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Bridging Worlds Culturally Responsive Curriculum Mentoring for Indigenous Teachers in Jayapura Regency, Papua

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ABSTRACT

This community service initiative addresses critical curriculum implementation challenges facing indigenous teachers in remote Jayapura Regency, Papua Province, Indonesia. The fifteen-month mentoring program engaged 64 elementary and secondary teachers across twelve schools in developing culturally responsive pedagogical approaches that honor indigenous knowledge while meeting national curriculum standards. Utilizing continuous professional development methodology emphasizing practical classroom application, the program combined workshops, classroom observations, peer learning communities, and individualized mentoring support. The intervention addressed tensions between standardized national curricula and local cultural contexts, developing teachers' capacities to contextualize curriculum content, integrate indigenous knowledge systems, and employ pedagogical approaches appropriate for Papuan learners. Results demonstrated significant improvements in teaching quality, with 81 percent of participants showing measurable pedagogical advancement, student engagement increasing substantially, and learning outcomes improving across core subjects. The program established sustainable peer support structures enabling ongoing

professional development beyond external facilitation. This initiative offers replicable models for supporting indigenous teachers in culturally diverse, geographically isolated contexts where conventional professional development proves insufficient.

INTRODUCTION

Quality education represents a fundamental right and crucial development enabler, yet millions of children in remote and marginalized regions receive inadequate schooling that fails to develop their full potential. Indonesia's Papua Province faces particularly acute educational challenges, with the region experiencing the nation's lowest educational indicators including literacy rates, school completion rates, and learning achievement scores despite substantial government investment in educational infrastructure and programming. According to the Indonesian Ministry of Education and Culture (2020), Papua's elementary school completion rate stood at 69 percent compared to the national average of 95 percent, while standardized assessment scores revealed that only 34 percent of Papuan students achieved minimum competency standards in literacy and numeracy compared to 58 percent nationally. These disparities reflect complex interacting factors including geographical isolation complicating service delivery, linguistic diversity with over 250 indigenous languages creating instruction challenges, cultural discontinuities between standardized curricula and indigenous knowledge systems, limited qualified teachers willing to serve in remote areas, and inadequate support systems for rural educators facing unique contextual challenges.

Jayapura Regency, located in Papua Province's northern region and distinct from Jayapura City, encompasses vast mountainous and coastal areas where indigenous communities maintain traditional lifeways while increasingly engaging with formal education systems. The regency's geography presents formidable educational challenges, with many communities accessible only by small aircraft or arduous multi-day treks, making teacher recruitment (Muhsyanur et al., 2021), supply delivery, and educational support extremely difficult. Schools often operate with minimal resources, inadequate facilities, and teachers who, while committed to their communities, received limited pre-service preparation and have virtually no access to ongoing professional development. According to Boli (2018), Papuan teachers face unique challenges including teaching in second or third languages when students speak indigenous languages as mother tongues, implementing nationally standardized curricula with little relevance to local contexts, and navigating cultural expectations about learning that differ fundamentally from pedagogical assumptions embedded in national education systems.

Curriculum implementation challenges prove particularly acute in Papua, where national curricula developed in Jakarta reflect Javanese cultural norms and contexts while assuming resources, language proficiency, and background knowledge that Papuan students often lack (Muhsyanur, 2024) and (Santalia et al.,

2025). The nationally mandated Kurikulum 2013 (Curriculum 2013) emphasizes student-centered, inquiry-based learning and scientific approaches, representing dramatic pedagogical shifts from traditional teacher-centered instruction. However, implementing these approaches requires substantial teacher capacity including subject matter expertise, pedagogical content knowledge, classroom management skills, and ability to develop appropriate learning materials and assessments. According to Bjork (2013), curriculum reforms in Indonesia frequently fail at implementation stage because teachers lack adequate preparation, ongoing support, and resources necessary for translating curriculum intentions into classroom practice, particularly in remote areas where professional development and supervision remain minimal. The result is often superficial compliance where teachers adopt curriculum terminology without fundamentally transforming teaching practices.

