Teacher Qualifications and Exam Performance: Assessing Basic Education Quality in Indonesia

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Abstract

This study examines the relationship between teacher qualifications and national examination results as indicators of basic education quality in Indonesia. Using a qualitative document-based method, it analyzes government reports, academic research, and education policy frameworks to uncover how disparities in teacher certification and deployment influence student performance. The findings reveal that while certified and highly educated teachers contribute positively to learning outcomes, their uneven distribution across regions perpetuates educational inequality. Structural and institutional challenges, including decentralization, limited professional development, and bureaucratic inefficiencies, reduce the effectiveness of certification reforms. The study advocates for policy realignment that prioritizes competence-based evaluations, localized training, and equitable teacher placement. By integrating Human Capital Theory, Educational Equity, and Institutional Theory, the research offers theoretical insights and practical recommendations for enhancing education quality in Indonesia. Its contributions aim to inform both national reform efforts and broader discussions on effective teacher management in developing countries.

Keywords

teacher quality; education policy; certification; Indonesia; national exams

INTRODUCTION

The quality of basic education remains a cornerstone for national development, particularly in countries with vast geographic, demographic, and socio-economic disparities like Indonesia. Despite extensive policy reforms and financial investments in the education sector, substantial challenges persist in ensuring equal access to high-quality education across all regions (World Bank, 2013). A critical dimension of these challenges involves discrepancies in student academic performance, often measured by national exam results, and the qualifications of the teachers responsible for delivering the curriculum (UNESCO, 2015). In many regions, especially rural and remote

areas, schools struggle to recruit and retain adequately trained and certified teachers, thereby exacerbating existing inequalities (Chang et al., 2014).

Research has shown that teacher qualifications—including formal education level, professional certification, and years of experience—have a significant impact on student outcomes (Hanushek & Rivkin, 2012; Darling-Hammond, 2017). In Indonesia, efforts such as the Teacher Law of 2005 and subsequent certification programs have attempted to improve teacher quality systematically. However, empirical evidence suggests mixed results regarding their effectiveness, with improvements in qualifications not always translating into better student performance (Ree et al., 2017). These inconsistencies raise crucial questions about the implementation fidelity and contextual adaptability of education policy reforms.

The importance of aligning teacher qualifications with student learning achievements has become increasingly urgent as Indonesia transitions into a knowledge-based economy. The National Exam (Ujian Nasional), although controversial and recently abolished in 2021, served as a benchmark for evaluating student competencies and institutional effectiveness (BPS–Statistics Indonesia, 2016). While debates about the exam's fairness and reliability continue, historical data still offer valuable insights into regional disparities and system-wide inefficiencies. Analyzing these results alongside teacher qualification data can uncover hidden dynamics affecting the overall quality of education.

Despite growing academic interest in educational outcomes and teacher effectiveness, existing research in Indonesia often treats these dimensions separately, lacking an integrated framework that considers their interdependence (Suryadarma et al., 2006). There is limited comparative research that explores how teacher qualifications and exam performance co-vary across different contexts. Most studies focus on either pedagogical practices or standardized testing outcomes without critically examining how these are linked through institutional, economic, and policy structures (Glewwe & Muralidharan, 2016). This gap hinders the formulation of comprehensive policy responses.

This study addresses this research gap by asking: How do variations in teacher qualifications relate to differences in student performance as measured by national exams across Indonesia? What institutional and regional factors mediate this relationship? And how can these insights inform national education policy? The objectives of this research are to analyze the correlation between teacher qualifications and student achievement, to explore the structural inequalities that influence this relationship, and to offer evidence-based recommendations for policy reform. By doing so, the study contributes to a more nuanced understanding of the multifaceted dimensions of education quality in Indonesia.

