

RESEARCH ARTICLE

Development of a Grade 11 Alternative Classroom-Based Physical Activities Manual for Teachers in Hinterland Schools

Remark L. Lora

Lourdes College, Inc., Cagayan de Oro City, Philippines

✉ **Correspondence:** remark.lora@lccdo.edu.ph

RECEIVED May 6, 2026

PUBLISHED June 15, 2026

CITE AS Lora, R. L. (2026). Development of a Grade 11 alternative classroom-based physical activities manual for teachers in hinterland schools. *USFD Journal of Physical Education Pedagogy & Sports Performance*, 2(2), 116–134. <https://doi.org/10.64339/USFD-rzat4j36>

ACCEPTED May 27, 2026

DOI 10.64339/USFD-rzat4j36

ABSTRACT

Physical Education (PE) in most schools is not limited by its significance, but by space, resources and the facilities available. This study aimed to develop and validate an alternative classroom-based PE instructional manual for Grade 11 students in selected hinterland schools in Bukidnon, Philippines, to address the need for context-responsive and practical PE instruction. Using a developmental research design and the Successive Approximation Model (SAM), the study proceeded through SAM's three phases—Preparation (context analysis), Iterative Design (expert validation), and Iterative Development (classroom implementation and refinement). Data collection included document analysis, an expert content-validity checklist, a teacher evaluation survey, and classroom observation, with analysis conducted using descriptive statistics and thematic analysis. Findings showed a significant gap between the ideal curriculum, which emphasizes performance-based and competency-driven PE, and the actual classroom context, which is marked by spatial, resource, safety, and management challenges. In response, a context sensitive instructional manual was developed that incorporates space-adaptive, resource-efficient, and safety-focused strategies aligned with DepEd competencies. Expert reviewers rated the manual as Good to Excellent across criteria, praising its feasibility, engagement, and usability, while suggesting improvements in constructive alignment, assessment integration, and cultural relevance. Classroom implementation by the teacher-user indicated that the manual was perceived as clear, engaging, and practical for real-world use, although learning and engagement outcomes were not measured. The study concludes that the developed manual is an expert-validated, feasible, and contextually suited resource for classroom-based Physical Education. Future studies can be conducted to confirm the manual in various school settings to determine its efficiency, flexibility, and long-term effects on student achievement, student engagement and classroom attendance and its relevance to other grades and educational context.

KEYWORDS classroom-based physical education, instructional manual, hinterland schools, physical literacy

INTRODUCTION

Physical Education (PE) is widely recognized as a vital component of holistic education because it supports learners' physical, cognitive, psychosocial, and academic development (Gutierrez *et al.*, 2023; An *et al.*, 2022). However, despite its educational value, many schools—particularly those in low-resource and geographically isolated contexts—continue to experience difficulty delivering quality PE because of limited facilities, insufficient equipment, overcrowded classrooms, and lack of context-specific instructional materials. Although generic lesson plans and teacher-led improvisations are often used, these may not fully address learners' physical, academic, and developmental needs (McGowan *et al.*, 2020; Mok *et al.*, 2020). This gap highlights the need for evidence-based and context-sensitive PE resources that are responsive to the realities of Philippine schools.

Internationally, there is growing recognition that PE can be meaningfully delivered beyond traditional gymnasiums and outdoor spaces through classroom-integrated physical activity. Movement-based strategies such as Brain Breaks, active lessons, and short structured exercise routines have been found to improve students' self-efficacy, motivation, engagement, classroom attention, and behavior (Brenner *et al.*, 2022; McGowan *et al.*, 2020; Mok *et al.*, 2020). Similarly, aerobic activity embedded within the school day has been associated with improved mental health outcomes among adolescents (An *et al.*, 2022). These findings suggest that classroom-based physical activity is not merely a substitute for conventional PE, but a promising pedagogical approach that supports physical literacy, academic engagement, and student well-being.

