



The BRADLEY model for educational accreditation governance in underserved Indonesian regions: Implications for physical education, school sport, and active lifestyles

El modelo BRADLEY para la gobernanza de la acreditación educativa en regiones indonesias con servicios insuficientes: Implicaciones para la educación física, el deporte escolar y los estilos de vida activos

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Abstract

Introduction: Educational accreditation in underserved Indonesian regions faces governance challenges related to geographical barriers, limited digital infrastructure, uneven stakeholder capacity, and difficulties in translating national standards into local practice, with implications for physical education, school sport, and active lifestyle-oriented school improvement.

Objective: This study aimed to develop and preliminarily validate the BRADLEY model as a contextual framework for educational accreditation governance in underserved Indonesian regions.

Methodology: An exploratory sequential mixed-methods design was employed. The qualitative phase used interview summary records and document review records related to accreditation governance and analyzed them through case-based thematic analysis. The quantitative phase involved five expert validators and 15 user respondents who assessed a 33-item BRADLEY validation questionnaire using a five-point Likert scale. Expert data were analyzed using Aiken's V, while user data were analyzed using descriptive statistics and feasibility percentages.

Results: The BRADLEY model consists of seven dimensions: Bridging Policy and Local Context, Responsive Governance, Adaptive Hybrid Approach, Data-Driven Evidence, Learning Capacity Building, Evaluative and Sustainable Improvement, and Yielding Quality Outcomes. Expert validation showed strong preliminary content validity, with an overall Aiken's V of 0.958, while user validation indicated high feasibility, with a mean score of 4.73 and a feasibility percentage of 94.6%.

Discussions: The model provides a governance lens for strengthening accreditation processes with possible relevance to physical education, school sport, and active lifestyle programs.

Conclusion: BRADLEY is a promising preliminary framework, although broader implementation-based validation is still needed.

Keywords

Educational accreditation; governance; underserved regions; physical education; school sport; active lifestyle.

Resumen

Introducción: La acreditación educativa en regiones indonesias con servicios insuficientes enfrenta desafíos de gobernanza relacionados con barreras geográficas, infraestructura digital limitada, capacidad desigual de los actores y dificultades para traducir los estándares nacionales a prácticas locales, con implicaciones para la educación física, el deporte escolar y la mejora escolar orientada a estilos de vida activos.

Objetivo: Este estudio tuvo como objetivo desarrollar y validar preliminarmente el modelo BRADLEY como marco contextual para la gobernanza de la acreditación educativa en regiones indonesias con servicios insuficientes.

Metodología: Se empleó un diseño mixto secuencial exploratorio. La fase cualitativa utilizó registros resumidos de entrevistas y revisión documental sobre gobernanza de la acreditación, analizados mediante análisis temático basado en casos. La fase cuantitativa incluyó cinco validadores expertos y 15 usuarios, quienes evaluaron un cuestionario de validación BRADLEY de 33 ítems mediante una escala Likert de cinco puntos. Los datos de expertos se analizaron con V de Aiken y los datos de usuarios mediante estadística descriptiva y porcentajes de factibilidad. **Resultados:** El modelo BRADLEY comprende siete dimensiones: conexión entre política y contexto local, gobernanza receptiva, enfoque híbrido adaptativo, evidencia basada en datos, desarrollo de capacidades, mejora evaluativa y sostenible, y resultados de calidad. La validación experta mostró una V de Aiken global de 0.958, y la validación de usuarios obtuvo una media de 4.73 y una factibilidad de 94.6%.

Discusión: El modelo ofrece una perspectiva de gobernanza útil para fortalecer la acreditación con posible relevancia para la educación física, el deporte escolar y los estilos de vida activos.

Conclusión: BRADLEY es un marco preliminar prometedor, aunque requiere validación mediante estudios de implementación más amplios.

Palabras clave

Acreditación educativa; gobernanza; regiones con servicios insuficientes; educación física; deporte escolar; estilo de vida activo.

Introduction

Educational accreditation has become an important governance mechanism for ensuring accountability, equity, and continuous improvement across diverse school contexts. Accreditation is no longer understood only as an administrative assessment of institutional compliance, but also as a developmental process that connects standards, evidence, stakeholder participation, and school improvement. Kumar et al. (2025) emphasized that accreditation functions as a strategic quality assurance mechanism, while García-Domingo et al. (2025) showed that accreditation processes may contribute to organizational and management improvement when they are connected to institutional learning. In this sense, educational accreditation should be positioned as part of a broader governance ecosystem that supports accountability, quality development, and sustainable improvement (Kohoutek et al., 2025; Sato, 2026).

The relevance of accreditation governance becomes more critical in underserved Indonesian regions, where schools often face geographical barriers, limited digital infrastructure, uneven human resource capacity, and restricted access to technical assistance. These conditions are commonly associated with Indonesia's 3T areas, referring to tertinggal, terdepan, dan terluar, or underdeveloped, frontier, and outermost regions. Mustafa et al. (2024) found that technology integration in rural schools is frequently constrained by infrastructure, teacher readiness, and institutional support, while Ahiaku et al. (2025) highlighted the persistence of technological disconnection in rural school contexts. In Indonesia, digital development remains spatially unequal, with stronger capacity concentrated in urban areas and weaker access found in rural, remote, mountainous, and archipelagic regions (Kartiasih, 2023; Kucirkova et al., 2026; Okoye et al., 2025; Serrano-Ardila et al., 2026).

