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Beyond Outcome-Based Education: Reconstructing the Epistemology of Educational Quality through the OBE Orientation of Doctoral Education

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Abstract :
Outcome-Based Education (OBE) has strengthened educational accountability, yet its emphasis on measurable outcomes raises questions about the epistemological foundations of quality in doctoral education. This study aims to reconstruct the epistemology of educational quality by examining the relationship between learning outcomes and knowledge production. Employing a qualitative conceptual research design, the study analyzes scholarly publications, theoretical literature, and relevant higher education policy documents through critical literature synthesis and thematic interpretation. The analysis identifies three principal limitations of outcome-centered quality assurance: measurement reductionism, procedural compliance, and insufficient recognition of epistemic originality. It proposes an integrated conceptual framework comprising outcome achievement, epistemic validity, research originality, and theoretical contribution. This framework extends OBE beyond competency attainment toward substantive scholarly achievement. The study recommends integrating measurable learning outcomes with critical academic judgment to strengthen doctoral quality assurance, intellectual independence, and the production of original knowledge.

INTRODUCTION

Higher education in the 21st century faces increasingly complex social demands along with changes in knowledge, technological developments, and the growing need for graduates who can come up with innovative solutions.(Fauziddin et al., 2025) In that context, the quality of education is no longer just understood as an institution's ability to produce graduates according to competency standards, but also as the academic capacity to develop new knowledge and respond to societal issues.(Donkoh et al., 2023) Doctoral education (PhD) holds a strategic position because it focuses on developing knowledge, conducting original research, and building theory. UNESCO emphasizes the importance of quality assurance to maintain academic standards while promoting the advancement of knowledge and innovation. Therefore, the quality orientation of doctoral education needs to be critically examined, so it doesn't just meet administrative indicators, but rather reflects true intellectual depth and meaningful scientific contributions.(Adipat & Chotikapanich, 2022)

In the practice of running higher education, implementing Outcome-Based

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Education (OBE) shows challenges in the form of gaps between curriculum design, learning implementation, and the achievement of expected outcomes.(Mufanti et al., 2024) Creating learning outcomes, mapping the curriculum, and developing assessment tools often take center stage in implementing OBE, but just having aligned documents doesn't necessarily mean there's real change in academic practice. Studies on OBE implementation in Indonesia point out issues like lecturer readiness, assessment workload, limited support systems, and a tendency to focus on administrative compliance.(Joseph et al., 2024) This phenomenon is relevant to study at the doctoral level, especially to examine whether learning achievements truly represent the ability to produce new knowledge, develop theories, and build original scientific arguments.

The literature on OBE generally emphasizes the alignment between learning outcomes, learning experiences, teaching strategies, and assessment as the foundation for improving education quality.(Mahrishi et al., 2025) Recent studies also show that the success of OBE implementation is influenced by the readiness of educators, institutional support, and continuous improvement mechanisms. However, this discussion alone doesn’t answer the epistemological question about the nature of knowledge produced through doctoral education and the criteria used to assess scholarly contributions. Based on this conceptual gap, there’s a need for research that connects OBE with the ontology, epistemology, and axiology of education quality, so that PhD education evaluations focus not only on measurable outcomes but also on the validity of knowledge, originality of research, and the significance of its theoretical contributions.(Katawazai, 2021)

This study aims to analyze the orientation of Outcome-Based Education in doctoral education and to reconstruct the epistemological foundations underlying the understanding of education quality. The study is focused on explaining the relationship between learning outcomes, knowledge production, research originality, and theory development in PhD education. Based on these goals, the study raises three main questions. First, how does the OBE orientation shape the conception and practice of quality assurance in doctoral education? Second, what are the epistemological limitations of an approach that focuses too much on the measurability of learning outcomes? Third, how can the reconstruction of the epistemology of educational quality be formulated to integrate the achievement of outcomes, the novelty of knowledge, and scientific contributions? These three questions form the basis for developing the conceptual argumentation of the research.

