustained awareness-building through collaborative sense-making is therefore essential for coherent policy enactment, particularly in reforms demanding epistemic shifts in teaching practice (Feng et al., 2025; Wyatt, 2024).

Despite being positioned as key mediators of curriculum reform, teacher educators often operate with only partial or fragmented awareness of national policy intentions, leading to inconsistent transmission of reform principles into teacher preparation curricula. Recent evidence indicates that curriculum policy awareness among teacher educators is not simply a matter of policy access, but of policy literacy—the ability to interpret, contextualize, and operationalize policy mandates into disciplinary content, instructional design, and assessment

logic (Baker et al., 2021; Finnanger & Proitz, 2024). Studies indicate that even when curriculum directives are formally disseminated, many teacher educators struggle to translate broad policy language into actionable pedagogical designs, particularly when reforms emphasize epistemic shifts such as deep learning, inquiry orientation, and competency-based assessment (Feng et al., 2025; Wyatt, 2024). This challenge is further compounded by structural issues, including limited institutional mediation mechanisms, insufficient policy socialization routines, and weak intra-program coordination, which together leave teacher educators to rely on personal interpretation rather than shared policy-aligned frameworks (Lambert & Penney, 2020b; Macalister & Phonekeo, 2024).

Empirical inquiry across Asian contexts similarly confirms that awareness does not automatically translate into curricular enactment unless teacher educators have sustained opportunities to interrogate policy assumptions, rehearse practice-based translations, and co-construct implementation pathways within disciplinary communities (Liaw & Huang, 2016; Revina et al., 2023). In cases where policy learning is episodic, individualized, or unaccompanied by institutional deliberation, teacher educators tend to adopt surface-level compliance—replicating reform terminology in syllabi without redesigning cognitive demand, assessment logic, or learning progressions in their courses (Hordern & Brooks, 2024; Maulana et al., 2023). Consequently, policy awareness must evolve from passive recognition of reform discourse to active interpretative competence, where teacher educators function as curriculum sense-makers, not policy recipients, to ensure coherence between mandated pedagogical frameworks and enacted teacher education experiences (Getenet, 2025; Toom & Husu, 2024).

## **Research Methodology**

### ***Research design***

The current study aimed to address the misalignment between national curriculum policy and the curricula enacted within Teacher Education Programs (TEPs) with a strong focus on how teacher educators' awareness influences the integration of government-endorsed pedagogical approaches. To this end, a qualitative case study design was purposefully adopted to allow for an in-depth exploration of the processes, challenges, and adaptive practices encountered by teacher educators in implementing the curriculum reforms. Such a design enables a complex and contextually grounded identification of the gaps between macro-level policy directives and classroom-level practices (Karmina et al., 2021; Qoyyimah et al., 2020; Sulistiyo et al., 2019; Triastuti & Riaz, 2020). Moreover, qualitative case studies have been widely recognized as an effective methodological framework for examining curriculum implementation in the Indonesian context (e.g., Qoyyimah et al., 2020; Sulistiyo et al., 2019).

### ***Sampling procedure and research participants***

In this study, participants were selected through purposive sampling combined with a convenience case strategy (Abrar et al., 2022). This approach enabled the researcher to intentionally recruit individuals who possessed relevant knowledge and experience to provide rich insights into the research focus (Cohen et al., 2018; Creswell, 2003, 2013). The convenience case strategy further facilitated participant access and streamlined the data

collection, ensuring that the gathered information directly addressed the study's research questions (Cohen et al., 2018). Using this sampling procedure, six teacher educators from four private universities offering Teacher Education Programs (TEPs) residing in Jakarta, Bandung, Jambi, and Palembang were recruited as participants. They included DSA, EP, PEA, SYA, CHK, and IRF. These teachers are aged between thirty-five and sixty-three years old and have more than 8 years of teaching experience.

### *Data collection and analysis*

In the current qualitative case study, data were collected through in-depth semi-structured interviews with the eight selected participants. Each interview was conducted voluntarily, audio-recorded with permission, and subsequently transcribed verbatim. Zoom online video conferencing was used to facilitate accessibility and inclusivity for participants in different locations and at different times. Some authors believe that synchronous online interviews, such as the one mediated by the Zoom application, have been shown to maintain live face-to-face interactions through real-time dialogue, rapport building, and the observation of non-verbal cues, which are critical for generating in-depth qualitative data (Gray et al., 2020; Oliffe et al., 2021).