These accreditation challenges have specific governance implications for physical education, school sport, and active lifestyle-oriented school programs because these areas depend on teacher competence, facility readiness, student participation, safety procedures, school leadership, and evidence-based improvement. In accreditation practice, such elements may appear as evidence of school quality, including documentation of physical education lessons, sport facilities, extracurricular activity programs, student participation records, safety procedures, and school health initiatives. Recent studies are therefore used in this manuscript not as measured variables, but as contextual support for why physical education and active lifestyle programs should be visible in accreditation governance. For example, Al Ardha et al. (2024) reported the growing use of Android-based applications in physical education and sport, while Mashud et al. (2024) and Gustian et al. (2024) emphasized physical literacy, active lifestyle internalization, and sustainable physical education in Indonesia. These studies justify the relevance of physical education to school quality assurance, but the present study remains focused on accreditation governance rather than on measuring physical education outcomes.

To avoid overstating the empirical scope of the study, physical education literature is used here to clarify the quality-assurance context rather than to define direct study variables. Studies on physical literacy, sustainable physical education, school sport, sedentary lifestyle, teacher readiness, and health-oriented school programs show that physical education contributes to broader educational quality and student development (Alhumary et al., 2025; Gustian et al., 2024; Ma'mun et al., 2025; Mashud et al., 2024; Nurhayati et al., 2025; Setiawan, 2024). The BRADLEY model does not measure these outcomes directly. Instead, it provides a governance framework that may help schools in underserved regions prepare, document, verify, and improve quality-assurance evidence related to physical education, school sport, and active lifestyle-oriented programs.

From a governance perspective, schools in underserved regions require accreditation mechanisms that can bridge national standards and local realities without lowering quality expectations. Mifsud & Wilkins (2025) argued that school governance is shaped by actors, accountability structures, institutional relationships, and local contexts, while Rodrigues et al. (2025) emphasized that educational governance problems require approaches that are sensitive to institutional complexity. In the Indonesian educational administration context, school quality is also influenced by leadership, resource management, collaborative culture, and institutional capacity. These perspectives indicate that accreditation governance should move beyond uniform administrative procedures toward responsive, adaptive, and evidence-informed support systems.

Despite growing research on accreditation, school governance, digital transformation, and physical education, limited attention has been given to how educational accreditation governance can support quality assurance in underserved school contexts, including areas such as physical education, school sport, and active lifestyle-oriented programs. Existing studies often discuss accreditation as a general quality assurance mechanism, rural education as an equity issue, and physical education as a field for promoting health, fitness, physical literacy, and life skills; however, these strands are rarely integrated into a validated governance framework. Storey et al. (2025) demonstrated that sequential mixed-methods designs are useful for developing and validating implementation instruments, and Zhou et al. (2024) emphasized that mixed-methods research requires clear integration between qualitative and quantitative evidence. Model development also requires construct validation so that proposed dimensions meaningfully represent the intended concept and remain understandable for potential users (Grand-Guillaume-Perrenoud, 2023; Kettler et al., 2025; Woldemariam et al., 2025).

To address this gap, the present study proposes the BRADLEY model as a contextual framework for educational accreditation governance in underserved Indonesian regions, with governance-level implications for physical education, school sport, and active lifestyle-oriented school improvement. The model consists of seven integrated dimensions: Bridging Policy and Local Context, Responsive Governance, Adaptive Hybrid Approach, Data-Driven Evidence, Learning Capacity Building, Evaluative and Sustainable Improvement, and Yielding Quality Outcomes. These dimensions are designed to respond to policy-context gaps, digital inequality, stakeholder coordination problems, evidence verification needs, capacity-building limitations, post-accreditation follow-up, and quality outcome orientation. This study aims to develop and preliminarily validate the BRADLEY model through an exploratory sequential mixed-methods design. Specifically, the study addresses three research questions: (1) what accreditation governance challenges are faced by educational units in underserved Indonesian regions; (2) how the BRADLEY model can be developed from empirical evidence on accreditation governance practices; and (3) to what extent the BRADLEY model is perceived by experts and users as relevant, clear, feasible, and applicable for supporting educational accreditation governance. The study does not test the model's effectiveness in improving physical education, sport participation, fitness, or active lifestyle outcomes.

Method

Research Design

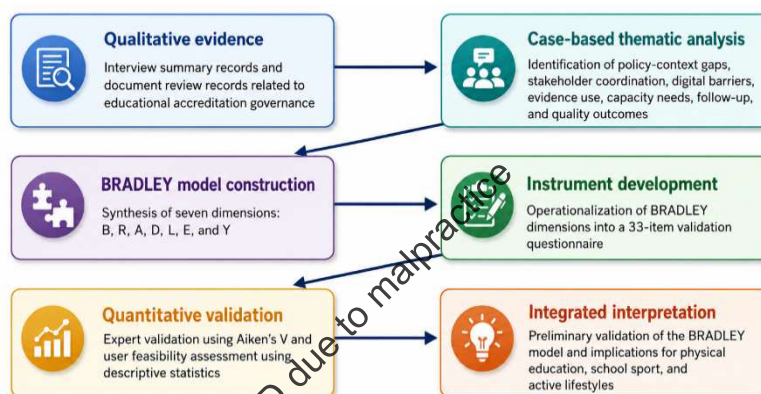
This study employed an exploratory sequential mixed-methods design to develop and preliminarily validate the BRADLEY model for educational accreditation governance in underserved Indonesian regions. This design was selected because the study required two connected forms of evidence. The qualitative phase was used to explore accreditation governance challenges and construct the initial model, while the quantitative phase was used to validate the relevance, clarity, feasibility, and applicability of the proposed dimensions. In exploratory sequential mixed-methods research, qualitative findings can be used to inform the development of a quantitative instrument or validation procedure, allowing the resulting model to be grounded in contextual evidence before being assessed through structured validation (Storey et al., 2025; Zhou et al., 2024).