LITERATURE REVIEW

The discourse on education quality has long emphasized the centrality of teacher qualifications as a key determinant of student achievement. Globally, studies have consistently demonstrated that teachers with higher academic qualifications, professional certification, and pedagogical training tend to produce better learning outcomes (Darling-Hammond, 2017; Hanushek & Rivkin, 2012). In the Indonesian context, similar trends have been observed, with educational research pointing to the unequal distribution of qualified teachers across provinces and school types as a major contributor to disparities in student performance (Chang et al., 2014). Theoretical frameworks such as human capital theory and teacher effectiveness models have been employed to understand these relationships, often highlighting that investments in teacher quality yield long-term benefits in cognitive development and economic productivity (Becker, 1993; Stronge, 2007, pp. 29–31).

Several Indonesian studies have investigated aspects of this phenomenon independently. For instance, research by Suryadarma et al. (2006) found that students taught by certified and experienced teachers scored higher on standardized tests, though the magnitude of the effect varied depending on regional context and socio-economic status. However, critiques of the national teacher certification program suggest that improvements in formal qualifications do not always correspond with enhanced classroom effectiveness or learning gains (Ree et al., 2017). This discrepancy points to deeper systemic issues, including inconsistencies in teacher training programs, limited professional development opportunities, and inadequate monitoring mechanisms (World Bank, 2013).

In addition, the National Exam has served as both a measure of learning outcomes and a controversial policy tool. Critics argue that it promotes a narrow focus on rote learning and fails to capture broader competencies (UNESCO, 2015). Nonetheless, as a standardized metric, it has offered valuable longitudinal data that can be used to identify achievement trends and policy impacts. Previous literature has generally treated exam results and teacher qualifications as separate domains, without deeply exploring their interaction. This research seeks to bridge that gap by examining how variations in teacher quality relate to disparities in exam performance, thereby contributing to a more integrated understanding of educational inequality in Indonesia.

Theoretical Framework

To analyze the relationship between teacher qualifications and student achievement, this study draws upon several theoretical constructs that offer a comprehensive foundation for interpreting empirical patterns in education systems. At the core is Human Capital Theory, which posits that investment in education, particularly in teacher training and development, leads to increased productivity and societal advancement (Becker, 1993). This framework is relevant in the Indonesian context where teacher quality reforms are seen as a strategic investment to enhance national competitiveness. According to Hanushek and Woessmann (2010), improving teacher quality is among the most effective policy levers for increasing student performance across diverse educational systems.

Complementing this is the theory of Teacher Effectiveness, which underscores the critical role of teacher competencies, including subject mastery, pedagogical skills, and classroom management in shaping student learning outcomes (Stronge, 2007, pp. 29–31). Empirical research within this framework emphasizes that the impact of a teacher extends beyond credentials and experience to include instructional quality and professional disposition (Darling-Hammond, 2017). In Indonesia, where certification programs have focused on formal qualifications, this theory urges policymakers to consider the deeper dimensions of teacher effectiveness that directly influence classroom practice (Glewwe & Muralidharan, 2016).

The study also utilizes the concept of Educational Equity, which stresses the importance of fairness and inclusion in the distribution of educational resources, including qualified teachers (UNESCO, 2015). This framework draws attention to the regional disparities that affect educational access and outcomes in decentralized systems like Indonesia's. It provides a lens through which the uneven deployment of teachers and the resulting gaps in student achievement can be interpreted as manifestations of systemic inequality (World Bank, 2013). Thus, educational equity becomes a guiding principle in assessing the normative implications of teacher quality and exam-based performance evaluations.

Additionally, Institutional Theory is used to examine how formal rules, norms, and policy frameworks shape the implementation and impact of teacher qualification programs (Scott, 2001, pp. 48–50). This perspective is particularly relevant given the bureaucratic complexities of Indonesia's education system, where centralized policies must be operationalized at the district and school levels. The theory helps explain variations in implementation fidelity and outcomes of teacher reforms across regions, highlighting how institutional capacity and governance affect the translation of policy into practice (Chang et al., 2014).

By integrating these theoretical perspectives—Human Capital, Teacher Effectiveness, Educational Equity, and Institutional Theory—the study develops a multidimensional analytical approach. This allows for a nuanced understanding of how teacher qualifications influence student achievement within the broader structural and policy environment of Indonesian basic education. The interplay of these theories informs both the research design and the interpretation of findings, ensuring that the analysis captures the complexity of educational quality as a systemic phenomenon.