In the Philippine context, the need for alternative classroom-based PE activities is shaped by both policy expectations and school-level constraints. The Department of Education emphasizes fitness testing, health awareness, and lifelong physical activity as part of PE instruction (DepEd, 2019; Magallanes, 2024). However, the implementation of these expectations is challenged by limited resources, overcrowded classrooms, inadequate learning spaces, and post-pandemic adjustments in teaching and learning. Filipino PE teachers have responded through flexible strategies, including recreational and culturally relevant activities, modified games, and multimedia-supported instruction (Aquino, 2023; Irfannuddin *et al.*, 2021). Nevertheless, persistent barriers such as insufficient teacher training, limited student space at home or in school, and learner disengagement indicate the need for structured instructional materials that are both curriculum-aligned and culturally responsive (Gutierrez *et al.*, 2023).

Developing an alternative classroom-based PE instructional manual is therefore both a practical and equity-oriented response to the limitations experienced by hinterland and resource-constrained schools. Such a manual can support teachers by providing flexible activities that may be implemented in face-to-face, blended, or modular learning contexts while ensuring alignment with DepEd standards and the broader goals of health and fitness awareness (Magallanes, 2024). At the same time, this initiative supports global educational and health priorities, particularly Sustainable Development Goal 3 on Good Health and Well-Being and Sustainable Development Goal 4 on Quality Education, by promoting inclusive access to meaningful physical activity opportunities. In this sense, classroom-based PE may serve as a viable pathway for ensuring that learners in small classrooms, remote schools, and underserved communities can still experience enjoyable, safe, and developmentally appropriate movement-based learning.

Guided by the Successive Approximation Model (SAM), this study aimed to develop alternative classroom-based Physical Education activities for Grade 11 learners in hinterland schools. SAM proceeds through three phases—Preparation, Iterative Design, and Iterative Development—emphasizing rapid prototyping, feedback, and continuous refinement, making it suitable for developing instructional materials that must respond to real classroom conditions (Allen, 2012; Allen & Sites, 2012, 2022). Within this framework, alternative classroom-based PE activities are conceptualized as structured, adaptable, and evidence-based movement experiences that can be delivered in regular classrooms without relying on conventional gymnasiums or large outdoor spaces (Centers for Disease Control and Prevention [CDC], 2019; Chen & Sun, 2023; WHO, 2020). By grounding the instructional manual in policy expectations, international evidence, and

local school realities, the study contributes to the modernization of PE practice and offers a practical resource for advancing inclusive, accessible, and context-responsive physical education.

Research Questions

In response to the growing need for context-responsive, curriculum-aligned, and resource-sensitive Physical Education instructional materials for hinterland and limited-space school settings, this study aimed to develop and refine an alternative classroom-based Physical Education instructional manual for Grade 11 learners grounded in school realities, DepEd competencies, expert validation, and teacher implementation experiences. Specifically, this study sought to answer the following research questions:

1. What is the context of alternative classroom-based activities for physical education?
2. Based on the context of alternative classroom-based activities for physical education and the DepEd competencies, what instructional manual for teachers may be proposed?
3. What are the reviews and feedback of experts to enhance the instructional manual for teaching alternative classroom-based activities for physical education?
4. What is the PE teacher's assessment of the proposed manual in terms of:
 - 4.1. Content;
 - 4.2. Clarity; and
 - 4.3. Relevance?
5. Based on the reviews and feedback, what instructional manual for classroom-based activities for physical education may be recommended?

METHODS AND MATERIALS

This study employed a developmental research design to develop and validate alternative classroom-based Physical Education (PE) activities for hinterland schools. The design follows an iterative process of design, expert validation, and refinement to ensure contextual relevance, feasibility, and pedagogical soundness. Guided by the Successive Approximation Model (SAM), the instructional materials were developed through cyclical stages of prototyping, feedback, and revision.

Participants were licensed secondary Physical Education teachers from public schools in the DepEd Division of Valencia City, particularly those assigned to hinterland contexts, selected through purposive sampling on the basis of at least one year of PE teaching experience and familiarity with classroom-based instruction. They contributed in three roles across the study's phases: as key informants in the context analysis, whose interview accounts of actual teaching conditions are reported in Problem 1; as expert evaluators who validated the draft manual using the validation checklist (Problem 3); and as the teacher-implementer who delivered the manual in an actual class and, together with participating students, gave feedback during implementation (Problem 4).