The study consisted of two sequential phases. First, qualitative evidence from interview summary records and document review records was analyzed to identify accreditation governance problems in underserved school contexts. Second, the qualitative findings were synthesized into the BRADLEY model and operationalized into a validation questionnaire. The questionnaire was then assessed by expert validators and user respondents. Although the model has implications for physical education, school sport, and active lifestyle-oriented school improvement, this study did not directly measure students' physical activity, sport participation, physical fitness, or learning outcomes in physical education. Therefore, the findings should be interpreted as preliminary validation evidence for an educational accreditation governance model, not as evidence of implementation effectiveness or causal impact on physical education outcomes.

Development and Validation Procedure

The BRADLEY model was developed through a staged procedure consisting of needs assessment, qualitative evidence synthesis, model design, item development, expert validation, user feasibility assessment, revision, and finalization of the preliminary framework. The overall procedure is presented in Figure 1. The term “implementation” in this study refers to user feasibility assessment of the model, not to a field intervention or effectiveness trial.

Figure 1. Research design and integration pathway of the BRADLEY model



Research setting and participants

The qualitative phase was conducted in Jambi Province, Indonesia, with a focus on educational accreditation governance in underserved school contexts. In this study, underserved Indonesian regions refer to educational contexts commonly associated with Indonesia's 3T areas, namely tertinggal, terdepan, dan terluar, or underdeveloped, frontier, and outermost regions. These contexts are characterized by geographical barriers, limited digital infrastructure, uneven access to technical support, and varied institutional capacity. Jambi Province was selected because several educational units in the province experience geographical, digital, and institutional constraints that influence accreditation implementation. The setting was not selected to represent all Indonesian regions statistically, but to provide a contextual case for developing a preliminary governance model.

The qualitative materials were obtained from interview summary records and document review records related to accreditation governance at BAN-PDM Provinsi Jambi. The qualitative sources covered stakeholders involved in or knowledgeable about educational accreditation governance, including BAN-PDM-related stakeholders, assessors, education office representatives, religious affairs stakeholders, school principals, teachers, and school operators. Because the available interview data were in the form of interview summary records rather than full verbatim transcripts, the analysis focused on thematic pattern identification, category development, and triangulation with document review records.

The quantitative phase involved five expert validators and 15 user respondents. Participants were selected using purposive sampling because they had direct experience or institutional knowledge related to accreditation governance, school quality assurance, educational administration, school improvement, or educational services in underserved regions. The expert validators were selected based on expertise in educational administration, accreditation, quality assurance, educational evaluation, and school improvement. User respondents were selected because they represented stakeholder roles directly involved in accreditation implementation. The limited sample size was appropriate for preliminary content validation and feasibility appraisal, but it does not support generalization, confirmatory factor analysis, or claims of implementation effectiveness.

The user respondents consisted of three BAN-PDM assessors, three school principals, two school operators, two school supervisors, two education office representatives, two academics or validators, and one teacher or school quality team member. Thirteen respondents came from 3T areas and two from

non-3T areas. The respondents represented Biak Numfor, Supiori, Kepulauan Yapen, Sarmi, Mappi, Asmat, Nabire, Pegunungan Bintang, Boven Digoel, Merauke, Yahukimo, Tolikara, Puncak Jaya, Jayapura, and Jakarta. The respondents consisted of eight males and seven females, with ages ranging from 29 to 50 years and a mean age of 41.8 years. The qualitative phase was grounded in accreditation governance practices in Jambi Province, while the user validation phase involved respondents from multiple underserved regions to examine whether the model was understandable and feasible beyond the initial case context.

Model development procedure

The development of the BRADLEY model followed three main steps. The first step was identifying accreditation governance problems from qualitative evidence. Interview summary records and document review records were examined to identify recurring challenges related to policy implementation, stakeholder coordination, digital access, evidence verification, school capacity, post-accreditation follow-up, and quality improvement. The second step was translating these recurring themes into seven conceptual dimensions. The third step was converting each dimension into validation indicators. During qualitative analysis, physical education was considered only at the governance-evidence level, including facility readiness, teacher support, documentation of learning practices, student participation, safety, school health programs, and evidence-based improvement. These elements were not treated as direct outcome variables.

The second step was synthesizing the qualitative themes into conceptual dimensions. The seven BRADLEY dimensions were not treated merely as a predetermined acronym, but were developed through the alignment between field-based governance problems and relevant quality assurance concepts. These dimensions include Bridging Policy and Local Context, Responsive Governance, Adaptive Hybrid Approach, Data-Driven Evidence, Learning Capacity Building, Evaluative and Sustainable Improvement, and Yielding Quality Outcomes.

The third step was operationalizing the model into measurable validation items. Each dimension was translated into questionnaire items that reflected its conceptual meaning and practical relevance for educational accreditation governance. This procedure was consistent with the logic of construct representation, in which validation items should meaningfully represent the concept being assessed and remain understandable for intended users (Grand-Guillaume-Perrenoud et al., 2023; Kettler et al., 2025). In relation to physical education, school sport, and active lifestyles, the BRADLEY model was positioned as a governance framework with practical implications for school-based quality assurance rather than as a direct intervention model for physical activity outcomes.

Instruments and data sources

This study used three data sources: interview summary records, document review records, and the BRADLEY model validation questionnaire. The interview summary records covered accreditation socialization practices, governance mechanisms, quality assurance in underserved regions, supporting and inhibiting factors, the role of the Provincial BAN-PDM, and the need for an adaptive accreditation governance model. Document review records were used to strengthen and triangulate the interview summary findings. The reviewed documents included accreditation guidelines, socialization materials, activity reports, technical documents related to accreditation implementation, and institutional documents relevant to accreditation governance in Jambi Province. The questionnaire was constructed by mapping qualitative themes to BRADLEY dimensions, drafting items for each dimension, checking item relevance to the construct, and revising wording for clarity before expert and user assessment.