Prior to each interview, informed consent was obtained from all participants, outlining the voluntary nature of their participation, confidentiality safeguards, and permission to use anonymized data for research and publication purposes. Rapport between the researchers and participants was established to minimize social distance between the interviewer and the participants, which thus encourages honest and reflective responses (Cohen et al., 2018; Partington, 2011). The transcribed data from the interview were analyzed using thematic analysis (Braun & Clarke, 2006; Clarke & Braun, 2013). The iterative cycles of reading, coding, and categorizing data were conducted to identify recurrent patterns, themes, and subthemes to address the qualitative inquiry as in the research questions. To ensure trustworthiness of the study or to verify the interview data, the researchers conducted member checking by returning the interview transcript to the participants and requesting for their feedback and comments (Abrar et al., 2022).

## **Finding and Discussion**

### *Curriculum transition and teacher educator awareness*

The findings suggest that teacher educators demonstrate diverse levels of awareness and readiness to implement curriculum reforms integrating the deep learning (DL) approach. Participants acknowledged that frequent curriculum changes in Indonesia often create confusion and lead to inconsistent implementation across teacher education programs. As one participant (i.e., DSE) observed, the education system undergoes continuous curriculum shifts, each requiring extensive preparation and adaptation. However, she admitted uncertainty about whether the curriculum currently implemented at her university adequately reflects the latest national policy, while also acknowledging her limited understanding of DL (distance learning) as a pedagogical approach. Another participant (i.e., PEA) recognized that the curriculum

reform represents a structural movement encouraging higher-order thinking, yet she noted that its integration into institutional practice remains at an early stage.

The study's findings above imply that, while teacher educators are aware of reform goals, their understanding of the curriculum policy and its implementation remains insufficient. This indicates a crystal gap between the intention of curriculum reform and its limited practical implementation. Johnson et al. (2020) argue that functional knowledge or operational capacity should be considered a prerequisite for implementing curriculum policy. Failure to embrace such knowledge would result in their inability to effectively translate the core ideas in the curriculum policy into their teacher training program. Similarly, Hordern and Brooks (2024) believe that policy awareness alone is insufficient; what matters is policy literacy—the ability to interpret and translate reform principles into pedagogical design and assessment logic (Baker et al., 2021; Finnanger & Prøitz, 2024).

The coexistence of conceptual recognition and limited enactment among participants suggests that the reform has not yet achieved coherence between curriculum intention and practice in the teacher education program, as shown in the interview data. The challenge apparently lies not in resistance to curriculum policy but in the absence of structured institutional mediation, professional learning systems, and collaborative mechanisms that enable teacher educators to internalize and operationalize DL principles. Without these supports, the integration of the DL pedagogical approach in the curriculum risks remaining rhetorical. DL is endorsed in policy discourse but inconsistently practiced in classrooms. Therefore, the key implication is that curriculum reform must shift from diffusion—the dissemination of policy texts—to assimilation, in which teacher educators develop interpretive competence and sustained pedagogical capacity to enact deep learning as a living educational practice.

### *Curriculum enactment and pedagogical translation*

Findings from the interview highlight a persistent policy–practice gap in the enactment of deep learning (DL) within teacher education programs. Although the DL approach is increasingly emphasized in Indonesia's curriculum reform, its actual integration into course outline documents and classroom practices in TEPs remains partial, inconsistent, and largely interpretive. The variation observed across participants suggests that while some teacher educators acknowledge the DL conceptually, others operationalize it only superficially or through related pedagogical frameworks such as problem-based learning (PBL) and project-based learning (PJBL). For instance, DSE's statement that DL appears in her course outline but is adjusted “depending on the students' situation and condition” indicates that implementation is contingent on contextual constraints rather than guided by standardized pedagogical design. Similarly, PEA asserted that DL is not explicitly mentioned in her syllabus but implicitly embedded through PBL, and PJBL reveals a proxy enactment, where teacher educators substitute DL with familiar, task-oriented methodologies without necessarily engaging its epistemic underpinnings of metacognition, reflection, and conceptual transfer. In contrast, SYA's advanced example demonstrates a more authentic alignment with DL principles, as her writing instruction explicitly cultivates critical reflection and real-world application.