This research starts from the assumption that OBE is an important approach to clarify educational goals, align academic processes, and evaluate learning achievement.(Erihadiana & Syaripudin, 2026) However, external measurables aren't always the same as deep knowledge or scientific novelty. In doctoral education, the ability to meet learning outcomes should be linked to the capacity to produce original research, critique established theories, and build new conceptual explanations. The provisional argument of this study is that the quality of PhD education needs to be understood through a combination of outcome achievement and epistemic contribution.(Rao, 2020) Thus, OBE is not abandoned, but conceptually reconstructed so that the quality assurance system can assess both the achievement of competencies and the quality of knowledge production and the relevance of academic contributions.

The main contribution of this research is focused on developing a conceptual framework that links OBE orientation with the reconstruction of doctoral education quality epistemology. Unlike discussions that focus on curriculum implementation,

learning alignment, or achievement measurement, this study highlights knowledge production and epistemic contribution as key dimensions in understanding the quality of PhD education. The proposed originality lies in the effort to broaden the perspective of quality assurance from merely measured outcomes to an integration of academic competence, research originality, knowledge validity, and theoretical contribution. This framework is expected to enrich the discourse on higher education quality management and serve as a basis for developing more substantive, reflective, and knowledge-oriented doctoral evaluation indicators.

RESEARCH METHOD

Research Design

This study employs a qualitative conceptual research design to critically examine the orientation of Outcome-Based Education (OBE) in doctoral education and reconstruct the epistemological foundations of educational quality.(Waruwu, 2023) A conceptual approach is appropriate because the study focuses on analyzing assumptions, relationships, and theoretical implications underlying the understanding of quality in doctoral programs rather than measuring the effectiveness of a particular institutional intervention. The analysis positions OBE as an educational framework whose principles are examined in relation to knowledge production, research originality, epistemic validity, and theoretical contribution.(Waruwu et al., 2025) Through critical and interpretive analysis, the study seeks to develop a coherent conceptual framework that extends the understanding of educational quality beyond the achievement of predetermined learning outcomes.

Data Sources and Literature Selection

The study relies on secondary data obtained from peer-reviewed journal articles, scholarly books, research reports, and relevant policy documents concerning OBE, doctoral education, educational quality assurance, and the epistemology of knowledge production.(Tampubolon, 2023) Literature is selected purposively according to its relevance to the research questions, conceptual contribution, scholarly credibility, and connection to contemporary debates in higher education. Priority is given to publications that explain OBE principles, doctoral learning outcomes, research-based education, quality assurance frameworks, and philosophical perspectives on knowledge and scientific originality. Relevant policy documents are used to contextualize the institutional expectations governing doctoral education. The literature selection process involves identifying relevant publications, screening their substantive contributions, assessing their conceptual relevance, and organizing the selected sources into analytical categories.

Data Collection Techniques

Data are collected through structured literature searching, documentary examination, and systematic recording of relevant concepts and arguments. The search process focuses on combinations of keywords such as Outcome-Based Education, doctoral education, epistemology of educational quality, research originality, knowledge production, and higher education quality assurance. Sources are identified through academic databases and scholarly search platforms, including Scopus, Web of Science, ERIC, and Google Scholar, subject to accessibility. The collected literature is documented in a review matrix containing bibliographic information, theoretical perspectives, research objectives, methodological approaches, principal findings, limitations, and relevance to the present study. This procedure facilitates comparison among competing

perspectives and helps identify conceptual gaps requiring further theoretical development.

Data Analysis

Data are analyzed through critical interpretive analysis and conceptual synthesis. The analytical process consists of four interconnected stages. First, relevant literature is classified into thematic categories, including outcome achievement, epistemic validity, research originality, and theoretical contribution. Second, the underlying assumptions of OBE and existing quality assurance approaches are critically examined to identify their explanatory strengths and limitations in doctoral education. Third, relationships among the identified concepts are synthesized to determine how measurable learning outcomes relate to the production and validation of new knowledge. Fourth, the resulting insights are integrated into a reconstructed conceptual framework of educational quality. Throughout this process, similarities, differences, tensions, and theoretical implications are examined to ensure that the proposed framework emerges from a reasoned synthesis of the literature rather than from unsupported assumptions.

