
THE ESSENCE OF PEDAGOGICAL INNOVATION TOWARD COMPETENCY-BASED INSTRUCTION IN HIGHER EDUCATION

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ABSTRACT

This paper elucidates the core essence of pedagogical innovation toward Competency-Based Instruction (CBI) in higher education, transcending fragmented instructional techniques toward a comprehensive systemic transformation. Employing a convergent parallel mixed-methods design, the study analyzes the paradox between faculty members' theoretical awareness and actual classroom execution, while evaluating the efficacy of constructivist cognitive scaffolding. Survey datasets ($N = 120$) expose a profound "cognitive-behavioral paradox," wherein institutional barriers—such as curricular rigidity and traditional summative examination pressures—severely stifle classroom innovation. Conversely, quasi-experimental data demonstrate that horizontal instructional designs effectively unlock mature learners' experiential repositories, mitigate academic anxiety, and accelerate higher-order critical thinking. The findings underscore that the essence of CBI demands intense curricular contextualization embedded within regional realities, alongside a synchronized restructuring of macro-level educational governance.

KEYWORDS: Pedagogical Innovation; Competency-Based Instruction; Higher Education; Constructivist Scaffolding; Pedagogical Inertia.

1. INTRODUCTION

In the contemporary era driven by globalization and the knowledge-based economy, the paradigm of higher education is undergoing a revolutionary paradigm shift: transitioning from a monolithic knowledge-transmission framework to the cultivation of holistic professional competence. Pedagogical innovation toward Competency-Based Instruction (CBI) does not merely entail replacing didactic lectures with superficial interactive games or

classroom group discussions. Its profound epistemological essence demands a fundamental restructuring of learning spaces, shifting focus from what learners "know" to what they can "execute and reflectively critique" by mobilizing academic concepts within non-linear field environments. Within Vietnam, strategic macro-level policy directives continuously champion this pedagogical modernization. However, translating these mandates into active university matrices encounters substantial structural friction, leaving a deep chasm between idealized policy visions and grassroots instructional realities.

This implementation bottleneck is heavily governed by the mechanics of "pedagogical inertia," wherein micro-level faculty innovations are suppressed by archaic macro-level institutional architectures. Faculty members experience acute cognitive dissonance when compelled to deploy constructivist active methodologies within an ecosystem that perpetually mandates traditional summative assessments and rote-memorization written examinations (Biesta, 2017). To address this instructional dilemma, this study was executed to redefine the pedagogical essence of CBI through an integrated theoretical framework. This research not only quantifies the systemic barriers obstructing this paradigm shift but also empirically validates the cognitive mechanisms that support collaborative knowledge co-construction among learners. The significance of this study lies in providing robust empirical evidence to successfully localize the CBI model, asserting that micro-level instructional innovations will invariably stall without a synchronized restructuring of macro-level institutional governance (Creswell & Creswell, 2018).

2. MATERIALS AND METHODS

This study deploys a convergent parallel mixed-methods design to comprehensively decode the pedagogical essence and structural barriers associated with implementing Competency-Based Instruction (CBI). This advanced methodology allows for the simultaneous yet independent collection and analysis of quantitative data regarding institutional rigidities and qualitative data regarding learners' cognitive mechanisms, ensuring internal validity and empirical rigor required for high-impact international publication (Creswell & Creswell, 2018).

Materials and Research Participants: The academic materials analyzed include university curricula, syllabi of Pedagogy and Educational Management modules, and archived national policy documents on higher education reform. The quantitative sampling pool comprised $N = 120$ faculty members instructing within teacher-training and educational management tracks across southern Vietnamese universities and political academies. The qualitative

stream involved two separate cohorts of graduate trainees ($n = 60$) embedded within a pedagogical intervention, alongside 15 educational administrators purposively sampled for in-depth interviews.

Quantitative Track: Quantitative data were obtained via structured survey instruments utilizing a 5-point Likert scale engineered to measure faculty members' cognitive alignment with CBI principles, technological readiness, and administrative bureaucratic pressures. These datasets were processed via SPSS software, employing descriptive statistics to isolate the "Cognitive-Behavioral Paradox," Exploratory Factor Analysis (EFA) to validate psychometric instrumentation, and Pearson correlation matrices to establish the explicit statistical relationships between rigid institutional constraints and the actual frequency of innovative instructional practices within classrooms (Lodajo et al., 2022).

Qualitative and Experimental Track: Concurrently, a rigorous quasi-experimental pedagogical design was executed over a full academic semester. The experimental group ($n = 30$) was exposed to a Constructivist Framework integrating dynamic cognitive scaffolding and contextualized field-case reasoning, whereas the control group ($n = 30$) remained under the traditional content-driven didactic model (Gonczi, 2013). Terminal learning outcomes were measured using authentic assessment instruments designed to evaluate the fluid mobilization of conceptual knowledge during problem-solving (Biesta, 2017). Furthermore, trainees' reflective journals and interview transcripts were analyzed using thematic analysis based on a rigid six-step coding protocol (Braun & Clarke, 2006). This qualitative synthesis captured the behavioral psychology of mature learners, specifically demonstrating how decentralized, horizontal instructional configurations dramatically mitigate communication anxiety and unlock extensive experiential repositories that are typically suppressed by vertical pedagogical authority (Knowles et al., 2020).