Critically, these inconsistencies cannot be attributed solely to individual initiative; they reflect systemic weaknesses in policy translation and professional scaffolding. CHK's observation that "the policy from the Ministry of Education has not yet been translated into more detailed guidelines at the course outline level" underscores a broader implementation deficit in Indonesia's education governance structure. The absence of technical frameworks, performance standards, and formative assessment exemplars in the course outline leaves teacher educators to interpret reform directives independently, often resulting in fragmented or symbolic compliance (Johnson et al., 2020). Without such mediating instruments, teacher educators struggle to articulate DL outcomes in measurable terms or design scaffolded tasks that align with higher-order learning objectives. This reveals a lack of shared understanding of what constitutes deep learning in practice and how it should manifest in curriculum design, pedagogy, and assessment.

In brief, the current study's findings suggest a significant disconnect between policy intentions and classroom practice in Indonesia's deep learning (DL) curriculum reform. In the study, teacher educators demonstrate conceptual awareness of DL principles, but their implementation of these principles remains fragmented, inconsistent, and often superficial. Teacher educators acknowledge reform goals but lack operational capacity to translate them into effective pedagogical practice. In addition, teacher educators perceive policy directives without adequate institutional support—no structured professional development, collaborative mechanisms, or detailed implementation guidelines. Consequently, DL integration becomes contingent on individual interpretation and contextual constraints rather than standardized pedagogical design. Some educators resort to proxy enactment, substituting DL with familiar methodologies like problem-based learning without engaging DL's epistemic foundations of metacognition and conceptual transfer. This implementation gap stems not from educator resistance but from the absence of mediating structures that enable genuine assimilation of reform principles. Without technical frameworks, performance standards, and assessment exemplars, DL risks remaining merely rhetorical, endorsed in policy discourse but inconsistently practiced. The findings underscore that successful curriculum reform requires transitioning from policy diffusion to meaningful assimilation through systematic professional scaffolding and collaborative learning systems that develop educators' interpretive competence and sustained pedagogical capacity.

### **Conclusion and Implication**

This study explored how teacher educators' policy literacy influences the integration of Indonesia's deep learning (DL) approach within teacher education programs. Three critical findings emerged. First, teacher educators demonstrated limited policy literacy, characterized by conceptual recognition without operational competence. The study showed that teacher educators identified DL within reform discourse but lacked the interpretive capacity to decode policy intentions into actionable pedagogical frameworks. Second, pedagogical translation by teacher educators occurred through proxy enactment, in which educators substituted DL with familiar frameworks such as problem-based learning (PBL) and project-based learning (PJBL) without engaging their epistemic foundations in metacognition and conceptual transfer. Third, multiple systemic barriers impeded coherent integration, including the absence of technical guidelines, insufficient institutional mediation mechanisms, limited professional learning

communities, and weak coordination systems. These findings show that curriculum reform success depends less on policy sophistication and more on institutional mechanisms that support educators in authentically enacting pedagogical approaches. The policy-practice gap stems not from resistance but from inadequate infrastructure for policy translation, which positions teacher educators as constrained sense-makers rather than passive recipients.

Several limitations warrant acknowledgment. The study's reliance on six participants from private universities may not represent broader Indonesian contexts, particularly public or rural institutions. Self-reported data through interviews may not capture the full complexity of actual practice. Future research should employ mixed-method designs that incorporate classroom observations and analysis of assessment artifacts.

In practice, effective reform requires transitioning from policy diffusion to pedagogical assimilation through five interconnected investments: policy literacy development programs, technical mediation instruments, collaborative sense-making platforms, formative assessment infrastructure, and institutional accountability systems that balance support with quality assurance. Only through systemic capacity-building can deep learning reform move beyond rhetorical endorsement toward authentic pedagogical transformation in teacher education, which involves actively engaging educators in continuous professional development and fostering a culture of reflective practice.

### **Disclosure Statement**

No potential conflict of interest was reported by the authors.

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