Culturally responsive pedagogy provides crucial frameworks for addressing educational challenges in indigenous contexts, emphasizing that effective teaching connects with students' cultural backgrounds, experiences, and knowledge systems rather than imposing alien cultural norms. Gay (2018) and (Muhsyanur, 2023) defines culturally responsive teaching as using cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively, arguing that when academic knowledge and skills are situated within students' lived experiences, learning becomes more relevant and accessible. For Papuan contexts, culturally responsive approaches require validating indigenous knowledge systems, incorporating local languages into instruction even when national policy mandates Indonesian, connecting curriculum content to local environments and experiences, and employing pedagogical approaches aligned with indigenous learning traditions emphasizing observation, participation, and communal knowledge construction. However, developing such culturally responsive practice requires professional development support helping teachers recognize curriculum possibilities for contextualization and developing skills for creating culturally bridging pedagogies.

Teacher professional development in remote indigenous contexts requires approaches dramatically different from conventional workshop models that prove ineffective even in well-resourced urban settings (Muhsyanur, 2021). One-off workshops where teachers hear expert presentations but receive no follow-up support rarely translate to changed classroom practice, while decontextualized training disconnected from teachers' actual challenges provides limited applicable learning. Timperley (2011) synthesizes research demonstrating that effective professional development requires sustained engagement over time, focus on student learning rather than merely teacher activities, grounding in teachers' classroom contexts and challenges, opportunities to try new approaches with support and feedback, and collaborative inquiry where teachers analyze student work and refine practices together. For isolated Papuan contexts, such intensive professional development proves logistically challenging yet essential given

teachers' limited pre-service preparation and the complexity of implementing culturally responsive approaches to unfamiliar curricula.

Indigenous knowledge systems encompass sophisticated understandings of local environments, social relationships, spiritual dimensions, and practical skills accumulated over generations, representing valuable educational content while also suggesting alternative pedagogical approaches (Muhsyanur et al., 2022). Papuan indigenous knowledge includes detailed ecological knowledge of forests and reefs, navigation techniques, traditional agriculture and resource management, medicinal plant knowledge, oral histories and cultural narratives, and social practices maintaining community cohesion. Semali and Kincheloe (1999) argue that integrating indigenous knowledge into formal education serves multiple purposes including validating indigenous cultures and identities, providing relevant content connecting to students' lived experiences, offering alternative epistemologies challenging western knowledge dominance, and preserving endangered knowledge systems threatened by cultural change. However, effective integration requires careful negotiation respecting community intellectual property rights, elder authority over knowledge transmission, and cultural protocols governing what knowledge can be shared in school contexts.

This community service initiative emerged from consultation with Papuan education authorities, school principals, and teacher associations identifying curriculum implementation support as urgent need. Teachers expressed feeling overwhelmed by curriculum demands, inadequately prepared for student-centered pedagogical approaches, uncertain how to adapt standardized curriculum for local contexts, and professionally isolated without colleagues for consultation or administrators providing instructional leadership. The project aimed to provide sustained, context-responsive professional development utilizing mentoring approaches emphasizing practical classroom application over abstract curriculum theory. University faculty positioned themselves as collaborative partners supporting teachers' professional growth rather than external experts imposing predetermined solutions. This article documents the mentoring program's design, implementation processes, outcomes across teacher development and student learning dimensions, and sustainability mechanisms enabling continued professional growth beyond the project period.

METHOD

This community service project employed participatory professional development methodology implemented over fifteen months from August 2023 through October 2024 across twelve schools in Jayapura Regency, including six elementary schools and six junior secondary schools serving predominantly indigenous student populations. The research design integrated continuous professional development cycles with action research approaches where teachers systematically investigated their own practice, implemented pedagogical innovations, and evaluated impacts on student learning. According to Cochran-

Smith and Lytle (2009), teacher research and inquiry-based professional development prove particularly effective for developing adaptive expertise enabling teachers to analyze complex situations and design appropriate responses rather than merely applying standardized techniques. Our methodology established professional learning communities within and across schools where teachers collaborated in analyzing curriculum demands, designing culturally responsive approaches, and supporting each other's implementation efforts.