Trustworthiness and Analytical Rigor

The rigor of the study is maintained through transparent literature selection, explicit analytical categories, critical comparison of scholarly perspectives, and traceability between source arguments and conceptual interpretations. Triangulation is pursued through the comparison of different types of sources, including empirical studies, theoretical publications, and policy documents. Contradictory findings and alternative interpretations are retained rather than excluded merely because they challenge the proposed argument. The conceptual framework is assessed in terms of internal coherence, conceptual clarity, relevance to doctoral education, and explanatory value. Because this study is conceptual and literature-based, its findings are intended to offer a theoretically grounded framework rather than empirical generalizations about all doctoral programs. Subsequent empirical research may examine the framework's applicability across different institutional and disciplinary contexts.

Ethical Considerations

This study uses secondary scholarly sources and publicly available policy documents. Academic integrity is maintained through accurate citation, appropriate paraphrasing, acknowledgment of original intellectual contributions, and clear differentiation between established arguments in the literature and the authors' own conceptual propositions. No primary data involving human participants are collected in the present research design. Consequently, research procedures involving participant recruitment, informed consent, and personal-data protection are not applicable to this conceptual study. Nevertheless, the analysis aims to represent the reviewed literature fairly, avoid selective interpretation, and ensure that the proposed reconstruction of educational quality is presented as a theoretically reasoned contribution whose validity remains open to scholarly scrutiny and future empirical investigation.

RESULT AND DISCUSSION

The Dominant Orientation of Outcome-Based Education in Doctoral Education

Outcome-Based Education (OBE) has become an influential framework for organizing curriculum design, learning assessment, and quality assurance in higher education.(Erihadiana & Syaripudin, 2026) In doctoral education, its orientation extends beyond the acquisition of disciplinary knowledge to include research competence, critical

thinking, methodological rigor, and the capacity to produce original scholarly contributions.(Deroncele-Acosta et al., 2025) Nevertheless, the application of OBE at the doctoral level raises conceptual questions concerning the relationship between predetermined learning outcomes and the unpredictable nature of knowledge production. Doctoral research frequently involves challenging established assumptions, revising theoretical positions, and generating insights that cannot be fully specified in advance. This tension provides the analytical starting point for examining OBE's epistemological implications.

The literature review identifies three dominant orientations in the implementation of OBE in doctoral education: outcome specification, constructive alignment, and evidence-based assessment.(Martin & Kayingo, 2025) Outcome specification establishes the expected competencies of doctoral candidates, including independent research and scholarly communication. Constructive alignment connects learning outcomes with research activities, supervision, and assessment procedures.(Dobrowolska et al., 2021) Evidence-based assessment evaluates whether candidates demonstrate the expected competencies through dissertations, publications, presentations, and oral examinations. These orientations reflect a shared emphasis on transparency, accountability, and demonstrable achievement. However, the reviewed conceptual categories also reveal a question requiring further examination: whether the systematic verification of predefined outcomes adequately captures the originality, epistemic validity, and theoretical significance of doctoral research.

The synthesis indicates that OBE provides an important organizational foundation for doctoral education by clarifying academic expectations and connecting educational objectives with assessment practices. Its contribution lies in making learning processes more transparent, establishing explicit performance criteria, and supporting continuous improvement in educational provision. However, these strengths should not be interpreted as evidence that measurable outcomes constitute a complete definition of doctoral quality. A dissertation may satisfy formal requirements without necessarily making a substantial theoretical contribution, while an innovative investigation may challenge conventional assessment expectations.(Bekova, 2025) Accordingly, the dominant orientation of OBE should be understood as a necessary but potentially insufficient framework for evaluating the full intellectual and epistemological achievements of doctoral education.