Previous Research

Numerous studies, both globally and in Indonesia, have explored the link between teacher qualifications and student achievement. Darling-Hammond (1999) found that content knowledge and certification are key predictors of student performance, laying a foundation for international research and influencing education policies in developing countries like Indonesia.

In Indonesia, Suryadarma et al. (2006) analyzed data from the national assessment system and found that teacher education levels had a significant positive effect on student outcomes in mathematics and science. However, the effect was diminished in rural schools, where limited resources and infrastructure compromised learning environments. This study highlighted regional inequalities as a key mediating variable in the teacher-student performance relationship. Similarly, Chang et al. (2014), through a World Bank evaluation, examined the impact of teacher certification on student learning. Their findings indicated that while certified teachers generally had stronger content knowledge, certification alone did not guarantee improved teaching practices or learning outcomes.

Hanushek and Rivkin (2010) took a broader econometric approach to teacher effectiveness, emphasizing that observable characteristics such as years of experience or degrees held do not consistently predict student achievement. Their research suggested a need to go beyond input-based policies and focus on teacher behaviors and outcomes. This perspective challenges conventional assumptions and has implications for teacher evaluation systems in Indonesia, where certification remains a key measure of teacher quality.

A study by Santoso et al. (2015) evaluated teacher performance using classroom observation tools and student assessment data. They found that pedagogical skills and interactive teaching styles had a stronger correlation with student success than formal qualifications alone. The research advocated for continuous professional development and mentoring programs as more effective strategies for enhancing teacher effectiveness than one-time certification processes. This aligns with the view that

professional growth and reflective practice are critical for sustained improvement in instructional quality.

Ree et al. (2017) conducted a quasi-experimental study on the implementation of Indonesia's teacher certification policy and found limited impacts on student learning despite significant increases in teacher salaries and credentials. Their study revealed systemic weaknesses in policy enforcement, monitoring, and support for newly certified teachers. The researchers concluded that without institutional accountability and performance-linked incentives, certification reforms were unlikely to yield substantial gains in student achievement.

Most recently, UNESCO (2015) synthesized regional education data and concluded that educational equity and teacher distribution remain critical challenges across Southeast Asia. Indonesia was cited as a case where national assessments showed improvement only in areas with well-distributed, highly qualified teaching staff. This study emphasized that addressing disparities in teacher quality is essential for improving overall educational outcomes and reducing achievement gaps between urban and rural students.

Despite the valuable contributions of these studies, a critical research gap remains. While existing literature has established correlations between teacher qualifications and student outcomes, few have conducted comparative analyses linking historical exam performance with teacher data across Indonesian regions. Moreover, prior research often overlooks the institutional factors that mediate this relationship. This study aims to fill that gap by adopting an integrative approach that connects teacher qualifications, exam outcomes, and systemic inequalities within a unified analytical framework.

RESEARCH METHODS

This research adopts a qualitative document-based approach, focusing on secondary data to investigate the relationship between teacher qualifications and student performance in Indonesia's basic education system. The study relies on conceptual and interpretive analysis, which allows for an in-depth understanding of how institutional structures, policies, and human resource capacities shape educational outcomes. According to Creswell (2013, pp. 45–47), qualitative approaches are particularly suitable when the goal is to understand complex interrelationships among social, organizational, and individual factors. The analysis emphasizes textual interpretation over numerical quantification to uncover contextual patterns that influence educational quality.

The primary data sources consist of government publications, academic articles, international institutional reports, and educational databases. These include publications from BPS–Statistics Indonesia, the Ministry of Education and Culture, the World Bank, and UNESCO, as well as peer-reviewed journals and books. The use of these sources ensures a wide scope and high credibility. For instance, World Bank reports offer longitudinal insights into national teacher policies (World Bank, 2013), while journal articles provide theoretical grounding and empirical evidence. Books such as Darling-Hammond (2017) and Hanushek & Rivkin (2012) supplement the study with foundational knowledge and comparative perspectives.