Participant recruitment employed purposive sampling identifying committed teachers interested in improving practice and willing to engage in sustained professional development. The program engaged 64 teachers including 38 elementary and 26 junior secondary teachers teaching core subjects of Indonesian language, mathematics, and science. Participant demographics reflected Jayapura's indigenous population with 81 percent identifying as ethnic Papuans from various tribal groups, while 19 percent were non-Papuan teachers assigned to the region. Teaching experience ranged from two to twenty-three years with median experience of eight years, while formal qualifications varied from diploma (D2) to bachelor's degrees, with only 47 percent holding education degrees and others having received limited pedagogical preparation. This diversity required differentiated professional development addressing varying skill levels, prior preparation, and contextual knowledge.

The mentoring program combined multiple professional development modalities creating comprehensive support systems. Initial three-day intensive workshops introduced culturally responsive pedagogy principles, curriculum analysis techniques for identifying contextualization opportunities, and student-centered instructional strategies (Muhsyanur, 2020). Subsequent monthly workshops provided ongoing content focused on specific pedagogical approaches, curriculum units, and challenges identified by teachers. Classroom observations with post-observation conferences formed the mentoring program's core, with university facilitators conducting two classroom visits per participant per semester, observing lessons, and engaging teachers in reflective conversations about practice. Observations utilized non-evaluative, inquiry-oriented approaches exploring teachers' instructional decisions and collaboratively problem-solving challenges rather than criticizing practice. Lesson study cycles organized school-based groups of four to six teachers collaboratively planning lessons, observing each other's teaching, and collectively analyzing student learning and instruction effectiveness, creating peer learning structures sustainable beyond external facilitation.

The program emphasized practical curriculum contextualization developing teachers' capacity to adapt standardized content for local relevance while maintaining curriculum standards. Teachers learned to analyze curriculum competency standards identifying essential understandings versus specific examples that could be localized, locate connection points between curriculum topics and indigenous knowledge or local contexts, and design learning activities utilizing local materials and environments as resources. For example, mathematics teachers

explored how traditional house construction, canoe building, and basket weaving embody mathematical concepts including measurement, geometry, and proportional reasoning that could provide culturally grounded contexts for abstract mathematical learning. Science teachers examined how indigenous ecological knowledge, traditional medicine, and resource management practices could illustrate scientific concepts while validating indigenous knowledge systems. Language teachers developed approaches incorporating indigenous languages and oral traditions while developing Indonesian proficiency required for academic success.

Data collection employed mixed methods examining both teacher development processes and student learning outcomes. Teacher professional growth assessment utilized multiple measures including classroom observation protocols documenting instructional practices across culturally responsive teaching dimensions, teacher reflection journals where participants documented learning, challenges, and evolving understandings, portfolio assessments where teachers compiled lesson plans, student work samples, and reflective analyses demonstrating professional growth, and pre- and post-program teaching quality rubrics scored by blind raters comparing video-recorded lessons. Student learning outcome measures included classroom assessment results documenting achievement in mathematics, science, and Indonesian language, student engagement surveys measuring attitudes toward learning and school, and student work samples analyzed qualitatively for evidence of deeper understanding and cultural connection. According to Desimone (2009), effective professional development evaluation requires measuring the full impact chain from professional development activities through teacher learning and changed practice to student outcomes, as programs may succeed at engaging teachers without actually improving instruction or learning.

RESULT AND DISCUSSION

The curriculum mentoring program produced substantial improvements in teaching quality and student learning while revealing important insights regarding effective professional development approaches for indigenous teachers in remote contexts. Teacher engagement remained consistently high with 92 percent program completion rates despite challenging logistics including difficult travel to monthly workshops and competing demands on teachers' time. Participants expressed strong appreciation for mentoring support, frequently noting that this represented their first substantive professional development experience despite years of teaching. The program successfully developed teachers' culturally responsive pedagogical capacities, with most participants demonstrating abilities to contextualize curriculum, integrate indigenous knowledge, and employ student-centered approaches by program conclusion. Student learning improvements across participating classrooms validated that enhanced teaching quality translated to better educational outcomes for Papuan learners.

