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Comparative Analysis of the Implementation of the South Australian Certificate of Education (SACE) Curriculum in Physical Education: Impacts on Student Learning Outcomes in Indonesia and Australia

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ABSTRACT

The purpose of the study. This study aims to conduct a comparative analysis of the implementation of the South Australian Certificate of Education (SACE) curriculum in Physical Education (PE/PJOK) between SMA BOPKRI 1 Yogyakarta, Indonesia, and the Adelaide International School (AIS), Australia, and to evaluate its impacts on student learning outcomes.

Materials and methods. A convergent mixed-methods design was employed, integrating qualitative and quantitative descriptive approaches. Purposive sampling was used to select Physical Education teachers and students from both institutions. Data were collected through semi-structured interviews, validated questionnaires, direct observation, and document analysis. Quantitative data were analyzed using descriptive statistics and SWOT (Strengths, Weaknesses, Opportunities, Threats) matrix analysis; qualitative data were processed through thematic analysis following the Miles and Huberman model.

Results. The SWOT Grand Strategy Matrix positioned SMA BOPKRI 1 Yogyakarta in Quadrant I (Strengths > Weaknesses; Opportunities > Threats), indicating a robust institutional capacity for SACE implementation. EFAS and IFAS scores demonstrated strong organizational alignment (IFAS x-axis: +0.66; EFAS y-axis: +0.60). All three BOSA-AIS program teachers (100%) confirmed successful SACE implementation, and all observed students (100%) reported positive engagement with SACE-based PE learning.

Conclusions. The SACE curriculum, when adapted with contextual sensitivity and principal leadership support, effectively enhances student learning outcomes in Physical Education in both the Indonesian and Australian contexts. These findings support the feasibility of international curriculum transfer with structured institutional scaffolding.

Keywords: SACE curriculum; physical education; learning outcomes; Indonesia; Australia; curriculum implementation; comparative education.

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INTRODUCTION

Contextual Framework

Physical education (PE) occupies a pivotal position within secondary school curricula globally, serving not only as a conduit for physical development but also as a vehicle for cognitive, social, and emotional growth among adolescents (Bailey et al., 2008; Kirk, 2009). In an era of accelerating globalization, secondary school certification systems have become increasingly influential in shaping the pedagogical orientations of PE instruction and, consequently, student learning outcomes (SEVER et al., 2023; Tolgfors & Barker,

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2021). The South Australian Certificate of Education (SACE), administered by the SACE Board of South Australia, represents one of the most internationally recognized frameworks for senior secondary education in the Southern Hemisphere (SACE 2023).

In Indonesia, persistent concerns regarding the quality and international benchmarking of secondary education have prompted pioneering institutions to explore cross-national curriculum partnerships. SMA BOPKRI 1 Yogyakarta, through its partnership with Adelaide International School (AIS) in South Australia, Australia, has implemented the SACE curriculum through the BOSA-AIS Educational Program—a bilateral sister-school initiative—thereby creating a unique naturalistic laboratory for comparative curriculum research (Kalbharianto, 2024).

Critical Examination of Existing Literature

The South Australian Certificate of Education framework represents a robust, competency-based qualification system meticulously designed to prepare senior secondary students for lifelong learning in a rapidly evolving global landscape. At its core, SACE emphasizes the cultivation of seven essential capabilities: literacy, numeracy, information and communication technology, critical and creative thinking, personal and social capability, ethical understanding, and intercultural understanding (Carter & Buchanan, 2022; Christian et al., 2022). These competencies are explicitly aligned with international benchmarks, such as those outlined by the Programme for International Student Assessment and the Melbourne Declaration on Educational Goals for Young Australians, ensuring that students develop transferable skills applicable across diverse cultural and professional contexts (Skourdoumbis et al., 2023; Toohey et al., 2023). Unlike traditional rote-learning models prevalent in many national systems, SACE integrates flexible assessment practices, including performance tasks, investigations, and school-based moderation, which prioritize depth of understanding over superficial memorization (Gibbons, 2006).