3. RESULTS AND DISCUSSION

3.1. Situational Analysis: The "Cognitive-Behavioral Paradox" and Macro-Level Institutional Barriers

The empirical metrics generated from the quantitative architectural stream ($N = 120$) expose a profound systemic dissonance within the higher education pedagogical ecosystem, explicitly conceptualized as the "Cognitive-Behavioral Paradox." Descriptive statistical analysis of the observed variables measuring faculty members' theoretical alignment and actual classroom behaviors reveals a statistically significant and substantial chasm.

Table 1: Chasm Between Faculty's Theoretical Perception and Practical CBI Execution.
(*N* = 120)

Structural Indicators	Measurement	Mean (M)	Standard Deviation (SD)	t-test (p-value)
Perception of CBI's Theoretical Significance		4.45 / 5.00	0.42	< 0.001
Frequency of Classroom CBI Practical Execution		2.82 / 5.00	0.68	< 0.001

The data delineated in Table 1 demonstrate that while faculty members possess an exceptionally high level of cognitive consensus regarding the philosophy of holistic competence development ($M = 4.45$), their capacity to actualize this knowledge into concrete pedagogical actions is severely depressed ($M = 2.82$). To decode the underlying essence of this paradox, a Pearson correlation matrix was constructed to isolate the explicit linkages between classroom instructional behaviors and institutional administrative constraints.

Table 2: Correlation Matrix Between CBI Practice and Structural Barriers.

Systemic Variables	(1) CBI Practice	(2) Traditional Summative Assessment	(3) Curricular Rigidity
(1) Classroom CBI Practice	1.00		
(2) Traditional Summative Assessment	-0.54**	1.00	
(3) Monolithic Curricular Rigidity	-0.48**	0.39**	1.00
Note: ** $p < 0.01$			

The robust negative correlation between CBI practical execution and traditional summative assessment metrics ($r = -0.54$, $p < 0.01$), coupled with the monolithic rigidity of the training curricula ($r = -0.48$, $p < 0.01$), validates a critical reality: university educators neither lack innovative capacity nor reject pedagogical evolution at the cognitive level. Rather, they are constrained within an obsolete "institutional armor." As long as higher

education institutions perpetually utilize terminal, recall-heavy written examinations as the ultimate quality metric, educators are structurally compelled to adopt risk-averse strategies, retreating to conventional didactic lecturing to guarantee syllabus coverage and examination alignment (Creswell & Creswell, 2018). This deadlock epitomizes the nature of "pedagogical inertia," wherein vertical, top-down administrative governance frameworks severely stifle and subvert micro-level instructional innovations executed by the teacher (Biesta, 2017). Mandating active interactive methodologies within an incompatible institutional architecture merely intensifies the cognitive dissonance experienced by instructors and results in a severe misallocation of educational resources (Lodajo et al., 2022).

3.2. Efficacy of Competence Transformation via the Constructivist Pedagogical Framework

In stark contrast to the institutional barriers, insights generated from the quasi-experimental phase and qualitative thematic analysis provide definitive empirical validation for the superior efficacy of an integrated Constructivist Framework supported by cognitive scaffolding and horizontal instructional designs.

Table 3: Comparison of Terminal Competence Indices Between Cohorts.

Core Dimensions of Holistic Competence	Control Group (n=30)	Experimental Group (n=30)	Cohen's d Effect Size
Theoretical Mobilization in Problem-Solving	3.12 (<i>SD</i> : 0.54)	4.28 (<i>SD</i> : 0.41)	2.41 (Huge)
Critical Reflection & Strategic Planning	2.95 (<i>SD</i> : 0.61)	4.15 (<i>SD</i> : 0.38)	2.35 (Huge)
Mitigation of Academic Anxiety	2.54 (<i>SD</i> : 0.72)	4.34 (<i>SD</i> : 0.48)	2.94 (Huge)

The metrics in Table 3 indicate that the experimental cohort—exposed to an innovative instructional model driven by the decentralization of vertical lecture-hall authority—demonstrated statistically superior advancements across all core dimensions of holistic competence compared to the conventionally trained control group ($p < 0.01$). The extraordinarily large Cohen's *d* effect sizes (> 2.0) provide robust empirical verification that this developmental trajectory is not an anomalous occurrence but a direct consequence of the pedagogical intervention.

This structural transformation is profoundly illustrated through the systematic coding of student reflective logs and in-depth interview transcripts. The deployment of temporary

instructional scaffolding via highly contextualized case-based reasoning (CBR) cultivated a psychologically secure learning environment, enabling trainees to successfully navigate cognitive friction within their zone of proximal development (Biesta, 2017). An educational management graduate trainee (Participant P4) noted:

"Previously, I dreaded seminar discussions because instructors invariably enforced a single orthodox answer derived from textbooks. Transitioning to contextualized field simulations via a horizontal configuration eliminated my fear of academic failure. My ten years of professional experience as a vice-principal were finally recognized as a rich instructional resource rather than a source of outdated bias."