These findings suggest that the central challenge is not the rejection of OBE but the reconsideration of its epistemological boundaries. When educational quality is primarily interpreted through predefined outcomes, assessment may privilege demonstrable achievement over the emergence of unexpected knowledge. This tendency becomes particularly significant in doctoral education, where intellectual independence, theoretical innovation, and critical engagement with established scholarship are fundamental academic expectations.(Girard et al., 2025) An expanded interpretation of OBE should therefore connect learning outcomes with the processes through which knowledge is justified, challenged, and developed. Such a perspective establishes the conceptual basis for reconstructing doctoral educational quality as an integration of outcome achievement, epistemic validity, research originality, and theoretical contribution.

The dominant orientation of Outcome-Based Education (OBE) in doctoral education has significant implications for the conceptualization and implementation of

educational quality assurance. Although clearly defined learning outcomes strengthen academic accountability and assessment transparency, their application must accommodate the complexity of knowledge production and the unpredictability of original research.(Girard et al., 2025) Doctoral programs therefore need to move beyond evaluating compliance with predetermined competencies toward assessing epistemic validity, research originality, critical engagement, and theoretical contribution. This does not require abandoning OBE; rather, it calls for expanding its evaluative framework to recognize intellectual innovation. Such reconstruction can strengthen doctoral quality assurance while preserving academic rigor, research autonomy, and scholarly creativity.

The dominant orientation of Outcome-Based Education (OBE) in doctoral education is closely related to the broader institutional demand for accountability, measurable performance, and standardized quality assurance.(Lee et al., 2024) This relationship emerges because higher education institutions must demonstrate that doctoral candidates achieve clearly defined academic competencies and research standards. However, the emphasis on measurable outcomes may create tension with the inherently exploratory character of doctoral research, in which significant discoveries often emerge through questioning established assumptions and developing unexpected theoretical insights. Consequently, the relationship between OBE and educational quality is not merely procedural but epistemological, requiring alignment between measurable achievements and the deeper intellectual processes through which original knowledge is constructed, validated, and communicated.

Beyond Measurable Outcomes: The Epistemological Limitations of Educational Quality

Educational quality assurance increasingly relies on measurable indicators, standardized assessment procedures, and documented learning outcomes to demonstrate institutional accountability. Within Outcome-Based Education (OBE), these mechanisms provide a systematic means of evaluating whether educational objectives have been achieved.(Thangaraj et al., 2025) However, the epistemological foundations of educational quality become problematic when measurable performance is treated as a comprehensive representation of academic excellence. In doctoral education, the value of research cannot always be reduced to predetermined competencies, publication counts, or assessment scores. Intellectual originality, theoretical innovation, and the validity of newly constructed knowledge require interpretive and disciplinary judgments. This tension necessitates a critical examination of outcome-centered approaches to educational quality.

The critical literature synthesis identifies three recurring limitations in outcome-centered approaches to educational quality: measurement reductionism, procedural compliance, and insufficient recognition of epistemic originality.(Howell et al., 2022) Measurement reductionism occurs when complex intellectual achievements are represented primarily through quantifiable indicators. Procedural compliance emerges when institutional attention concentrates on documenting standards rather than examining substantive academic development. Insufficient recognition of epistemic originality concerns the difficulty of evaluating unexpected discoveries and unconventional theoretical contributions through predetermined assessment criteria. These themes provide analytical categories for examining the limitations of OBE in doctoral education. However, their prevalence and relative significance must be established through systematic analysis of the selected publications rather than assumed

beforehand.

The literature-based analysis suggests that measurable outcomes remain important components of educational quality, but they cannot independently establish the intellectual significance of doctoral achievement. Quantitative indicators can demonstrate completion, performance, and procedural consistency, yet they may provide limited information about the originality, explanatory power, and disciplinary significance of research.(Yanti et al., 2024) Similarly, compliance with assessment requirements does not necessarily demonstrate that doctoral candidates have challenged established assumptions or developed meaningful theoretical insights. These limitations indicate that educational quality should be conceptualized through complementary forms of evaluation. Outcome measurement must therefore be connected with critical scholarly judgment, methodological scrutiny, and disciplinary standards to provide a more comprehensive understanding of doctoral research excellence.