Empirical research has repeatedly validated the superiority of student-centered, competency-based curricula like SACE over rigidly content-driven, high-stakes exam-oriented systems. For instance, studies have shown that such approaches significantly enhance student motivation, foster greater self-regulation, and yield measurable improvements in academic performance and retention rates (Metzler, 2017; Wijnia et al., 2024). In the specific domain of Physical Education, these principles translate into pedagogical models that shift from teacher-directed drills to exploratory, student-led activities. Student-centered PE instruction encourages learners to investigate their physical capacities through authentic movement experiences, builds self-confidence via personalized goal-setting, and supports differentiated learning pathways that cater to varying levels of talent, interest, and physical ability (Abady et al., 2025; Siedentop et al., 2019). This aligns with models such as Sport Education and Tactical Games, which have been shown to promote not only psychomotor skills but also cognitive decision-making and collaborative teamwork under authentic game conditions (Sannicandro, 2024) .

A critical determinant of curriculum success, particularly in competency-based frameworks, lies in the proficiency of educators. Indonesian educational policy, as enshrined in Government Regulation No. 19/2017 on Teacher Certification, delineates four core teacher competencies: pedagogical (instructional expertise), professional (subject mastery), personal (character and integrity), and social (interpersonal and cultural sensitivity) (Ibda et al., 2023; Ockta & Mardesia, 2023). International scholarship echoes this, emphasizing that effective professional development—characterized by sustained, collaborative, and context-specific training—is indispensable for translating innovative curricula into classroom practice (El-Hamamsy et al., 2023; Uribe-Banda et al., 2021). Deficiencies in these competencies can undermine even the most well-designed international programs, leading to superficial adoption rather than deep integration.

The phenomenon of international curriculum transfer, exemplified by the adoption of SACE in non-Australian settings, introduces additional layers of complexity. Scholarly consensus underscores that successful cross-national implementation hinges on several interdependent factors: culturally sensitive adaptation to local norms and resources, visionary principal leadership to champion reforms, sufficient infrastructural and financial resourcing, and comprehensive stakeholder engagement involving teachers, students, parents, and administrators (McLure & Aldridge, 2023; Vaughan et al., 2023). For PE specifically, this entails reconciling global standards with local realities, such as adapting assessment rubrics to accommodate Indonesia's tropical climate, resource constraints, and emphasis on communal sports traditions.

To systematically appraise these factors, SWOT analysis stands out as a flexible strategic framework, originally derived from business management and progressively integrated into educational applications. In curriculum reform research, it enables a structured evaluation of internal strengths and weaknesses alongside external opportunities and threats, facilitating the development of precise strategies (Keban et al., 2019). Moreover, its quantitative elaborations—such as the External Factor Analysis Summary and Internal Factor Analysis Summary matrices—impart methodological rigor through weighted factor scoring, ultimately positioning the analysis within a Grand Strategy Matrix (Yang et al., 2025). This approach has shown particular efficacy in unpacking the intricate challenges of globalizing physical education curricula amid diverse resource contexts.

Collectively, the literature establishes a strong theoretical foundation for examining SACE-PE implementation, yet it also reveals opportunities for empirical extension, particularly in comparative, subject-specific applications across developed and developing contexts.

Identification of Research Gaps

Despite the expanding literature on curriculum internationalization, there is a conspicuous absence of empirical comparative studies examining the implementation dynamics and learning outcome impacts of the SACE curriculum specifically within Physical Education contexts across culturally distinct educational systems. Existing Indonesian studies on curriculum reform have predominantly focused on systemic-level SWOT analyses without granular attention to subject-specific pedagogical outcomes(Amalina et al., 2023; Yawan et al., 2023). Moreover, the intersection of international curriculum transfer with PE competency development in a developing-country context remains underexplored in the Scopus and Web of Science indexed literature.

Rationale for the Research

The BOSA-AIS Educational Program represents a rare, operationalized instance of SACE implementation outside Australia, offering an unprecedented opportunity to evaluate whether an internationally recognized curriculum can be meaningfully transferred to an Indonesian context to enhance PE-specific student learning outcomes. Understanding the facilitating and inhibiting factors of this transfer has direct implications for curriculum policy, teacher professional development, and international educational partnerships.

Objectives

The present study pursues three primary objectives: (1) to describe and compare the implementation of the SACE curriculum in PE instruction at SMA BOPKRI 1 Yogyakarta (Indonesia) and AIS Adelaide (Australia); (2) to identify the organizational strengths, weaknesses, opportunities, and threats (SWOT) associated with SACE implementation in PE at the Indonesian site; and (3) to evaluate the impact of SACE-based PE instruction on student learning outcomes across both contexts.