The data collection process employed document analysis as the core technique. This involved identifying, reviewing, and synthesizing published materials relevant to teacher qualifications and student assessments. Bowen (2009) describes document analysis as a systematic method that entails skimming, reading, and interpreting textual data to extract meaningful information. This technique was chosen for its efficiency in triangulating diverse sources and its ability to uncover latent themes within policy documents, institutional reports, and academic research.

For data analysis, the study applied thematic content analysis, focusing on key themes such as "teacher certification," "student achievement," "regional disparities," and "policy implementation." Braun and Clarke (2006) describe thematic analysis as a flexible tool for recognizing patterns and interpreting meaning across qualitative data. Themes were derived both deductively from theoretical frameworks and inductively from the documents themselves. The coding process involved iterative reading and categorization, ensuring that each thematic cluster reflected a coherent and evidence-based narrative.

The conclusion drawing process relied on a synthesis of the identified themes, theoretical constructs, and empirical patterns. This involved mapping the relationship between teacher qualifications and exam performance across various Indonesian provinces, while taking into account institutional and socio-economic contexts. As suggested by Miles and Huberman (1994, pp. 247–250), qualitative conclusion drawing involves validating patterns through triangulation and critical interpretation. The study ensured rigor by cross-referencing findings across multiple sources and grounding conclusions in both theory and documented evidence.

RESULTS AND DISCUSSION

The analysis presented in this study draws on the theoretical perspectives outlined earlier—Human Capital Theory, Teacher Effectiveness, Educational Equity, and Institutional Theory—to understand the multifaceted relationship between teacher

qualifications and student performance. A dialogical relationship emerges between these frameworks and the empirical evidence gathered from national exam data and teacher statistics. The literature has provided a rich but fragmented picture of the education landscape in Indonesia; this study seeks to integrate those fragments into a coherent narrative that addresses the educational disparities facing the country (Darling-Hammond, 2017; Hanushek & Rivkin, 2012).

A central theme that emerges from the findings is that improvements in formal teacher qualifications—such as university degrees or certification status—have not consistently translated into measurable improvements in student exam results, particularly in rural and underdeveloped regions (Chang et al., 2014; World Bank, 2013). This suggests that structural factors, such as resource allocation, policy implementation fidelity, and teacher deployment mechanisms, play a critical mediating role. Institutional Theory helps to explain how educational governance systems may hinder or support these reforms, especially when decentralization results in uneven capacities at the district level (Scott, 2001, pp. 48–50).

Moreover, the comparative lens used in this study—linking regional exam performance with teacher qualification indicators—reveals stark disparities between Java and non-Java regions. The National Exam (Ujian Nasional) data between 2010 and 2019 consistently show higher average scores in provinces with better teacher-to-student ratios and higher rates of certified educators (BPS–Statistics Indonesia, 2016). These findings resonate with UNESCO's (2015) warnings about persistent educational inequity in Southeast Asia, despite broad access to basic schooling.

Importantly, this study introduces new expert perspectives that advocate for integrating competency-based evaluations into teacher qualification standards. Scholars such as Santoso et al. (2015) argue that without practical assessments of pedagogical skill and student engagement, certification remains a weak proxy for teaching effectiveness. This critique is echoed in comparative studies from other middle-income countries, where certification reforms have not led to expected gains in student learning (Ree et al., 2017).

By synthesizing these insights, the current research contributes to bridging the identified gap in Indonesian education studies—namely, the lack of integrated analysis that considers both teacher quality and student outcomes. The findings support the development of a holistic framework that considers qualifications as one dimension within a broader ecosystem of education quality.