The BRADLEY model validation questionnaire consisted of 33 items distributed across seven BRADLEY dimensions and one general feasibility section. Each item was rated using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The questionnaire was designed to assess whether the proposed BRADLEY dimensions were relevant, clear, feasible, and applicable as a governance framework for educational accreditation. The validation focused on governance readiness and quality assurance implications, including contextual policy translation, stakeholder responsiveness, hybrid assistance, evidence use, learning capacity, sustainable improvement, and quality outcome orientation.

Table 1. Structure of the BRADLEY model validation questionnaire

Dimension	Code	Number of items	Main indicator focus
Bridging Policy and Local Context	B	4	Alignment between national accreditation standards and local school realities
Responsive Governance	R	4	Communication, coordination, and responsiveness among accreditation stakeholders
Adaptive Hybrid Approach	A	4	Flexible online, offline, and hybrid mechanisms for accreditation assistance
Data-Driven Evidence	D	4	Use of valid documents, field evidence, and stakeholder confirmation
Learning Capacity Building	L	4	Strengthening the capacity of schools, assessors, operators, and stakeholders
Evaluative and Sustainable Improvement	E	4	Follow-up, monitoring, and continuous improvement after accreditation
Yielding Quality Outcomes	Y	4	Orientation toward school readiness, quality improvement, and equitable educational services
General feasibility of the model	K	5	Overall clarity, applicability, practicality, and usefulness of the BRADLEY model
Total		33	

Note. B-R-A-D-L-E-Y refers to the seven conceptual dimensions of the proposed accreditation governance model; K refers to general feasibility items.

Data collection procedure

Data collection was conducted in four stages. First, qualitative materials were collected from interview summary records and document review records related to accreditation governance at BAN-PDM Provinsi Jambi. Second, the qualitative materials were coded and synthesized to construct the initial BRADLEY model. The model dimensions were generated from recurring patterns, including policy-context gaps, digital infrastructure barriers, stakeholder responsiveness, evidence-based validation, human resource capacity, continuous improvement, and quality outcomes.

Third, the BRADLEY model was operationalized into measurable indicators and converted into a 33-item validation questionnaire. The development of validation items followed the principle that each item should reflect the conceptual meaning of its respective dimension and be understandable for potential users. Fourth, the questionnaire was distributed to five expert validators and 15 user respondents. The quantitative data were collected during the validation phase after the instrument and model dimensions had been finalized. Before completing the questionnaire, respondents received a brief explanation of the study, the BRADLEY model, and the purpose of validation. Participation was voluntary, and consent was obtained before questionnaire completion.

Trustworthiness of qualitative data

Several strategies were used to strengthen the trustworthiness of the qualitative phase. First, source triangulation was conducted by comparing interview summary records, document review records, and stakeholder perspectives. Second, the qualitative materials were read repeatedly to ensure familiarity with the data and to identify recurring governance patterns. Third, coding and theme development were checked against the available document review records to reduce the risk of overinterpreting interview summaries. Fourth, the resulting themes were connected to the development of the BRADLEY dimensions to ensure that the model remained grounded in empirical governance problems rather than being constructed only from theoretical assumptions.

Because the available interview materials were summary records rather than full verbatim transcripts, the qualitative analysis was limited to thematic pattern identification and model construction. This limitation was addressed by triangulating interview summaries with institutional documents and by treating the qualitative findings as the basis for preliminary model development rather than as a complete interpretive account of stakeholder experiences.

Data Analysis

The qualitative data were analyzed using case-based thematic analysis. The analysis involved data familiarization, initial coding, category development, theme construction, and model synthesis. The interview summary records and document review records were read repeatedly to identify meaningful units related to accreditation governance in underserved regions. The analysis focused on recurring governance challenges, including policy translation, stakeholder coordination, digital access, evidence accuracy, institutional capacity, follow-up mechanisms, and quality outcome orientation. Because the data

were based on summary records, the analysis emphasized convergence across sources and did not use verbatim quotation-based interpretation.

Expert validation data were analyzed using Aiken's V to examine the content validity of each questionnaire item. Aiken's V was used because it is appropriate for assessing the degree of expert agreement regarding the relevance of items in a content validation process. The formula used was: $V = \sum s / n(c - 1)$. Where $s = r - lo$, r is the expert rating score, lo is the lowest score, n is the number of expert validators, and c is the number of rating categories. In this study, five expert validators assessed 33 items using a five-point scale. The interpretation of Aiken's V followed the principle that values closer to 1.00 indicate stronger expert agreement regarding item relevance. Items with high Aiken's V values were retained as evidence of preliminary content validity.

User validation data were analyzed using descriptive statistics, including mean scores, standard deviations, feasibility percentages, and interpretation categories. User feasibility was interpreted primarily through mean scores and standard deviations, while feasibility percentages were used as supplementary descriptive indicators. The feasibility percentage was calculated using the following formula: Feasibility Percentage = (Obtained Score / Maximum Possible Score) $\times$ 100. Mean scores were interpreted as follows: 4.21–5.00 = very feasible, 3.41–4.20 = feasible, 2.61–3.40 = moderately feasible, 1.81–2.60 = less feasible, and 1.00–1.80 = not feasible. Feasibility percentages were interpreted as follows: 81–100% = very feasible, 61–80% = feasible, 41–60% = moderately feasible, 21–40% = less feasible, and 0–20% = not feasible.