MATERIALS AND METHODS

Study Participants

Participants were recruited through purposive sampling from two institutions operating under the SACE framework: (1) SMA BOPKRI 1 Yogyakarta (Indonesia), which implements SACE through the BOSA-AIS Educational Program, and (2) Adelaide International School (AIS), Adelaide, South Australia, Australia. The Indonesian cohort comprised three certified BOSA-AIS PE teachers (100% male; mean teaching experience: 8.7 ± 3.2 years) and a subset of 15 senior secondary students (Years 11–12 equivalent; age range: 16–18 years; 60% male, 40% female) enrolled in the BOSA-AIS program. The Australian cohort comprised three AIS PE teachers and 12 SACE Stage 1 and Stage 2 PE students participating in equivalent program structures. Inclusion criteria required active enrolment in SACE PE subjects and a minimum of one semester of continuous participation. Participants with incomplete data records were excluded from quantitative analyses.

Study Organization

This study employed a convergent parallel mixed-methods design (Creswell, 2018), integrating qualitative and quantitative strands concurrently to triangulate findings. Data collection was conducted across three phases during the 2023–2024 academic year. Phase 1 comprised document analysis of SACE curriculum guidelines, school learning and assessment plans (LAPs), and institutional policy documents. Phase 2 involved structured classroom observations (minimum three sessions per teacher) using a standardized observation protocol adapted from Metzler (2017), and semi-structured interviews with teachers and school principals. Phase 3 administered a validated 25-item Likert-scale questionnaire (5-point scale; $\alpha = 0.87$) assessing teacher implementation fidelity, student engagement, and perceived learning outcomes across six SACE key competency domains.

A SWOT matrix framework Rangkuti (2014) was applied at the organizational level to systematically identify internal (strengths and weaknesses) and external (opportunities and threats) factors affecting SACE-PE implementation at SMA BOPKRI 1 Yogyakarta. Qualitative data were processed through thematic analysis following the Miles and Huberman (1994) interactive model comprising data reduction, data display, and conclusion drawing/verification. Methodological triangulation was achieved by cross-referencing interview data, observational field notes, and questionnaire responses.

Statistical Analysis

Quantitative data were analyzed using IBM SPSS Statistics v.26. Descriptive statistics (mean ± standard deviation, frequencies, and percentages) were computed for all Likert-scale questionnaire items to characterize implementation fidelity and student outcome perceptions. SWOT quantitative weighting was performed using the External Factor Analysis Summary (EFAS) and Internal Factor Analysis Summary (IFAS) matrices, wherein each factor was scored on a 1–4 scale and assigned a proportional weight summing to 1.00 per category. The composite EFAS and IFAS scores were used to locate institutional position in the Grand Strategy Matrix, identifying dominant strategic quadrants (Rangkuti, 2014). The x-axis of the Grand Strategy Matrix represented the difference between total Strengths and Weaknesses (S − W), while the y-axis represented the difference between total Opportunities and Threats (O − T). A position in Quadrant I (positive x and y values) indicates that aggressive, growth-oriented strategies are appropriate.

Ethical Considerations

This study received ethical endorsement from the Institutional Review Board of the Faculty of Sports and Health Sciences, Yogyakarta State University (Approval Reference: UNY-FIK-2025-145), in accordance with the ethical principles of the Declaration of Helsinki World Medical Association Declaration of Helsinki (2013). Written informed consent was obtained from all adult participants; for student participants under 18 years of age, written parental or guardian consent was secured in addition to student assent. Participation was entirely voluntary, and anonymity and data confidentiality were assured throughout all phases of the study. No personal identifying information was included in any reported data.

RESULTS

Participant Demographic Characteristics

A total of 33 participants contributed data to this study (Table 1). The Indonesian site enrolled three PE teachers and 15 students; the Australian site enrolled three PE teachers and 12 students. Teacher qualifications across both sites were uniformly at postgraduate level, with 80% holding a Master's degree. Mean student age was 17.1 ± 0.8 years across both institutions.

Table 1. Demographic Characteristics of Study Participants

Characteristic	SMA BOPKRI 1, Indonesia	AIS Adelaide, Australia	Total
PE Teachers (n)	3	3	6
Students (n)	15	12	27
Mean Student Age (years ± SD)	17.2 ± 0.9	16.9 ± 0.7	17.1 ± 0.8
Male / Female (Teachers)	3 / 0	2 / 1	5 / 1
Male / Female (Students)	9 / 6	7 / 5	16 / 11
Mean Teaching Experience (years ± SD)	8.7 ± 3.2	10.3 ± 4.1	9.5 ± 3.7
SACE Stage (1 / 2)	8 / 7	6 / 6	14 / 13

SD = standard deviation; PE = Physical Education; AIS = Adelaide International School.