Data were collected using four main instruments:

1. Researcher-developed instructional manual, containing structured classroom-based PE activities;
2. Expert validation checklist, using a 5-point scale to assess content, clarity, relevance, and feasibility;
3. Teacher evaluation survey, measuring usability and applicability during implementation.

4. Classroom observation checklist, documenting instructional clarity, student engagement, feasibility, and safety during implementation.

Open-ended items were included to gather qualitative feedback.

Consistent with the Successive Approximation Model, the study followed SAM's three phases: (1) a Preparation phase comprising context analysis (document analysis of the Strengthened SHS PE 2 curriculum and teacher interviews); (2) an Iterative Design phase in which the instructional manual was drafted and validated by expert reviewers; and (3) an Iterative Development phase in which the manual was implemented and evaluated by a teacher in an actual classroom, with classroom observation, and refined. Feedback from experts and the implementing teacher informed iterative revisions of the material.

The expert validation checklist and the teacher evaluation survey both used a 5-point scale (1 = Not Appropriate/Poor to 5 = Excellent/Highly Appropriate). Item-level and overall means were computed and interpreted using the following legend:

Mean Score Range	Interpretation
4.21 – 5.00	Excellent / Highly Appropriate
3.41 – 4.20	Very Good / Appropriate
2.61 – 3.40	Good / Acceptable
1.81 – 2.60	Fair
1.00 – 1.80	Poor

Quantitative data from the expert checklist and teacher survey were summarized using descriptive statistics (item-level means and standard deviations) and interpreted against the scoring legend above. Qualitative responses were analyzed using thematic analysis to identify patterns related to usability, feasibility, and improvements to the instructional materials.

The study was conducted in accordance with the ethical principles of the Belmont Report—respect for persons, beneficence, and justice (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 2020)—with institutional approval secured prior to data collection. Participation was voluntary, and informed consent was obtained from the teacher-respondents. The study did not involve experimental or quasi-experimental testing of students; however, students were present during the classroom implementation of the manual and took part in a focus group discussion about their experience. Their participation was voluntary, with parental consent and student assent obtained, and no graded or performance data were collected from learners. All data were kept confidential and anonymized, stored securely, and handled in compliance with the Data Privacy Act of 2012, with records retained for five years for academic and audit purposes.

RESULTS

Problem 1. What is the context of alternative classroom-based activities for Physical Education?

The study explored two interrelated contexts that influence the implementation of alternative classroom-based physical education: the ideal curriculum context through document analysis of the Strengthened Senior High School Physical Education (PE 2) curriculum and the real school context from teachers lived experiences in actual PE teaching with students. The ideal context refers to the desired level of standards, competencies and expectations for physical education, the actual context reflects the contextual constraints, challenges and adaptations in practice. It is this interplay between the two contexts that underpins the rationale for developing a contextually responsive instructional manual.

This study conducted a document analysis of the Strengthened Senior High School Physical Education (PE 2) curriculum to highlight the intended or ideal context for physical education instruction. The curriculum strongly emphasizes performance-based and competency-driven learning, as reflected in directives for learners to “execute sport-specific skills to enhance health and performance” (p. 3) as well as “assess skill-related fitness components to enhance performance in a specific sport” (p. 2). These statements suggest that PE instruction is based on concrete exemplification, learning of relevant skills and tangible performance measures rather than abstract theory.

Alongside sports performance is a literacy of creative and expressive movement, where students are expected to “apply the creative process to develop dance choreography using the various elements of dance” (p. 4) and engage with “different dance genres... appropriate dance styles and techniques” (p. 4). It emphasizes the process of technical and creative competences, proving once again how multidimensional physical education is.