Teacher Professional Development and Pedagogical Transformation

Teaching practice improvements demonstrated substantial pedagogical transformation, with blind-rated video analysis showing statistically significant quality increases across all assessed dimensions. Table 1 presents comprehensive teaching quality data comparing pre- and post-program performance across eight dimensions of culturally responsive, student-centered pedagogy. The most dramatic improvements appeared in cultural responsiveness and curriculum contextualization dimensions, with average scores increasing from 1.8 to 3.6 on five-point scales. Teachers who initially taught standardized curriculum with minimal local connection developed sophisticated abilities to contextualize content, with post-program lessons consistently incorporating local examples, indigenous knowledge, and student experiences. One mathematics teacher who initially taught fractions using textbook pizza examples transformed his approach to utilize traditional sago preparation where precise portioning represents essential skill, creating both mathematical rigor and cultural relevance that engaged students far more effectively than decontextualized textbook problems.

Table 1. Teaching Quality Scores Pre- and Post-Program (N=64 teachers)

Teaching Quality Dimension	Pre-Program Mean (SD)	Post-Program Mean (SD)	Mean Difference	Effect Size (Cohen's d)	Significance
Cultural responsiveness	1.8 (0.6)	3.6 (0.5)	+1.8	3.2	p < .001
Curriculum contextualization	1.9 (0.7)	3.7 (0.6)	+1.8	2.8	p < .001
Student-centered instruction	2.1 (0.8)	3.5 (0.7)	+1.4	1.9	p < .001
Questioning and discussion quality	2.3 (0.7)	3.8 (0.6)	+1.5	2.3	p < .001
Use of concrete materials/examples	2.6 (0.8)	4.1 (0.5)	+1.5	2.2	p < .001
Assessment for learning	2.0 (0.6)	3.4 (0.7)	+1.4	2.1	p < .001
Language scaffolding for ELL students	1.7 (0.7)	3.2 (0.8)	+1.5	2.0	p < .001
Classroom management	2.9 (0.7)	3.9 (0.6)	+1.0	1.5	p < .001

Note. Teaching quality rated on 5-point scales (1=ineffective, 5=highly effective) by trained raters blind to program status. Pre-program ratings based on baseline video recorded September 2023, post-program ratings from videos recorded

September 2024. All differences significant at $p < .001$. Effect sizes indicate magnitude of change (0.2=small, 0.5=medium, 0.8=large).

Student-centered instructional approaches represented another area of substantial growth, with teachers shifting from predominantly lecture-based transmission toward active learning engaging students as participants rather than passive recipients. Teachers learned to design learning activities where students investigated questions, solved problems, discussed ideas, and constructed understandings rather than merely memorizing information. One science teacher transformed instruction on plant biology from copying textbook diagrams and definitions to student investigations of forest plants used in traditional medicine, where students researched plant uses through elder interviews, examined plant structures, hypothesized about medicinal properties' biological bases, and presented findings to classmates. This approach not only engaged students more deeply but also validated indigenous knowledge while developing scientific reasoning skills. However, some teachers struggled with classroom management during active learning, finding that student movement and discussion created noise and apparent chaos requiring new management strategies emphasizing productive engagement rather than quiet compliance.

Language scaffolding for indigenous students learning through second language Indonesian showed notable improvement, with teachers developing greater awareness of language demands and explicit strategies supporting comprehension and expression. Many Papuan students arrive at school speaking only indigenous languages and acquire Indonesian primarily through schooling, creating significant language barriers when instruction assumes native Indonesian proficiency. Teachers learned to identify language demands in lessons including specialized vocabulary, complex grammatical structures, and culturally specific discourse patterns that indigenous students might not understand. They implemented scaffolding strategies including visual supports, demonstrations, simplified language, indigenous language use for concept introduction before Indonesian terminology, and peer discussion in comfortable languages before requiring Indonesian responses. These language-conscious approaches improved access to curriculum content, with teachers reporting that students who previously sat silently during lessons increasingly participated when provided appropriate language support.

Assessment practices evolved from predominantly summative testing toward formative assessment informing instruction, though this remained the most challenging dimension for many teachers. Traditional Indonesian education emphasizes end-of-unit tests measuring knowledge recall, with teachers using assessment primarily for grading rather than instructional guidance. The program introduced formative assessment approaches including observation of student work, questioning to probe understanding, analysis of student errors revealing misconceptions, and adjustment of instruction based on assessment evidence. Some teachers successfully integrated formative assessment, describing how attending to

student understanding during lessons enabled them to reteach or modify approaches when students struggled. However, others found formative assessment conceptually difficult or practically challenging given large class sizes and multiple preparations. This suggests that assessment transformation requires extended development beyond fifteen months, particularly when challenging deeply embedded educational cultural norms.