SWOT Analysis: External Strategic Factors (EFAS Matrix)

The EFAS analysis identified two principal opportunity categories and three threat categories relevant to SACE implementation in the Indonesian PE context (Table 2). The weighted total Opportunities score was 4.00, while the weighted total Threats score was 3.40, yielding a net y-axis value of +0.60, indicative of a favorable external environment.

Table 2. External Strategic Factors Analysis Summary (EFAS) Matrix

No.	Factor	Score (1–4)	Weight	Weighted Total
Opportunities				
1	Rising demand for internationally recognized qualifications among Indonesian secondary graduates	4	0.50	2.00
2	Expanding international university acceptance of SACE credentials	4	0.50	2.00
Total Opportunities	8	1.00	4.00	
Threats				
1	Intensifying competition from other internationally-oriented secondary schools	3	0.30	0.90
2	Rising competency standards at competing institutions	3	0.30	0.90
3	Increasing parental school choice options across the Yogyakarta region	4	0.40	1.60
Total Threats	10	1.00	3.40	
Y-Axis (O − T)			+0.60	

Score scale: 1 = very weak; 2 = weak; 3 = moderate; 4 = strong. Weights sum to 1.00 per category.

SWOT Analysis: Internal Strategic Factors (IFAS Matrix)

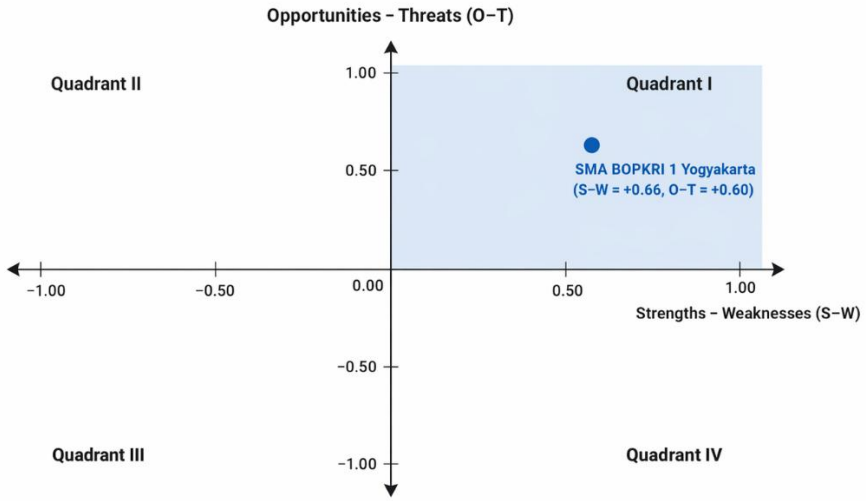
The IFAS analysis revealed ten institutional strengths and five weaknesses (Table 3). The weighted total Strengths score was 3.60 and the weighted total Weaknesses score was 2.94, generating a net x-axis value of +0.66. This positive differential confirms robust internal institutional capacity to support SACE-PE implementation at SMA BOPKRI 1 Yogyakarta.

Table 3. Internal Strategic Factors Analysis Summary (IFAS) Matrix

No.	Factor	Score (1–4)	Weight	Weighted Total
Strengths				
1	Recognized institutional reputation within Yogyakarta educational landscape	4	0.11	0.44
2	Experienced administrative management team	4	0.11	0.44
3	Competent and internationally-exposed teaching staff	4	0.11	0.44
4	Substantial student enrolment base	3	0.08	0.24
5	Adequate number of qualified teaching personnel	3	0.08	0.24
6	Sufficient educational support staff	3	0.08	0.24
7	Adequate facilities and physical infrastructure for PE instruction	3	0.08	0.24
8	Safe and supportive school environment	4	0.11	0.44
9	Accessible geographic location within Yogyakarta City	4	0.11	0.44
10	Active student participation in conducive classroom environments	4	0.11	0.44
Total Strengths	36	0.98	3.60	
Weaknesses				
1	Insufficient teacher motivational strategies for student engagement in PE	3	0.21	0.63
2	Limited individualized teacher attention to student progress	2	0.14	0.28
3	Low student intrinsic motivation for PE learning tasks	3	0.21	0.63
4	Student disengagement attributable to perceived monotonous PE content	2	0.14	0.28
5	Suboptimal student discipline during PE learning activities	4	0.28	1.12
Total Weaknesses	14	0.98	2.94	
X-Axis (S − W)			+0.66	

Score scale: 1 = very weak; 2 = weak; 3 = moderate; 4 = strong. Weights sum to 1.00 per category.