The curriculum applies to leadership and organizational competencies beyond self-management. Learners are required to “manage sports events for the promotion of active participation for community wellness” (p. 3) and complete processes such as “selecting date & venue... executing event” (p. 3). These criteria demonstrate an expectation of students engaging in collaborative planning and decision-making, as well as applying skills learned in a real-world context, with PE being a venue for teamwork and leadership to develop.

In addition, the curriculum emphasizes ongoing assessment and monitoring of student results, such as repeated expectations to “assess skill-related fitness components” (p. 2) and demonstrate performance improvements. Learning is therefore structured around measurable outcomes within a defined timeframe, with “80 hours for one semester, 4 hours per week” (p. 2), suggests an administration with systematic time-bound approach. While safety is not overtly mentioned, it is suggested through the way participation and performance are structured, it is implied through structured participation and performance expectations, such as managing activities and demonstrating refined skills in controlled settings. Collectively, the document analysis illustrates that SHS PE 2 promotes an experiential, performance and assessment driven model of physical education that requires adequate space and resources under structured conditions—an ideal context which underpins the development of alternative classroom-based PE activities.

Meanwhile, interviews with the informants reveal a convergence of critical constraints that severely hinder Physical Education and consequently validate in this study the need for an alternative classroom based instructional manual. The most common problem encountered is the severely limited and overcrowding of spaces, where teachers said “*gamay ra kaayo ang classroom, unya daghan kaayo ang estudyante* (the classroom is very small and there are too many students) (Informant 1), and “*usahay 40 kapin mi sa usa ka klase, dili na jud mi ka lihok tarong*” (sometimes we are more than 40 in a single class, we can no longer move properly) (Informant 2). The fixed seating only adds to the problem; “*naay mga lingkuranan nga dili ma balhin, mao dili gyud pwede ang daghang lihok*” (there are chairs that cannot be moved so there can't really be much movement) (Informant 5), in turn limiting the provision of competencies based on movement required by the curriculum. Efforts to utilize alternative spaces highlight complications and further risks, with teachers commenting “*mag corridor mi pero delikado kay naay mo agi ug ma disturbo ang ubang klase*” (we take/have class in the corridor but it is risky because people pass by and other classes are disturbed) (Informant 4). Such conditions indicate a broad disparity between the curriculum reality and the school physicality, spotlighting literature identifying space adequacy as a significant barrier to promoting active PE engagement (Aquino, 2023; Mok et al., 2020).

These spatial problems are compounded by the absence of facilities and teaching resources, especially in hinterland contexts. In view of limited facilities, “*wala mi gym, classroom ra gyud ang magamit*” (Informant 1) and “*mag improvise ra mi, pananglitan papel mahimong bola*” (we just improvise, for example paper becomes a ball) (Informant 1). The gap is more acute in the rural context, as one informant noted: “*kung naa ka sa bukid nga school, mas lisod gyud kay kulang tanan*” (if you are in a rural school it is really more difficult because everything is lacking) (Informant 5). These realities highlight endemic inequities in resource allocation and

indicate an urgent need for training materials that are developed with explicit low-resource contexts in mind (Gutierrez et al., 2023; An et al., 2022)

Safety concerns further constrain instructional possibilities, creating a risk-averse teaching environment that limits the range and intensity of physical activities. Informant 3, for instance, identified injury prevention and learner safety as the primary consideration governing activity selection. Teachers consistently emphasized that *“priority gyud ang safety, dili pwede ang dagan-dagan kay basin mag bangga”* (safety is the priority; running is not allowed because students might collide) (Informant 4) and *“likayan namo ang jumping kay delikado sa sulod sa classroom”* (we avoid jumping because it is dangerous inside the classroom) (Informant 6). As a result, activities are reduced to low-impact and stationary movements, with one teacher noting, *“more on stretching, yoga, ug light exercises ra mi”* (we focus more on stretching, yoga, and light exercises) (Informant 5). While these adaptations protect students, they also create a gap in achieving the full range of curriculum competencies, particularly those requiring dynamic movement and skill execution. This underscores the need for structured, safe, and context-appropriate activity designs that balance engagement and risk management (An et al., 2022).