Integration of qualitative and quantitative findings

The qualitative and quantitative findings were integrated using a connecting strategy. The qualitative phase generated the BRADLEY dimensions and informed the development of the validation questionnaire, while the quantitative phase assessed the preliminary validity and feasibility of the model. Integration was conducted by comparing the qualitative governance themes with the expert and user validation results. This approach allowed the study to examine whether the model was not only conceptually grounded in accreditation governance problems, but also perceived as valid, feasible, and applicable by stakeholders. Clear integration between qualitative and quantitative evidence is essential in mixed-methods research because it allows different forms of data to contribute to a coherent interpretation of the study findings (Zhou et al., 2024).

The quantitative phase was interpreted as preliminary validation rather than large-scale psychometric validation. This distinction is important because the study involved a limited number of expert validators and user respondents and did not conduct confirmatory factor analysis, predictive validity testing, experimental testing, longitudinal implementation, or impact evaluation. Therefore, the BRADLEY model should be understood as a preliminarily validated governance framework that may inform quality assurance practices in underserved Indonesian regions, with practical implications for physical education, school sport, and active lifestyle-oriented school improvement.

Ethical Considerations

Ethical approval and institutional research permission for this study were obtained from the Faculty of Educational Sciences, Universitas Pendidikan Indonesia, through approval/research permission letter No. 4650/UN40.A1.1/TD.07/2026. The protocol/approval number recorded for this study is 4650/UN40.A1.1/TD.07/2026. The permission was addressed to the National Accreditation Board for Early Childhood Education, Primary Education, and Secondary Education (BAN-PDM) of Jambi Province and authorized the implementation of the study as part of doctoral research.

Results

The results are presented in four sections: (1) qualitative synthesis and construction of the BRADLEY model, (2) characteristics of validation respondents, (3) expert validation using Aiken's V, and (4) user feasibility and integrated validation evidence. The results should be interpreted as preliminary validation evidence because this study did not test the implementation effectiveness of the BRADLEY model

through experimental, longitudinal, or intervention-based evaluation. Because the qualitative data consisted of interview summary records rather than verbatim transcripts, the qualitative findings are presented as thematic synthesis rather than direct participant quotations.

Qualitative synthesis and construction of the BRADLEY model

The qualitative synthesis of interview summary records and document review records identified several recurring accreditation governance problems in underserved Indonesian regions. These problems were not limited to administrative compliance, but included policy translation, stakeholder coordination, digital access, evidence accuracy, institutional capacity, post-accreditation follow-up, and quality outcome orientation. These themes were synthesized into seven integrated dimensions of the BRADLEY model: Bridging Policy and Local Context, Responsive Governance, Adaptive Hybrid Approach, Data-Driven Evidence, Learning Capacity Building, Evaluative and Sustainable Improvement, and Yielding Quality Outcomes.

In relation to physical education, school sport, and active lifestyle-oriented school programs, the qualitative themes were interpreted as governance issues that may inform school-based quality assurance. This interpretation does not indicate that the study directly measured physical education outcomes, sport participation, or students' active lifestyles. Rather, it shows that the BRADLEY dimensions may be relevant to accreditation governance processes that include facilities, teacher support, documentation of learning practices, student participation, safety, school health programs, and evidence-based improvement.

Table 2. Qualitative synthesis and BRADLEY model dimensions

Qualitative theme	Empirical meaning	BRADLEY dimension	Possible implications for physical education, school sport, and active lifestyles
Policy-context gap	National accreditation standards require local translation without reducing the substance of quality expectations.	Bridging Policy and Local Context	May inform fair interpretation of school quality standards, including those related to physical education facilities, school sport programs, and active school environments.
Need for responsive coordination	Accreditation requires two-way communication among BAN-PDM, assessors, schools, education offices, and other local stakeholders.	Responsive Governance	May support coordination among school leaders, teachers, assessors, and local stakeholders in quality assurance processes related to physical education and school sport.
Geographical and digital constraints	Remote schools require flexible online-offline mechanisms and field-sensitive technical assistance.	Adaptive Hybrid Approach	May be relevant for schools with limited internet access in documenting physical education practices, sport facilities, and school-based activity programs.
Evidence accuracy and field verification	Accreditation decisions should rely on verified evidence rather than administrative documents alone.	Data-Driven Evidence	May inform the validation of documents and field-based evidence related to learning practices, facilities, participation, safety, and activity programs.
Technical and human resource capacity gaps	Schools, operators, assessors, and stakeholders need ongoing learning support to participate meaningfully in accreditation.	Learning Capacity Building	May contribute to capacity building for documenting and improving physical education, school sport, recreation, and active lifestyle-oriented programs.
Need for post-accreditation follow-up	Accreditation results should generate structured recommendations, monitoring, and improvement cycles.	Evaluative and Sustainable Improvement	May inform follow-up actions related to facilities, teacher support, student participation, and school-based physical activity programs.
Orientation toward quality outcomes	Accreditation governance should lead to better school readiness, more accurate recommendations, and equitable quality improvement.	Yielding Quality Outcomes	May provide a governance lens for equitable access to physical education, school sport, and active lifestyle opportunities.

The synthesis indicates that the BRADLEY model was constructed as a contextual response to accreditation governance problems in underserved educational settings. The seven dimensions represent a governance pathway that connects policy translation, stakeholder responsiveness, hybrid support, evidence validation, capacity building, sustainable evaluation, and quality outcome orientation.

Characteristics of validation respondents

The user validation involved 15 respondents with experience or knowledge related to accreditation, school quality assurance, educational administration, or school improvement in underserved regions. The respondents represented BAN-PDM assessors, school principals, school operators, school supervisors, education office representatives, academics or validators, and a teacher or school quality team member. Thirteen respondents came from 3T areas and two from non-3T areas. The respondents consisted of eight males and seven females, with ages ranging from 29 to 50 years and a mean age of 41.8 years.