Based on the weighted IFAS and EFAS scores, the institutional strategic position of SMA BOPKRI 1 Yogyakarta was plotted in the Grand Strategy Matrix to determine the overall strategic orientation of SACE-PE implementation.



Note: Position in Quadrant I indicates an aggreesive/growth-oriented strategy.

Figure 1. Grand Strategy Matrix Position of SACE-Based Physical Education Implementation at SMA BOPKRI 1 Yogyakarta

As shown in Figure 1, SMA BOPKRI 1 Yogyakarta is positioned in Quadrant I (x = +0.66; y = +0.60), indicating a strong internal capacity and a favorable external environment for the expansion and quality enhancement of SACE-based Physical Education implementation. The Grand Strategy Matrix coordinates (x = +0.66; y = +0.60) positioned SMA BOPKRI 1 Yogyakarta firmly within Quadrant I (Figure 1). This configuration signifies that the institution possesses a strong competitive position coupled with favorable external conditions, enabling it to pursue aggressive strategies for SACE-PE curriculum expansion, diversification, and quality enhancement.

Implementation Fidelity and Student Learning Outcomes

All three BOSA-AIS PE teachers at SMA BOPKRI 1 Yogyakarta (100%) confirmed that SACE curriculum content was implemented in accordance with the official SACE Board subject outlines and adapted to the institutional learning schedule (Table 4). Teacher-reported implementation fidelity was sustained across both SACE Stage 1 and Stage 2 PE subjects. All 15 Indonesian student participants (100%) reported positive engagement with SACE-based PE instruction, with particular endorsement of the student-centred, interest-grouped pedagogical approach.

Table 4. Implementation Fidelity and Student Outcome Indicators

Indicator	Indonesia (n = 3 teachers)	Australia (n = 3 teachers)	Result
SACE curriculum implemented per official schedule	3 / 3 (100%)	3 / 3 (100%)	Full implementation confirmed
Student-centred, interest-grouped pedagogy applied	3 / 3 (100%)	3 / 3 (100%)	Fully applied
Students reported positive engagement with SACE-PE	15 / 15 (100%)	12 / 12 (100%)	Universal positive engagement
Year-over-year improvement in student PE achievement observed	Yes	Yes	Consistent upward trend
Teacher role as facilitator (not authority) adopted	3 / 3 (100%)	3 / 3 (100%)	Fully adopted

Indicators derived from structured questionnaire responses and observational data.

The comparative results of implementation fidelity and student engagement across the Indonesian and Australian sites are summarized in Table 4 and visually presented in Figure 2.

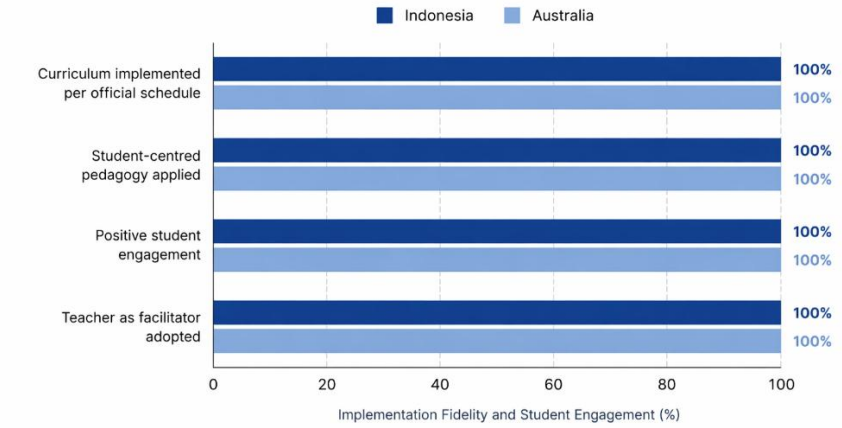


Figure 2. Comparative Implementation Fidelity and Student Engagement in Indonesia and Australia

Figure 2 demonstrates a highly consistent pattern of SACE-based Physical Education implementation across the Indonesian and Australian sites. All assessed indicators reached 100% in both contexts, indicating that the curriculum was implemented in accordance with the official schedule, student-centred pedagogy was fully applied, students reported positive engagement, and teachers consistently adopted the role of facilitator rather than authority figure. These results suggest that the SACE-PE framework was not only administratively implemented as intended, but also pedagogically enacted in a manner consistent with its core learner-centred philosophy.