1. **Disparities in Teacher Qualifications Across Regions**

The first research question investigated how variations in teacher qualifications influence student academic performance across different Indonesian provinces. Analysis reveals that significant regional disparities exist in both teacher qualifications and exam outcomes. Java-based provinces such as DKI Jakarta, Yogyakarta, and East Java consistently score higher on national exams and report higher rates of certified and graduate-level teachers (BPS–Statistics Indonesia, 2016). Conversely, provinces in Eastern Indonesia—such as Papua, Maluku, and Nusa Tenggara—report lower exam scores and a higher prevalence of underqualified teachers, many of whom lack professional certification or advanced degrees (UNESCO, 2015).

This pattern reflects the influence of centralized teacher training policies that fail to adequately address local capacity constraints. For instance, World Bank (2013) data indicate that while the Teacher Certification Program increased the number of certified teachers nationwide, its rollout was uneven, with remote regions experiencing logistical and financial barriers to access. This situation reinforces inequities and challenges the principle of *al-ʿadl* (العدل), or justice, which is foundational in both educational and social policy ethics in Indonesia.

In areas with high concentrations of uncertified teachers, the quality of instruction often suffers, leading to reduced student engagement and academic achievement (Suryadarma et al., 2006). The correlation between these variables is further substantiated by Glewwe and Muralidharan (2016), who found that educational performance is closely tied to teacher competence and availability. These disparities suggest that teacher qualifications alone cannot close the achievement gap unless accompanied by broader systemic reforms that include equitable distribution mechanisms and continuous support.

A further dimension is the recruitment and retention of qualified teachers in rural areas. According to Chang et al. (2014), many qualified educators prefer urban postings due to better infrastructure, career prospects, and living conditions. This creates a cycle of educational underdevelopment in rural areas, where students are less likely to be taught by competent instructors and, consequently, less likely to achieve academically. Institutional theory explains this as a failure in policy coordination between national goals and local implementation capacities (Scott, 2001, pp. 48–50).

These findings underscore the necessity of regionally targeted policy interventions that go beyond certification quotas to address the qualitative aspects of teacher preparation and deployment. For example, incentive-based relocation programs, region-specific training modules, and culturally responsive pedagogy could be explored as tools to strengthen teacher presence and performance in underserved areas (Darling-Hammond, 2017). Such policies

would align with the equity principle articulated in both international development goals and Indonesian education law.

By unpacking the geographical dimension of teacher qualifications and student outcomes, this section highlights the role of spatial inequality in perpetuating disparities in educational achievement. The study therefore calls for a rethinking of national teacher qualification policies to reflect the diverse realities of Indonesia's educational landscape.

2. Structural and Institutional Barriers to Policy Effectiveness

This section addresses the second research question: What institutional and regional factors mediate the relationship between teacher qualifications and student performance? The findings suggest that policy implementation gaps, bureaucratic inertia, and weak institutional oversight significantly hinder the effectiveness of teacher quality reforms in Indonesia. Despite nationwide efforts to professionalize the teaching workforce through certification programs, their impact on classroom practice and student achievement remains inconsistent due to systemic constraints (Ree et al., 2017).

A major structural barrier lies in the decentralized nature of Indonesia's education system. Following the implementation of Law No. 22/1999 on regional autonomy, responsibility for managing education was transferred from central authorities to local governments. While decentralization was intended to make education more responsive to local needs, it inadvertently resulted in disparities in institutional capacity and accountability across districts (Chang et al., 2014). In regions with limited administrative infrastructure, certification programs are often poorly monitored, and professional development is underfunded or irregular (World Bank, 2013). These institutional weaknesses contribute to the disconnect between formal qualifications and actual teaching quality.

Additionally, the certification process itself has been criticized for its bureaucratic complexity and its emphasis on credential accumulation over pedagogical mastery. Santoso et al. (2015) found that many teachers who obtained certification through portfolio submissions or short courses demonstrated minimal changes in teaching behavior or instructional quality. Institutional theory helps explain this phenomenon, illustrating how formal structures may produce symbolic compliance without substantive improvements in performance (Scott, 2001, pp. 48–50). Teachers may meet the

formal requirements without internalizing the professional norms expected from qualified educators.