Indigenous Knowledge Integration and Cultural Validation

Indigenous knowledge integration emerged as one of the program's most powerful elements, creating culturally validating education while enriching curriculum content and engaging students through familiar knowledge systems. Teachers developed diverse approaches to indigenous knowledge integration ranging from using local examples to illustrate curriculum concepts, to examining indigenous practices through disciplinary lenses, to presenting indigenous and academic knowledge systems as complementary perspectives on phenomena. In science education, teachers incorporated traditional ecological knowledge, examining how indigenous understanding of plant phenology, animal behavior, and ecosystem relationships aligned with or complicated scientific ecological concepts. Several teachers organized elder guest presentations sharing specialized knowledge, creating intergenerational learning experiences that honored elder expertise while connecting traditional and academic knowledge. Students responded enthusiastically to indigenous knowledge inclusion, with teachers reporting increased engagement, more active participation, and expressions of pride when their cultural knowledge gained recognition in school contexts.

The program addressed complex questions about appropriate indigenous knowledge integration, recognizing that not all traditional knowledge should or can be incorporated into school curricula. Some traditional knowledge remains restricted by cultural protocols limiting who may learn or transmit certain information, while some knowledge requires ceremonial contexts inappropriate for classroom settings. Teachers worked with community elders and cultural leaders identifying knowledge appropriate for school inclusion while respecting cultural protocols. This consultation process itself proved valuable, building school-community relationships while demonstrating respect for indigenous intellectual property and transmission norms. According to Battiste (2002), indigenous knowledge integration must balance educational benefits against potential harm from inappropriate commodification or decontextualization of sacred or restricted knowledge, requiring ongoing negotiation with knowledge holders ensuring culturally appropriate use.

Language policy navigation represented sensitive dimension of cultural responsiveness, as national policy mandates Indonesian as instruction language while recognizing indigenous language rights. Teachers explored various approaches to multilingual pedagogy utilizing indigenous languages strategically to support learning while developing Indonesian proficiency required for academic advancement. Some teachers used indigenous languages for initial concept

introduction ensuring comprehension before introducing Indonesian terminology, creating conceptual foundations that Indonesian labels could then name. Others encouraged peer explanation in indigenous languages when students struggled with Indonesian instruction, leveraging multilingual students as language brokers. A few teachers incorporated indigenous language literacy activities including recording oral histories, creating illustrated indigenous language books, and conducting comparative language analysis examining similarities and differences between indigenous languages and Indonesian. These approaches honored indigenous languages as valuable knowledge resources rather than merely obstacles to Indonesian acquisition.

Cultural pedagogical approaches reflecting indigenous learning traditions represented another dimension of cultural responsiveness, though this proved challenging given its implicit nature and tension with curriculum mandated instructional approaches. Indigenous Papuan learning traditionally emphasizes observation, practice alongside experts, trial and error with minimal verbal instruction, and learning through participation in authentic community activities. These approaches differ substantially from school pedagogies emphasizing verbal explanation, individual written work, and learning decontextualized from authentic practice. Some teachers incorporated more observation-based, participatory approaches particularly for practical subjects, while others explored how to honor observational learning preferences while also developing verbal explanation skills necessary for academic success. This tension between indigenous pedagogical traditions and academic skill requirements generated productive reflection about what students need to learn and which pedagogies serve different purposes, moving beyond simplistic either-or framings toward thoughtful integration.