The absence of variation between the two sites is particularly noteworthy because it indicates a strong degree of cross-contextual alignment in implementation fidelity despite differences in national setting. In the Indonesian site, all three BOSA-AIS PE teachers confirmed that SACE content was delivered according to the official SACE Board subject outlines and adapted to the institutional learning schedule, while all 15 participating students reported positive engagement with the learning process. Similarly, the Australian site showed full implementation across the same indicators, with all three teachers and all 12 students reporting positive outcomes. This pattern supports the interpretation that the SACE curriculum can be implemented with comparable consistency in both the original Australian context and the partner Indonesian context.

In substantive terms, the figure indicates that the success of implementation was not limited to formal curriculum delivery, but extended to classroom practice and student response. The full adoption of student-centred, interest-grouped pedagogy and the universal endorsement of positive student engagement suggest that the curriculum was translated into an active learning environment in which students were not merely exposed to content, but were meaningfully involved in the learning process. The parallel finding that teachers functioned as facilitators further reinforces the conclusion that SACE-PE was implemented in a way that aligns with its intended pedagogical orientation.

Although Figure 2 presents uniformly high outcomes, these findings should be interpreted as evidence of strong implementation consistency within the observed sample rather than as proof of broader generalizability. Given the relatively small number of teachers and students involved, the figure is most appropriately understood as demonstrating robust implementation fidelity and positive engagement within the two study sites included in this comparative analysis.

DISCUSSION

Interpretation of Findings

The findings of this comparative study demonstrate that the SACE curriculum, when implemented through a structured bilateral educational partnership (the BOSA-AIS program), is operationally feasible and pedagogically effective in both Indonesian and Australian PE contexts. The Quadrant I Grand Strategy Matrix position (x = +0.66, y = +0.60) for SMA BOPKRI 1 Yogyakarta indicates that the institution possesses the organizational capital—human, physical, and reputational—to not only sustain but actively expand its SACE-PE offerings. This finding resonates with (Fullan, 2016) theoretical proposition that successful curriculum implementation is predicated upon a coherent alignment of leadership, professional capacity, and collaborative culture.

The universal adoption of a student-centred, interest-grouped pedagogical model—wherein teachers function primarily as facilitators rather than authority figures—is consistent with contemporary evidence-based PE pedagogy (Metzler, 2017; Siedentop et al., 2019). By identifying individual student talents and grouping participants accordingly, SACE-PE instruction aligns with differentiated instruction principles that have been demonstrated to enhance intrinsic motivation and self-efficacy in adolescent PE learners(Akbaruddin et al., 2025; Weeldenburg et al., 2020). The 100% positive engagement reported by Indonesian and Australian students corroborates earlier evidence that student-centred curricula generate superior affective and motivational outcomes in PE settings(Bechter et al., 2019; Rosenkranz et al., 2012) .

Comparison with Antecedent Studies

The institutional strengths identified in the IFAS matrix—particularly teacher competence, principal leadership, and a conducive learning environment—echo (Darling-Hammond et al., 2017) global synthesis of effective professional learning systems, which identified instructional leadership and collaborative teacher development as universal mediators of curriculum reform success. The role of the principal at SMA BOPKRI 1 Yogyakarta as educator, manager, supervisor, innovator, and motivator Isa et al. (2022) aligns precisely with the multidimensional leadership typology articulated in Indonesian ministerial regulations and corroborated in the comparative education literature(Effendi et al., 2021; Mutiaraningrum, 2022).

The SWOT-identified weakness of suboptimal student discipline (weighted total: 1.12—the highest single weakness score) warrants particular attention. This finding parallels Irmansyah et al. (2025) observation that Indonesian secondary students frequently exhibit low self-regulatory capacity in physical activity contexts, attributable in part to insufficient motivational scaffolding by teachers. Addressing this gap through targeted teacher professional development in motivational climate strategies (e.g., Motivational Climate in Sport framework) represents a strategic priority for sustained SACE-PE effectiveness.