These qualitative findings confirm that when the instructor's absolute vertical authority is decentralized into the role of a strategic arbitrator, the extensive experiential repositories of mature learners are fully unlocked and leveraged (Knowles et al., 2020). Rather than remaining limited to rote recall, trainees learn to triangulate multiple theoretical concepts to address localized grassroots management crises. Ultimately, this reinforces the theoretical postulate that CBI's efficacy does not derive from mechanical skill-drilling, but from the social co-construction of knowledge, where regional socio-economic realities serve as active learning materials to bridge the gap between academic theory and grassroots practice (Gonczi, 2013).

3.3. Dialectical Debate on Pedagogical Localization and Institutional Overhaul

Premised upon the aforementioned findings, the true essence of pedagogical innovation toward competency-based instruction cannot be reduced to a superficial classroom technical race. It represents a highly complex dialectical process requiring a synchronized interaction between two primary axes: micro-level localization of instructional content and macro-level restructuring of governance systems.

This research strongly problematizes the contemporary trend of unmediated replication of predefined competence matrices or standardized curriculum templates imported from Western educational ecosystems. Professional competence is a living entity, fundamentally structured and bounded by the localized economic, cultural, and social ecosystem. Therefore, systematically localizing the curriculum by embedding regional socio-economic realities as core active instructional resources does not represent a dilution of academic theory; rather, it constitutes the definitive pathway to unlocking higher-order critical reflection and policy formulation capabilities among learners (Braun & Clarke, 2006).

Concurrently, micro-level instructional innovations executed by faculty members will invariably experience systemic fracture and be subverted by pedagogical inertia if the

overarching institutional governance architecture fails to evolve. Higher education institutions must radically transform their assessment regimes, shifting from summative, examination-centric scoring to authentic assessment frameworks driven by student-produced artifacts, field projects, and real-world problem-solving capacities (Biesta, 2017). The comprehensive transition from a knowledge-transmission paradigm to a competency-based model is thus not merely a shift in the instructor's classroom behavior, but an institutional revolution, demanding a comprehensive restructuring encompassing curricular design, assessment mechanisms, and macro-level educational governance philosophies (Lodajo et al., 2022).

4. CONCLUSION

This investigation has provided a rigorous, systematic, and empirically validated analysis to elucidate the core essence of pedagogical innovation toward Competency-Based Instruction (CBI) in higher education. By integrating three foundational theoretical pillars—Andragogy, Social Constructivism, and the Model of Holistic Professional Competence—this research demonstrates that this pedagogical transition transcends fragmented micro-level classroom technical adjustments; rather, it constitutes a profound systemic and institutional restructuring process.

The empirical data yield three primary scientific conclusions:

First, the quantitative stream exposes a profound structural paradox within the higher education ecosystem, conceptualized as the "Cognitive-Behavioral Paradox." Although faculty members manifest exceptionally high cognitive alignment regarding the theoretical value of CBI, their actual classroom operational frequency remains significantly depressed. This study validates that this implementation deadlock does not stem from individual faculty incapacity, but is heavily governed by macro-level systemic constraints, specifically monolithic curricular rigidity and pressures from traditional summative assessment metrics that reward dogmatic memorization (Biesta, 2017). This deep-seated pedagogical inertia structurally compels educators to adopt risk-averse strategies, retreating to conventional didactic lecturing to secure administrative compliance with institutional key performance indicators (Creswell & Creswell, 2018).

Second, the quasi-experimental phase and qualitative thematic analysis provide definitive empirical validation for the superior efficacy of an integrated Constructivist Framework utilizing cognitive scaffolding and horizontal instructional designs. Decentralizing absolute lecture-hall authority into a strategic facilitator role establishes a psychologically secure

learning environment, enabling trainees to successfully navigate cognitive friction within their zone of proximal development. This pedagogical model demonstrates statistically superior advancements across all core dimensions of holistic competence—specifically in theoretical mobilization during problem-solving, critical reflection, and strategic policy planning—while successfully mitigating academic anxiety by unlocking and leveraging the extensive experiential repositories of mature learners (Knowles et al., 2020).

Third, the systemic sustainability of CBI relies entirely on the degree of curricular contextualization and pedagogical localization. Within educational landscapes undergoing transition, the unmediated replication of prefabricated competence matrices or standardized curriculum templates imported from Western ecosystems cultivates a profound epistemic rift between academic theory and learners' practical performance capabilities (Gonczi, 2013). The defining strategic pathway requires systematic localization, deliberately embedding regional socio-economic and administrative realities as core active instructional resources.

In conclusion, this research asserts that pedagogical innovation toward competence development must be operationalized as a synchronized revolution: micro-level classroom innovations will invariably stall without a corresponding macro-level restructuring of educational governance and institutional assessment systems.

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