In response to these constraints, teachers are compelled to continuously modify instruction, often in ways that compromise the intended learning outcomes. One teacher explained, *“usahay i-group nalang namo sila para ma manage ang space”* (sometimes we group them to manage the space) (Informant 1), while another admitted, *“kung dili kaya ang activity, discussion nalang sa theory”* (if the activity is not feasible, we shift to theoretical discussion) (Informant 2). These adjustments reveal a critical need for guided instructional strategies that systematically translate curriculum competencies into feasible classroom-based activities, rather than relying on ad hoc modifications. Literature supports that without structured adaptation frameworks, instructional quality becomes inconsistent and dependent on individual teacher improvisation (McGowan et al., 2020).

Finally, assessment and classroom management challenges further highlight gaps in current practice. Teachers reported that *“lisod kaayo i-monitor ang tanan estudyante kung daghan kaayo sila”* (it is very difficult to monitor all students when they are too many) (Informant 1), and *“45 minutes kulang gyud para sa PE, dili maigo ang activities ug assessment”* (45 minutes is really insufficient for PE; activities and assessment cannot be completed) (Informant 2). These constraints not only impair the ability to conduct meaningful, individualized assessment but also undermine the reliable measurement of learning outcomes. Notably, previous research has confirmed that having large class sizes and limited time for instruction severely limit the validity of assessment (Gutierrez et al., 2023) and instructional effectiveness in PE.

Overall, the context of alternative classroom-based physical education is characterized by a clear divergence between the ideal curriculum expectations—requiring performance-based, resource-supported, and space-intensive learning—and the actual school realities marked by spatial limitations, resource scarcity, safety constraints, instructional compromises, and assessment challenges. This dual context underscores the necessity of developing a structured, context-responsive instructional manual that translates curriculum competencies into feasible, safe, and resource-efficient classroom-based activities, particularly for hinterland schools.

The findings show that alternative classroom-based physical education activities are shaped by multiple interconnected constraints and responses within schools. Five categories emerged describing the theme, context: Spatial Constraint, Resource Limitations, Safety Focus, Instructional Adaptation, and Assessment Challenges.

Spatial Constraint Context

The findings show that restricted space, large class sizes, structured seating arrangements, and unacceptable alternate areas pose great limitations to movement-based instruction in the physical education setting. These findings corroborate with previous literature identifying that poor physical learning environments prevent the effective implementation of PE programs and limit opportunities for students to

engage in activity (Aquino, 2023; Magallanes, 2024). Moreover, studies have found that overcrowding and rigid contextually displays of classroom settings and perpetual locations reduce instruction efficiency, impacting exercise movement-based task functionalities (Mok *et al.*, 2020; McGowan *et al.*, 2020). Limited access to traditional gymnasiums can also contribute to the increased use of hallways and weather-dependent outdoor spaces, which highlights environmental constraints more frequently experienced in low-resource contexts, underscoring the necessity for context-sensitive adaptations within PE instruction.

Resource-Limited Context

Teachers, especially in hinterland areas, work under the resource constraint of insufficient or no gymnasium facilities and limited equipment, relying on improvised materials. These results align with previous studies that emphasize the disparity in access to physical education resources available for schools located in rural or underserved areas versus urban institutions (Gutierrez *et al.*, 2023; An *et al.*, 2022). The need to improvise materials indicates adaptive teaching practices, but also points to systemic inequities in resource allocation. While PE (Physical Education) can be conducted as a separate class, the lack of sufficient facilities and equipment has been shown to adversely impact the quality of instruction, which in turn inhibits student participation within PE classes (Aquino, 2023), thus highlighting the need for developing alternative instructional models based on low-resource settings.