The use of performance-based incentives, such as allowance increases tied to certification, has also yielded mixed outcomes. Hanushek and Rivkin (2012) argue that such schemes can encourage superficial compliance rather than genuine instructional improvement. In Indonesia, evidence shows that many certified teachers fail to engage in continuous professional development or adapt to modern pedagogical strategies (Ree et al., 2017). This suggests a need to rethink how institutions measure and reward teaching effectiveness.

Moreover, weak inter-agency coordination between the Ministry of Education and Culture, regional education offices, and teacher training institutions has further diluted the effectiveness of national reforms. For example, teacher placement often occurs without consideration of school-specific needs, resulting in misalignment between teacher qualifications and the demands of the curriculum or student population (UNESCO, 2015). This fragmentation illustrates a broader institutional incoherence that undermines policy intentions.

To address these institutional barriers, scholars advocate for integrated teacher management systems that combine certification with ongoing professional development, performance evaluations, and local needs assessments (Darling-Hammond, 2017). Such systems require investment not only in teacher training but also in governance structures, monitoring tools, and community engagement mechanisms. These interventions would enhance the capacity of education institutions to deliver quality teaching consistently across regions.

In conclusion, this subsection highlights how institutional dynamics—such as decentralization, bureaucratic rigidity, and fragmented governance—mediate the impact of teacher qualification reforms on student achievement. Bridging these gaps will require coordinated policy strategies that go beyond formal credentials and address the systemic conditions under which teachers operate.

3. Aligning Policy with Classroom Realities

This subsection addresses the third research question: How can insights from the relationship between teacher qualifications and student performance inform national education policy in Indonesia? The findings underscore a critical need for aligning teacher quality policies with the realities of classroom practice. While current reforms have made strides in improving the formal credentials of the teaching workforce, they often fail to translate into tangible improvements

in teaching effectiveness and student learning due to misalignment with on-the-ground educational challenges (Suryadarma et al., 2006; Santoso et al., 2015).

One core issue is that national teacher certification tends to prioritize academic qualifications and formal training over classroom-based competencies. Teachers who meet certification criteria may still lack the necessary instructional strategies, classroom management techniques, or context-specific knowledge to engage students effectively, especially in multicultural or rural classrooms (Glewwe & Muralidharan, 2016). According to Darling-Hammond (2017), truly effective teaching arises not just from what educators know but from how they apply that knowledge adaptively in diverse learning environments. Therefore, policy frameworks must evolve to recognize and reward in-practice teaching quality alongside formal indicators.

Further, teaching contexts vary dramatically across Indonesia's archipelago, with some regions facing multi-grade classrooms, limited learning materials, and inconsistent internet connectivity. Policies designed at the national level often fail to account for these variations, leading to implementation failures. For example, Chang et al. (2014) reported that standardized teacher training modules did not adequately prepare educators for region-specific challenges such as language diversity or infrastructural deficits. This disconnect illustrates the necessity for localized, flexible training programs that reflect classroom conditions.

Another problem is the limited integration of performance-based assessments into teacher development strategies. While certification theoretically implies competence, there is little follow-up evaluation to assess whether certified teachers are achieving learning outcomes in practice. According to Hanushek and Woessmann (2010), accountability systems that measure outputs—such as student achievement gains—are more predictive of teacher impact than input-based qualifications. In Indonesia, a lack of performance tracking has weakened the feedback loop between teacher preparation and student results.

Institutional structures must also support continuous learning among educators. Many teachers in rural and under-resourced areas report limited access to ongoing professional development, peer collaboration, or instructional support (World Bank, 2013). Without institutional backing for lifelong learning, the benefits of initial teacher qualifications quickly erode. UNESCO (2015) emphasized that professional growth must be embedded into school culture and reinforced by leadership, mentoring, and recognition systems.

Reform strategies should, therefore, consider integrating teacher evaluation tools that include classroom observation, student feedback, and peer review mechanisms. These tools would offer a more holistic and contextualized picture of teacher effectiveness. Furthermore, equity-focused policies—such as deploying master teachers to underserved regions or offering incentives for service in remote areas—can address regional disparities in both teacher quality and student outcomes (Darling-Hammond, 2017).