Table 3. Characteristics of user validation respondents

Characteristic	Category	n
Role	BAN-PDM assessor	3
	School principal	3
	School operator	2
	School supervisor	2
	Education office representative	2
	Academic/validator	2
	Teacher/school quality team member	1
Region	3T area	13
	Non-3T area	2
Gender	Male	8
	Female	7
Age	Range	29–50 years
	Mean	41.8 years

The diversity of respondent roles indicates that the user validation involved stakeholders who were familiar with accreditation governance from different institutional positions. The inclusion of respondents from multiple 3T areas also allowed the study to examine whether the BRADLEY model was perceived as feasible beyond the initial qualitative case context.

Expert validation of the BRADLEY model

Five expert validators assessed 33 items representing the seven BRADLEY dimensions and the general feasibility of the model. The Aiken's V values ranged from 0.90 to 1.00, with an overall mean of 0.958. All dimensions were categorized as very valid, indicating expert agreement that the items represented the intended dimensions of the BRADLEY model. No item was removed because all values exceeded the expected level for preliminary content validation.

Table 4. Expert validation results using Aiken's V

Dimension	Items	Mean Aiken's V	Range	Category
Bridging Policy and Local Context	4	0.962	0.95–1.00	Very valid
Responsive Governance	4	0.950	0.90–1.00	Very valid
Adaptive Hybrid Approach	4	0.950	0.95–0.95	Very valid
Data-Driven Evidence	4	0.950	0.90–1.00	Very valid
Learning Capacity Building	4	0.950	0.95–0.95	Very valid
Evaluative and Sustainable Improvement	4	0.962	0.95–1.00	Very valid
Yielding Quality Outcomes	4	0.962	0.95–1.00	Very valid
General model feasibility	5	0.970	0.95–1.00	Very valid
Overall model	33	0.958	0.90–1.00	Very valid

Note. Aiken's V values closer to 1.00 indicate stronger expert agreement regarding item relevance. The values are interpreted as preliminary content validity evidence.

The strongest expert validation was found in the general model feasibility section, with a mean Aiken's V of 0.970. This was followed by Bridging Policy and Local Context, Evaluative and Sustainable Improvement, and Yielding Quality Outcomes, each with a mean Aiken's V of 0.962. The lowest mean value was 0.950, found in Responsive Governance, Adaptive Hybrid Approach, Data-Driven Evidence, and

Learning Capacity Building, but these dimensions remained within the very valid category. These results provide preliminary content validity evidence for the BRADLEY model as an educational accreditation governance framework.

User feasibility and integrated validation evidence

The user validation results showed that the BRADLEY model obtained an overall mean score of 4.73 out of 5.00, equivalent to a feasibility percentage of 94.6%, and was categorized as very feasible. All dimensions were also categorized as very feasible, with mean scores ranging from 4.70 to 4.77. The low standard deviation values indicate that user assessments were relatively consistent across respondents.

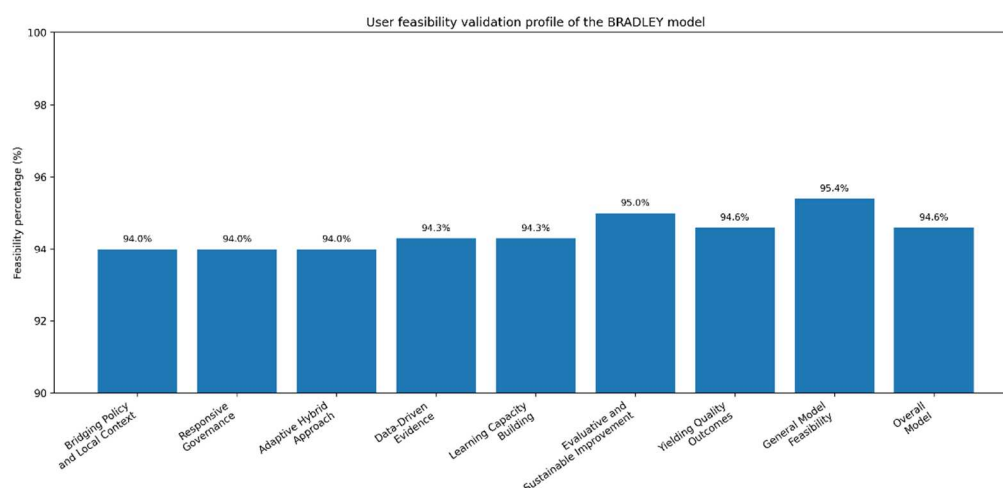
Table 5. User feasibility validation of the BRADLEY model

Dimension	Code	Mean	SD	Feasibility (%)	Category
Bridging Policy and Local Context	B	4.70	0.17	94.0	Very feasible
Responsive Governance	R	4.70	0.14	94.0	Very feasible
Adaptive Hybrid Approach	A	4.70	0.14	94.0	Very feasible
Data-Driven Evidence	D	4.72	0.13	94.3	Very feasible
Learning Capacity Building	L	4.72	0.13	94.3	Very feasible
Evaluative and Sustainable Improvement	E	4.75	0.09	95.0	Very feasible
Yielding Quality Outcomes	Y	4.73	0.11	94.6	Very feasible
General model feasibility	K	4.77	0.13	95.4	Very feasible
Overall model	B-K	4.73	0.09	94.6	Very feasible

Note. Feasibility percentage = (obtained score / maximum possible score) x 100. M = mean; SD = standard deviation.

The highest user rating was obtained by General model feasibility (M = 4.77; 95.4%), followed by Evaluative and Sustainable Improvement (M = 4.75; 95.0%) and Yielding Quality Outcomes (M = 4.73; 94.6%). Bridging Policy and Local Context, Responsive Governance, and Adaptive Hybrid Approach obtained the same mean score (M = 4.70; 94.0%). These results indicate that users perceived the BRADLEY model as feasible for supporting accreditation governance processes, including policy translation, stakeholder coordination, hybrid support, evidence use, capacity building, post-accreditation follow-up, and quality outcome orientation.