Safety-Dominated Context

Safety is the predominant concern driving their instructional choices, with teachers minimizing injuries by avoiding high-impact activities and favoring low-impact strategies while stationary. This finding aligns with the previous findings suggesting that safety is a major consideration which governs design and modifications of physical activities, particularly in constrained environments (An *et al.*, 2022). And if there is a lack of space and proper facilities, then the natural approach is to avoid running and jumping activities that involve this risk-averse behaviour. Furthermore, it is noted in literature that the promotion of student safety and health remains one of the most basic responsibilities in PE; accordingly, teachers often adjust activities to reduce risks (Gutierrez *et al.*, 2023) even when doing so may result in inadequate intensity or variety of physical engagement.

Instructional Adaptation Context

Teachers show adaptive pedagogical strategies by transitioning to more low-impact exercises, moving students into groups, and replacing practical activities with theoretical instruction as needed. These adaptations are in line with research on responsive and flexible teaching practices in physical education, where educators adjust instruction based on environmental constraints and available resources (Mok *et al.*, 2020). Grouping strategies are classroom management techniques to maximize scarce space and help keep students engaged. Furthermore, showing that even when practical activities are not within reach there remains a tendency to negotiate the balance with theory requirements of the PE curriculum suggest benefits align with considerations for the context as observed in adaptive PE pedagogies (McGowan *et al.*, 2020).

Assessment and Management Challenges

Assessment and classroom management are greatly challenged by large class sizes, limited instructional time, and difficulty in monitoring student performance. This is congruent with the literature (An *et al.*, 2022), in which high student-to-teacher ratios and limited time lead to less effective assessment practices in physical education. Furthermore, studies show limited time for PE classes limit the depth of instruction and how assessment is measured (Gutierrez *et al.*, 2023), necessitating a more efficient and adaptable method of evaluation.

Problem 2. Based on the context of alternative classroom-based activities for Physical Education and the DepEd competencies, what instructional manual for teachers may be proposed?

Table 1 presents the proposed instructional manual framework that aligns with the school's reality, observed contextual challenges, and the Strengthened SHS PE curriculum requirements, along with corresponding manual components and classroom-based adapted strategies.

Table 1. *Proposed Instructional Manual Framework Based on School Reality Context and Challenges, and the Ideal Strengthened SHS PE Curriculum for Classroom-Based Physical Education*

School Reality Context	Observed Contextual Challenge	Strengthened SHS Curriculum Context	Proposed Manual Component	Sample Adapted Strategy (Classroom-Based)
Spatial Constraint Context	No court; overcrowded rooms	Emphasis on performance-based skill execution in varied physical spaces	Micro-Space Skill Fitness Assessment Toolkit	In-place agility taps, reaction claps, balance hold tests
	No room for full game simulation	Requirement for actual demonstration of sport-specific skills	Stationary Sports Skill Adaptation Guide	Shadow dribbling, wall-pass simulation, step-and-shoot without locomotion
	Limited movement pathways	Creative movement and choreography expected	Spot-Based Choreography Framework	8-count stationary sequence development
	No large venue	Event organization requiring space and coordination	Classroom Event Simulation Model	Mini intramural planning simulation
Resource-Limited Context	Lack of equipment	Use of sport-specific drills and skill development	Improvised Equipment Guide	Bottle markers, paper-ball drills
	No formal testing equipment	Fitness assessment as part of learning competency	Bodyweight and Field-Test Alternatives	Vertical reach wall test; stopwatch phone timing
	Limited funding	Event organization requiring logistical resources	Low-Cost Event Management Toolkit	Zero-budget sports fest planning template
Safety-Dominated Context	Running/jumping unsafe	Promotion of safe participation in physical activities	Low-Impact Sports Module	Modified non-contact drills
	High injury risk in confined space	Embedded safety and injury prevention in participation	Risk-Level Coding System	[Green] Seated drills; [Yellow] Controlled movement; [Red] Avoid high-impact
	Crowded dance space	Safe execution of dance and movement activities	Controlled Range Dance Guide	Upper-body expressive dance formats
Instructional Adaptation Context	Theory replacing practice	Integration of knowledge and performance in PE	Theory-to-Performance Bridge Section	Tactical board simulation and reflection
	No performance stage	Exposure to different dance genres and forms	Classroom-Based Genre Demonstration	Small-group genre showcase
	Large class, limited supervision	Leadership and management in activity organization	Rotational Leadership Model	Student committees per station
Assessment and Management Challenges	40–60 students	Continuous assessment of fitness and performance	Group Skill Assessment Rubric	Peer evaluation grid
	Difficult individual monitoring	Performance monitoring in skill execution	Performance Checklist Matrix	Skill proficiency tracker
	45-minute limitation	Time-bound activity management and event execution	45-Minute SHS Lesson Framework	10–20–10–10 structure