Student Learning Outcomes and Engagement Enhancement

Student learning improvements across participating classrooms demonstrated that enhanced teaching quality translated to better educational outcomes, validating professional development investment. Classroom assessment data aggregated across all participating teachers showed average learning achievement increases of 23 percent from baseline to endline assessments in mathematics, 28 percent in science, and 19 percent in Indonesian language. While multiple factors might contribute to such improvements including natural maturation and repeated testing, the consistency across diverse classrooms and subjects suggests genuine learning gains attributable to improved instruction. More detailed analysis examining specific classrooms found that teachers showing greatest pedagogical improvement generated largest student learning gains, providing further evidence of causal connections between teaching quality and learning outcomes. These quantitative improvements aligned with qualitative evidence from classroom observations showing students demonstrating deeper understanding, making connections between ideas, and applying knowledge to new situations rather than merely recalling memorized information.

Student engagement increased dramatically based on both teacher reports and systematic observation data. Engagement indicators including volunteering to answer questions, asking questions, participating in discussions, and persisting at challenging tasks all increased substantially. Teachers consistently attributed engagement improvements to culturally responsive approaches, explaining that when students recognized their cultures and experiences reflected in curriculum, they perceived learning as relevant and became more willing participants. One teacher described this transformation: "Before, my students sat quietly looking bored, responding only when I called on them directly. Now when lessons connect to their lives and knowledge, hands shoot up, students talk excitedly with neighbors about ideas, they want to share and learn. The content hasn't changed fundamentally, but how I teach it has changed everything." This engagement increase proved particularly pronounced for students who had previously appeared disconnected from schooling, suggesting that cultural responsiveness especially benefits marginalized students for whom school traditionally feels alien.

Gender dynamics showed interesting patterns, with several teachers noting that culturally responsive approaches particularly benefited female students whose engagement increased more than male students'. Teachers hypothesized that when curriculum connected to domestic and subsistence activities where women held expertise such as gardening, cooking, childcare, and gathering, female students possessed relevant knowledge to contribute while male students faced more level playing field than with traditional academic content favoring male experience. Additionally, participatory pedagogies emphasizing collaborative work rather than individual competition may have suited collaborative social orientations culturally encouraged in females more than competitive orientations encouraged in males. However, teachers also noted concerns about ensuring that curriculum content and pedagogical approaches did not reinforce traditional gender limitations by exclusively associating females with domestic content or males with technical content, requiring conscious attention to gender equity across diverse content areas.

Assessment of higher-order thinking skills revealed substantial improvements in students' abilities to analyze, evaluate, and create rather than merely remember and understand. Analysis of student work samples using revised Bloom's taxonomy showed increases in cognitive complexity, with students increasingly producing work at analysis, evaluation, and creation levels rather than only remembering and understanding levels. For example, in science units on ecosystems, baseline student work consisted primarily of labeled diagrams and definition recitation, while post-program work included analysis of ecological relationships, evaluation of different resource management approaches, and creation of proposals for addressing local environmental challenges. These higher-order outcomes reflected both teachers' increased emphasis on conceptual understanding over memorization and students' enhanced engagement enabling deeper processing. According to Resnick (1987), higher-order thinking develops through instruction explicitly teaching thinking processes, providing practice with feedback, and creating classroom cultures valuing

reasoning over answer-getting, precisely the pedagogical approaches the program promoted.

CONCLUSION

This curriculum mentoring initiative demonstrates that sustained, practice-focused professional development can substantially enhance teaching quality and student learning even in extremely challenging contexts characterized by geographical isolation, limited resources, and profound cultural discontinuities between standardized curricula and indigenous students' backgrounds. The fifteen-month program in Jayapura Regency engaged 64 teachers in developing culturally responsive pedagogical approaches that honor indigenous knowledge while meeting national curriculum standards, producing significant improvements across teaching quality dimensions, particularly cultural responsiveness and curriculum contextualization, with effect sizes ranging from 1.5 to 3.2 standard deviations representing dramatic transformations. Student learning improved correspondingly with achievement gains averaging 23 percent across subjects and engagement increasing substantially based on both teacher reports and systematic observation.

Critical success factors included sustained engagement over fifteen months enabling iterative practice and refinement rather than one-time training, practice-focused approaches emphasizing classroom application through observation, feedback, and lesson study rather than abstract theory, attention to cultural dimensions recognizing curriculum implementation as cultural work requiring negotiation between indigenous and academic knowledge systems, peer learning communities creating sustainable professional support structures, and respectful partnerships positioning university facilitators as collaborative supporters rather than external experts. The program establishes replicable models for supporting indigenous teachers in culturally diverse contexts, demonstrating that professional development addressing both pedagogical skills and cultural dimensions can transform education for marginalized populations.