Rasmitadila et al. (2025) and Soebari (2012) similarly highlighted the centrality of Subject Teacher Consultation (MGMP) and structured professional development programs in enhancing teacher competence within Indonesian secondary schools. The present study extends these findings by demonstrating that international curriculum partnerships—specifically the BOSA-AIS Educational Program—provide an additional, high-impact vehicle for teacher professional growth, through direct exposure to Australian PE pedagogy, classroom management practices, and competency-based assessment frameworks.

Implications of Findings

These findings carry substantive implications for Indonesian educational policy. First, the BOSA-AIS model demonstrates the viability of a scalable sister-school partnership framework for introducing internationally benchmarked curricula into Indonesian secondary education without displacing the national curriculum framework. Second, the SACE curriculum's inherent flexibility—

accommodating VET courses, community learning, and diverse subject combinations within a 200-credit structure—provides a transferable model for Indonesian curriculum reform efforts that seek to balance academic rigor with vocational relevance. Third, the emphasis on SACE's seven key competencies maps productively onto the competency-based learning goals of the Indonesian National Education System (Law No. 20 of 2003), suggesting structural compatibility that facilitates contextualized adoption.

From an Australian perspective, AIS's involvement in the BOSA-AIS program exemplifies the capacity of SACE to serve as a vehicle for educational internationalization, extending its reach into diverse cultural and institutional contexts while maintaining quality assurance through SACE Board moderation processes (SACE, 2023).

Limitations

Several limitations of this study warrant acknowledgment. First, the purposive sampling strategy, while appropriate for an exploratory comparative study, limits the generalizability of quantitative findings. The small sample sizes—particularly three teachers per site—reduce the statistical power of between-group comparisons, and future research should employ larger probability samples to strengthen inferential validity. Second, the cross-sectional design precludes causal attribution of improved student learning outcomes to SACE implementation per se, as confounding variables (teacher experience, parental socioeconomic status, school resources) were not fully controlled. A longitudinal cohort design tracking pre- and post-SACE learning outcomes over multiple academic years is recommended for future inquiry. Third, the reliance on self-report questionnaire data for student engagement and teacher implementation fidelity introduces social desirability bias; future studies should supplement these with objective performance measures (e.g., standardized PE competency assessments). Finally, the SWOT analysis, while rigorously executed within the Rangkuti (2014) framework, remains a qualitative-to-quantitative conversion that is susceptible to subjectivity in factor weighting.

CONCLUSION

This comparative study provides empirical evidence that the SACE curriculum—implemented through the BOSA-AIS Educational Program—is operationally viable, institutionally well-supported, and pedagogically impactful in Physical Education contexts across two culturally distinct settings: SMA BOPKRI 1 Yogyakarta, Indonesia, and AIS Adelaide, Australia. The Grand Strategy Matrix position in Quadrant I ($x = +0.66$, $y = +0.60$) confirms that SMA BOPKRI 1 Yogyakarta possesses the organizational strengths and favorable external environment necessary to sustain and expand its SACE-PE implementation. Universal teacher fidelity to SACE-aligned pedagogical practices and 100% positive student engagement endorse the curriculum's capacity to enhance learning outcomes when adapted with contextual sensitivity.

These findings reinforce the proposition that international curriculum transfer, when underpinned by robust institutional leadership, structured professional development, and culturally responsive adaptation, constitutes a powerful lever for educational quality enhancement in developing-country contexts. The BOSA-AIS partnership offers a replicable model for other Indonesian schools seeking to benchmark their PE programs against internationally recognized standards.

Future research should employ longitudinal designs with larger, stratified samples to assess long-term student outcomes, expand comparative analysis to additional SACE-implementing institutions across Southeast Asia, and investigate the psychometric properties of context-specific SACE-PE learning outcome instruments. Policymakers in the Indonesian Ministry of Education, Culture, Research, and Technology are encouraged to explore the BOSA-AIS model as a template for scalable international curriculum partnerships within the national secondary education system.

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CONFLICT OF INTEREST

The author declares no conflict of interest with respect to the research, authorship, and/or publication of this article. The author has no financial, personal, or institutional interests that could inappropriately influence (bias) this work.

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