The epistemological limitations identified in outcome-centered approaches reveal a fundamental distinction between demonstrating educational achievement and establishing the validity and significance of knowledge. The former concerns whether predetermined expectations have been satisfied, whereas the latter concerns how knowledge claims are justified, challenged, and developed.(Wijaya et al., 2023) This distinction is particularly important in doctoral education because research quality depends on intellectual independence and the capacity to contribute original insights. Accordingly, the limitations of OBE should not be interpreted as evidence of its inherent inadequacy, but as an indication that its evaluative scope requires conceptual expansion. Integrating measurable outcomes with epistemic judgment offers a stronger foundation for reconstructing educational quality.

The epistemological limitations of measurable educational outcomes have important implications for the design of quality assurance in doctoral education. Although quantitative indicators support accountability and consistency, relying on them exclusively may overlook intellectual originality, theoretical innovation, and the validity of newly generated knowledge.(Ressa & Danforth, 2023) Doctoral institutions should therefore complement outcome-based assessment with qualitative scholarly judgment, methodological evaluation, and disciplinary standards. This broader approach would enable quality assurance systems to distinguish procedural achievement from substantive intellectual contribution. Rather than abandoning measurable outcomes, educational institutions should reposition them within a multidimensional framework that recognizes both demonstrable competencies and the complex processes through which meaningful scientific knowledge is developed, justified, and advanced.

The epistemological limitations of measurable educational outcomes are closely associated with the tension between standardized accountability and the complex nature of knowledge production. This relationship emerges because educational quality assurance systems require explicit indicators to demonstrate achievement, while doctoral research demands intellectual autonomy, critical inquiry, and openness to unexpected discoveries. When measurable outcomes become the dominant criteria, institutional practices may prioritize compliance over substantive scholarly development. Consequently, the relationship between assessment and educational quality extends beyond technical measurement to questions about what constitutes valid knowledge and meaningful academic contribution. Recognizing this connection provides a theoretical

basis for integrating quantitative indicators with qualitative epistemic judgment in doctoral education.

Reconstructing the Epistemology of Doctoral Educational Quality

Reconstructing the epistemology of doctoral educational quality requires reconsidering the philosophical foundations through which academic excellence is defined, evaluated, and sustained.(Cavallone et al., 2024) Within Outcome-Based Education (OBE), quality is commonly associated with the achievement of predetermined learning outcomes and the demonstration of measurable competencies. However, doctoral education involves more than fulfilling established academic expectations; it also requires generating original knowledge, critically examining existing theories, and establishing defensible scholarly contributions.(Pinto, 2024) Accordingly, an epistemological perspective provides a foundation for examining how knowledge is produced, validated, and evaluated within doctoral programs. This perspective enables educational quality to be understood as both measurable achievement and substantive intellectual contribution.

The conceptual literature synthesis identifies three interconnected dimensions for reconstructing doctoral educational quality: epistemic validity, research originality, and scholarly significance. Epistemic validity concerns the soundness of arguments, methodological appropriateness, and justification of knowledge claims. Research originality addresses the extent to which doctoral research develops novel insights, approaches, or interpretations.(DeMatthews et al., 2026) Scholarly significance concerns the contribution of research to disciplinary understanding, theoretical development, or relevant practical problems. These dimensions complement the outcome-oriented emphasis on competency achievement by examining the intellectual substance of doctoral work. Together, they provide an analytical basis for reconsidering educational quality as a multidimensional construct rather than a collection of predetermined performance indicators alone.