Figure 2. User feasibility validation profile of the BRADLEY model dimensions



To integrate the qualitative and quantitative findings, a joint display was developed by aligning the qualitative themes, BRADLEY dimensions, expert validation results, and user feasibility scores. This joint display shows how the model dimensions were supported by field-based governance themes and assessed through structured validation.

Table 6. Joint display of qualitative themes and quantitative validation evidence

BRADLEY dimension	Qualitative support	Expert validation	User feasibility	Integrated interpretation
Bridging Policy and Local Context	Policy-context gap	0.962	94.0%	Preliminary content validity and practical feasibility were supported.
Responsive Governance	Need for responsive coordination	0.950	94.0%	Preliminary content validity and practical feasibility were supported.
Adaptive Hybrid Approach	Geographical and digital constraints	0.950	94.0%	Preliminary content validity and practical feasibility were supported.
Data-Driven Evidence	Evidence accuracy and field verification	0.950	94.3%	Preliminary content validity and practical feasibility were supported.
Learning Capacity Building	Technical and human resource capacity gaps	0.950	94.3%	Preliminary content validity and practical feasibility were supported.
Evaluative and Sustainable Improvement	Need for post-accreditation follow-up	0.962	95.0%	Preliminary content validity and practical feasibility were supported.
Yielding Quality Outcomes	Orientation toward quality outcomes	0.962	94.6%	Preliminary content validity and practical feasibility were supported.
General model feasibility	Overall model clarity and applicability	0.970	95.4%	Preliminary content validity and practical feasibility were supported.
Overall model	Integrated accreditation governance framework	0.958	94.6%	The model showed preliminary evidence of content validity and practical feasibility.

Note. The joint display integrates qualitative themes, expert content validation, and user feasibility appraisal. It does not represent implementation effectiveness evidence.

The joint display indicates that each BRADLEY dimension was supported by qualitative evidence and received favorable expert and user validation results. Taken together, the findings provide preliminary evidence of content validity and practical feasibility, while broader psychometric and implementation-based validation remains necessary. To avoid redundant interpretation, Tables 4-6 should be read as complementary evidence: Table 4 reports expert content validity, Table 5 reports user feasibility, and Table 6 integrates both forms of evidence with the qualitative themes. The BRADLEY model was not validated as a physical education intervention. Rather, the results support the model as a preliminary accreditation governance framework with possible relevance to school-based quality assurance areas, including physical education, school sport, and active lifestyle-oriented school improvement.

Discussion

The findings indicate that the BRADLEY model has preliminary content validity and practical feasibility as a framework for educational accreditation governance in underserved Indonesian regions. The overall Aiken's V value of 0.958 and the user feasibility score of 94.6% suggest that experts and users perceived the seven BRADLEY dimensions as relevant, clear, and applicable for accreditation governance. These findings should be interpreted cautiously because they reflect preliminary validation, not implementation effectiveness. The results strengthen the argument that accreditation should not be limited to administrative compliance, but should function as a governance process that connects standards, stakeholders, evidence, institutional learning, and continuous improvement. Attree (2026) emphasized that stakeholder engagement can support accreditation and quality assurance processes, while Stensaker & Matear (2025) highlighted the importance of persistent partnerships in quality assurance. In this sense, BRADLEY contributes by organizing accreditation governance into a contextual framework that can be understood and used by stakeholders in underserved educational settings (Puerta-Guardo et al., 2026).

The strong validation of Bridging Policy and Local Context indicates that accreditation governance in underserved regions requires contextual policy translation without lowering national quality expectations. This finding is important because schools in geographically and institutionally varied contexts may experience different levels of readiness in interpreting standards, preparing evidence, and implementing improvement actions. In relation to physical education, school sport, and active lifestyles, contextual governance is relevant because school quality depends not only on formal curriculum implementation, but also on the availability of safe facilities, inclusive learning environments, teacher support, and student participation opportunities. Sunardianta et al. (2024) showed the importance of child-

friendly learning management in health and physical education, while Khairuddin et al. (2025) demonstrated the role of health education through physical education in shaping healthy living behavior among elementary students. These studies support the interpretation that accreditation governance may help make physical education and health-oriented school practices more visible within broader quality assurance mechanisms (Greenberg et al., 2024).

The validation of Responsive Governance and Adaptive Hybrid Approach shows that accreditation in underserved regions requires communication, coordination, and flexible implementation mechanisms. These dimensions are particularly relevant where digital accreditation systems must operate in schools with limited connectivity, varied technical capacity, and uneven documentation support. In physical education, digital readiness is also increasingly important because teachers and schools are expected to document learning practices, assessment evidence, facilities, and school-based activity programs. Nurhayati et al. (2025) found that technological pedagogical content knowledge remains an important issue among physical education teachers, while Setiawan (2024) showed that online professional development can support physical education teachers' professional learning. Darma (2026) further emphasized the role of collaborative supervision in strengthening physical education teacher self-efficacy. These findings suggest that hybrid accreditation governance may help bridge the gap between digital quality assurance demands and the actual readiness of schools and teachers in underserved regions (Kusmiyati et al., 2024; Ma et al., 2025).

The Data-Driven Evidence dimension highlights the need to strengthen accreditation evidence beyond administrative document submission. In underserved contexts, uploaded documents may not always represent actual school practices because schools differ in documentation skills, internet access, human resources, and technical assistance. This issue is especially relevant for physical education and school sport because evidence of quality may include learning implementation, equipment availability, safety procedures, student participation, inclusive access, and school-based activity programs. Mohammed et al. (2025) showed that structural influences shape physical education teachers' perceptions across different contexts, indicating that evidence about physical education quality should be interpreted contextually. Alhumary et al. (2025) found that physical education is related to sedentary lifestyle issues among Indonesian students, while Corvetto-Castro (2025) showed that motivation in physical education is associated with sedentary behavior outside school hours. These findings suggest that accreditation evidence should not be limited to formal documents, but may also consider indicators that reflect meaningful school-based activity and health-oriented practices (Li & Zeng, 2025).