In sum, this analysis reveals that aligning teacher quality policies with classroom realities requires a shift from credential-centric models toward competence-based, context-sensitive frameworks. These changes would help ensure that policy translates into practice, thereby enhancing the quality and equity of Indonesia's basic education system.

This study explored the complex relationship between teacher qualifications and student performance in Indonesia's basic education system by examining variations in national exam results and assessing the underlying institutional and regional dynamics. Each of the research questions posed has been answered through a thematic analysis grounded in robust theoretical frameworks and supported by a synthesis of empirical findings.

First, it was established that disparities in teacher qualifications—particularly regarding certification status and educational attainment—closely align with regional differences in national exam outcomes. Provinces with a higher proportion of certified and graduate-level teachers, such as those on Java Island, consistently outperform more remote and under-resourced regions like Papua and Nusa Tenggara. This finding reinforces the significance of teacher qualifications as a foundational pillar of educational quality, but it also underscores the unequal distribution of qualified personnel across Indonesia's diverse geography.

Second, the study identified critical institutional barriers that mediate the effectiveness of teacher quality reforms. Decentralized governance structures, bureaucratic inefficiencies, and fragmented inter-agency coordination have constrained the impact of national certification programs. The absence of systematic monitoring and evaluation mechanisms further weakens the link between formal qualifications and actual classroom performance. These institutional shortcomings demonstrate that improving education outcomes requires more than policy mandates—it demands robust and context-sensitive implementation strategies.

Third, the research demonstrated that aligning teacher quality policy with classroom realities is essential for meaningful and sustainable improvement. Formal qualifications

must be complemented by in-service training, performance evaluations, and localized professional development initiatives. Recognizing the diversity of Indonesia's educational environments, the study advocates for adaptive and region-specific interventions that address the lived experiences of teachers and students alike.

Theoretically, the study contributes a multi-dimensional analytical framework that integrates Human Capital Theory, Teacher Effectiveness models, Educational Equity, and Institutional Theory. This integrative perspective provides a nuanced understanding of how teacher quality intersects with system-level dynamics to influence student outcomes. Practically, the research offers actionable recommendations for policymakers, such as enhancing teacher deployment policies, introducing performance-based evaluations, and embedding continuous professional development into school cultures.

In sum, the novelty of this study lies in its comparative approach and its integrative theoretical orientation. It offers a clearer picture of the structural, institutional, and human factors that shape basic education quality in Indonesia. These insights hold significant implications for policy design, educational equity, and long-term national development strategies.

CONCLUSION

This study has examined the quality of basic education in Indonesia through the comparative analysis of national exam results and teacher qualifications, revealing significant regional disparities and systemic barriers that undermine the effectiveness of education policy. By drawing on national data and grounded theoretical frameworks, the research confirmed that while teacher qualifications—particularly certification and educational attainment—are essential, they are insufficient when decoupled from context-specific classroom realities and robust institutional support.

The findings reinforce the theoretical alignment between Human Capital Theory and educational policy, affirming that investment in teacher quality can yield positive outcomes when properly implemented. However, the disjunction between policy design and implementation—especially under Indonesia's decentralized system—limits the impact of certification reforms. Without performance-linked assessments, professional support mechanisms, and targeted deployment strategies, the promise of improved education through teacher qualification remains partially fulfilled.

Practically, the study recommends that Indonesian education policy shift toward an integrated teacher management system. This would include competence-based evaluations, contextually tailored training programs, and regionally sensitive

recruitment strategies. These interventions must be complemented by institutional reforms that strengthen governance, accountability, and inter-agency coordination at the local and national levels.

Future research should consider longitudinal designs that examine the long-term effects of professional development and teacher placement on student achievement. Additionally, expanding the analysis to include the perspectives of teachers and school leaders would provide richer insights into the daily realities that shape instructional effectiveness. Ultimately, addressing the complexities of education quality in Indonesia requires policies that are not only technically sound but also grounded in the socio-cultural and institutional fabric of the nation.

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