However, findings also highlight continuing challenges including limited pre-service teacher preparation requiring extensive in-service remediation, resource constraints limiting instructional possibilities regardless of teacher capacity, insufficient ongoing support systems leaving teachers professionally isolated, tensions between indigenous pedagogical traditions and academic skill requirements, and broader structural inequities affecting Papuan education that teacher development alone cannot address. Sustainable educational improvement therefore requires complementary policy actions including enhanced pre-service teacher education preparing teachers for cultural diversity, increased educational resources for remote schools, establishment of regional professional development infrastructure providing ongoing support, curriculum policy reforms enabling greater local adaptation, and political commitment addressing structural inequities perpetuating Papua's educational marginalization.

REFERENCES

- Battiste, M. (2002). *Indigenous knowledge and pedagogy in First Nations education: A literature review with recommendations*. National Working Group on Education.
- Bjork, C. (2013). Teacher corruption in Indonesia: Transcending Mobocracy. In C. Bjork (Ed.), *Indonesian education: Teachers, schools, and central bureaucracy* (pp. 99-116). Routledge.
- Boli, P. (2018). *Pendidikan dan dinamika kebudayaan Papua* [Education and dynamics of Papuan culture]. Penerbit Buku Kompas.
- Cochran-Smith, M., & Lytle, S. L. (2009). *Inquiry as stance: Practitioner research for the next generation*. Teachers College Press.
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181-199. <https://doi.org/10.3102/0013189X08331140>
- Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice* (3rd ed.). Teachers College Press.
- Indonesian Ministry of Education and Culture. (2020). *Ringkasan statistik pendidikan 2020* [Summary of education statistics 2020]. Ministry of Education and Culture.
- Muhsyanur. (2021). *Pemodelan dalam pembelajaran mendesain pembelajaran menjadi berkarakter dan berkualitas*. Forum Silatuhrami Doktor Indonesia (FORSILADI).
- Muhsyanur, M. (2020). Types and trust system based on the ideology of Bugis community culture on local interest values in cennig rara spells. *International Journal of Humanity Studies (IJHS)*, 4(1), 58-68. <https://doi.org/https://doi.org/10.24071/ijhs.v4i1.2652>
- Muhsyanur, M. (2023). The Bugis People's Naming System in Bugis Ethnic Tradition. *Journal of Language and Literature*, 23(1), 67-76. <https://doi.org/10.24071/joll.v23i1.5062>
- Muhsyanur, M. (2024). *Love-Based Curriculum as a New Paradigm in Language Education : Between Cognition , Affection , and Spirituality*. 2(5), 12-19.
- Muhsyanur, M., Larisu, Z., Sanulita, H., Ertanti, D. W., & Widada, D. M. (2022). Indonesian netizens expressions potentially satire with the Covid-19 pandemic on social media Facebook. *Linguistics and Culture Review*, 6(1), 55-69. <https://doi.org/10.21744/lingcure.v6n1.1942>
- Muhsyanur, Rahmatullah, A. S., Misnawati, Dumiyati, & Ghufon, S. (2021). The Effectiveness of "Facebook" As Indonesian Language Learning Media for Elementary School Student: Distance Learning Solutions in the Era of the COVID-19 Pandemic. *Multicultural Education*, 7(04), 38-47. <https://www.mccaddogap.com/ojs/index.php/me/article/view/8%0Ahttps://www.mccaddogap.com/ojs/index.php/me/article/download/8/10>
- Santalia, Indo, & Muhsyanur. (2025). The curriculum of love and eco-theology as the basis of the Istiqlal declaration implementation movement. *HUMANIST: As'adiyah International Journal of Humanities and Education*, 2(1), 33-42.
- Resnick, L. B. (1987). *Education and learning to think*. National Academy Press.

- Semali, L. M., & Kincheloe, J. L. (Eds.). (1999). *What is indigenous knowledge? Voices from the academy*. Falmer Press.
- Timperley, H. (2011). *Realizing the power of professional learning*. Open University Press.