The validation of Learning Capacity Building, Evaluative and Sustainable Improvement, and Yielding Quality Outcomes indicates that accreditation governance should support school learning, post-accreditation follow-up, and quality-oriented improvement. These dimensions are important because accreditation may become episodic when schools focus only on preparation before assessment but fail to sustain improvement afterward. In physical education, sustainable improvement requires continuity in teacher development, facilities, learning innovation, student participation, and active school culture. Grauduszus et al. (2024) showed that school-based physical literacy promotion requires structured and continuous programs, while Valle-Muñoz et al. (2025) positioned physical literacy as a pedagogical model in physical education. Studies on model development in physical education also show that validated learning models can support physical fitness and physical literacy when they are designed with contextual relevance and feasibility in mind ((Maliki et al., 2025; Nurfauzan et al., 2025). Therefore, BRADLEY may inform how accreditation results can be used as a basis for ongoing school improvement, including physical education, school sport, and active lifestyle-oriented programs, while future studies must still test whether such governance improvements translate into measurable educational or activity-related outcomes.

The methodological contribution of this study lies in the alignment between qualitative model construction, expert validation, and user feasibility assessment. The BRADLEY model was not constructed as a purely theoretical acronym, but was developed from field-based governance problems and then assessed through structured validation. This is important because governance models require both conceptual coherence and practical usability. Guil Gorostidi & Rubio-Arostegui (2026) emphasized that quality management models should be understood in relation to institutional structures and organizational contexts. In physical education research, validation studies have also shown the importance of context-sensitive instruments and models, including technology-enhanced pedagogy, interpersonal

teaching styles, autonomy-supportive teaching, and feasibility studies of teaching styles (Behzadnia et al., 2025; Li & Zeng, 2025; Martín-Rodríguez & Madrigal-Cerezo, 2025; Monacis, 2026). Thus, the present study contributes by offering a preliminarily validated accreditation governance framework that can be further tested in broader educational and physical education quality assurance contexts.

The implications for physical education, school sport, and active lifestyles should be interpreted carefully. The BRADLEY model was not validated as a physical education intervention, and this study did not directly measure students' physical activity, physical fitness, sport participation, sedentary behavior, or active lifestyle outcomes. Rather, the model provides a governance lens for accreditation processes that may include these areas within broader school quality assurance. This distinction is important because the findings support preliminary content validity and practical feasibility, not causal effectiveness. Recent studies in physical education have similarly emphasized that improvements in educational quality and learning environments do not automatically translate into direct behavioral outcomes without specific intervention mechanisms (Maliki et al., 2025; Nurfauzan et al., 2025). Although several implications are drawn for physical education, school sport, and active lifestyles, these implications should be understood at the governance and quality assurance level, not at the level of direct behavioral or fitness outcomes.

Several limitations should be acknowledged. First, the qualitative data were based on interview summary records and document review records rather than full verbatim transcripts, which limited the depth of interpretive analysis. Second, the validation phase involved five expert validators and 15 user respondents, which was suitable for preliminary validation but insufficient for broad psychometric confirmation. Third, the very high validation scores may indicate strong acceptance, but they may also suggest a possible ceiling effect. Fourth, the study did not include confirmatory factor analysis, predictive validity testing, longitudinal implementation, or experimental evaluation. Future research should test the BRADLEY model with larger and more diverse samples, include full qualitative interviews, examine factorial structure, and evaluate implementation outcomes related to school readiness, evidence quality, stakeholder responsiveness, and quality assurance practices for physical education, school sport, and active lifestyle-oriented school improvement.

Overall, this study contributes to accreditation governance and physical education quality assurance by positioning educational accreditation as a contextual, adaptive, and evidence-informed process. The BRADLEY model integrates policy-context bridging, responsive governance, hybrid support, data-driven evidence, capacity building, sustainable evaluation, and quality outcome orientation into one coherent framework. While further validation remains necessary, the current findings indicate that BRADLEY is a promising preliminary framework for supporting educational accreditation governance in underserved Indonesian regions, with possible relevance to physical education, school sport, and active lifestyle-oriented school improvement.

Conclusion

This study developed and preliminarily validated the BRADLEY model as a contextual framework for educational accreditation governance in underserved Indonesian regions, with implications for physical education, school sport, and active lifestyle-oriented school improvement. The findings indicate that accreditation governance in underserved contexts requires an integrated approach that bridges national policy and local realities, strengthens stakeholder responsiveness, combines digital and non-digital support, promotes data-driven evidence, builds institutional capacity, supports sustainable improvement, and orients accreditation toward meaningful quality outcomes. Expert validation showed strong preliminary content validity, with an overall Aiken's V of 0.958, while user validation indicated high practical feasibility, with an overall mean score of 4.73 and a feasibility percentage of 94.6%. These results suggest that the BRADLEY model is relevant, clear, and feasible as an initial accreditation governance framework. However, the model has not yet been tested for implementation effectiveness, and this study did not directly measure physical education quality, sport participation, physical fitness, sedentary behavior, or active lifestyle outcomes. Future research should involve larger and more diverse samples, full qualitative interviews, confirmatory validation, and implementation-based evaluation to examine whether the model can strengthen school readiness, evidence quality, stakeholder responsiveness, and quality assurance practices related to physical education, school sport, and active lifestyle development.

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