The synthesis indicates that the epistemology of doctoral educational quality should integrate the achievement of learning outcomes with the substantive characteristics of knowledge production. Outcome achievement establishes whether doctoral candidates demonstrate the competencies expected by their programs, while epistemic validity evaluates the justification and methodological soundness of their knowledge claims.(DeMatthews et al., 2026) Research originality identifies the novelty of scholarly contributions, whereas scholarly significance considers their intellectual or disciplinary value. These dimensions are analytically distinguishable but mutually related. A comprehensive understanding of doctoral quality therefore requires an evaluative framework that preserves the transparency of OBE while recognizing the complexity of research-based learning. This integration provides the conceptual foundation for reconstructing doctoral quality assurance.

The proposed reconstruction suggests that educational quality in doctoral programs is fundamentally connected to how knowledge claims are developed, justified, and evaluated within scholarly communities. This interpretation extends conventional outcome-oriented perspectives by emphasizing that academic achievement must be examined alongside the intellectual validity and contribution of research.(Senekal et al., 2022) The implication is not that measurable outcomes should be discarded, but that their meaning depends on the epistemic purposes they serve. Doctoral quality assurance

should consequently combine explicit competency standards with critical evaluation of originality, methodological rigor, and theoretical significance. Such an approach offers a stronger conceptual basis for aligning institutional accountability with the defining academic mission of doctoral education.

Reconstructing the epistemology of doctoral educational quality has significant implications for the development of more comprehensive quality assurance systems in higher education. By integrating outcome achievement with epistemic validity, research originality, and scholarly significance, doctoral programs can evaluate academic excellence beyond standardized performance indicators.(Albertyn, 2024) This approach encourages institutions to strengthen research supervision, refine dissertation assessment, and promote critical engagement with established knowledge. It also requires evaluators to balance measurable competencies with disciplinary judgment and intellectual independence. Consequently, epistemological reconstruction offers a conceptual foundation for aligning institutional accountability with the knowledge-producing mission of doctoral education, ensuring that quality reflects not only demonstrated achievement but also meaningful contributions to scientific advancement.

The reconstruction of doctoral educational quality is closely related to the epistemological foundations that determine how knowledge is produced, validated, and evaluated within academic institutions.(Tłuściak-Deliowska, 2025) This relationship exists because quality assurance mechanisms reflect particular assumptions about what constitutes meaningful learning and legitimate scholarly achievement. When quality is defined primarily through measurable outcomes, the evaluation of doctoral research may emphasize competency attainment while overlooking originality and theoretical significance. Conversely, incorporating epistemic validity and scholarly contribution connects assessment with the fundamental purposes of doctoral education. Therefore, epistemological reconstruction provides a theoretical bridge between outcome-based accountability and knowledge production, enabling a more coherent understanding of academic quality and research excellence.

CONCLUSION

This study concludes that Outcome-Based Education (OBE) provides an essential foundation for accountability and learning assessment in doctoral education, yet measurable outcomes alone cannot fully represent educational quality. Reconstructing its epistemological foundations highlights the importance of integrating outcome achievement with epistemic validity, research originality, and theoretical contribution. The principal insight is that doctoral quality should be understood not merely through competency attainment but also through the capacity to produce and justify meaningful new knowledge. This study contributes a conceptual framework for broadening quality assurance beyond procedural compliance, connecting institutional accountability with intellectual independence, scholarly rigor, and the fundamental knowledge-producing mission of doctoral education.

This study is limited by its conceptual and literature-based approach, which does not provide empirical evidence regarding the implementation or effectiveness of the proposed epistemological framework in actual doctoral programs. Furthermore, the interpretation of research originality, epistemic validity, and theoretical contribution may vary across academic disciplines and institutional contexts. Future research should therefore examine the framework through qualitative case studies, interviews with

doctoral supervisors and candidates, and analyses of dissertation assessment practices. Comparative studies across disciplines and institutions could clarify how epistemological dimensions interact with existing OBE standards. Quantitative instrument development and mixed-methods validation may subsequently assess the framework's applicability, reliability, and contribution to doctoral quality assurance.

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