In response to the alignment of components among the Strengthened SHS PE 2 curriculum, schools' contextual realities, and the instructional challenges identified (Table 1), the researcher crafted a systematic instructional response: *Fit in Place: Space-Adaptive and Resource-Sensitive Instructional Manual for Senior*

High School Teachers, Physical Education 2 (Sports and Dance). This instructional manual gives specific details on how to deliver a lesson within the confines of an activity-required course.

Table 2 presents an overview of the proposed instructional manual for implementing a classroom-based PE.

Table 2. *Structural Overview of the Proposed Instructional Manual*

Manual Section	Key Components	Description
Part I: Foundations of the Manual	Rationale, Context, Curriculum Alignment, Guiding Principles (Specificity, FITT, Safety, Inclusivity, Community Wellness)	Establishes the theoretical and contextual grounding of the manual, identifying real-world constraints such as space, resources, safety, and assessment challenges while ensuring alignment with SHS PE 2 competencies
Part II: Teaching Physical Education in Constrained Environments	Micro-Space Teaching Model (1m ²), Classroom Layout Adaptation, Safe-Space Protocols, Risk-Level Coding System, 45-Minute Lesson Template	Provides the core instructional framework enabling safe and effective physical activity in limited spaces through structured movement zones, safety systems, and time-efficient lesson delivery
	No-Equipment Activity Bank, Improvised Equipment Guide, Low-Cost Event Planning Toolkit, Weather-Dependent Outdoor Alternatives	Addresses lack of facilities and materials by offering practical, low-cost, and adaptable alternatives for implementing PE activities
Part III: Sports (Adaptive Format)	Skill-Related Fitness (Agility, Power, Speed, Balance, Coordination, Reaction Time), Modified Sports Drills, Classroom-Based Event Management	Translates traditional sports activities into space-efficient and safe formats while maintaining development of physical competencies
Part IV: Dance (Adaptive Format)	Dance Genres, Elements of Dance, Spot-Based Choreography, Classroom Performance Simulation	Supports creative expression and movement through controlled, space-adaptive choreography and performance strategies
Part V: Assessment, Monitoring, and Reflection	Rubrics, Skill Tracking Sheets, Peer/Self-Assessment, Reflection Journals, SMART Goals, Differentiated Instruction	Provides tools for continuous, performance-based assessment suitable for large classes and constrained environments
Appendices	Lesson Templates, Risk Checklists, Layout Diagrams, Sample Outputs	Supplies ready-to-use materials for immediate classroom implementation

Problem 3. What are the reviews and feedback of experts to enhance the instructional manual for teaching alternative classroom-based activities for physical education?

Table 3 provides a consolidated quantitative summary of the expert reviewers' ratings, mean scores, and synthesized comments based on the validation checklist. The results of the expert validation indicate that the instructional manual was generally rated Good to Excellent, with mean scores ranging from 3.3 to 4.7 across all criteria. Specifically, high ratings were observed in Feasibility and Classroom Applicability ($M = 4.3$ – 4.7) and Learner Engagement and Inclusivity ($M = 4.0$ – 4.7), indicating that the manual is highly practical, adaptable, and engaging for students. Similarly, Content Accuracy and Alignment ($M = 4.0$) and Instructional Design and Organization ($M = 4.0$) were rated as Very Good, suggesting that the manual is generally well-structured and aligned with physical education principles and competencies. However, relatively lower mean scores were noted in Learning Objectives (A3, $M = 3.3$) and Assessment Alignment (B4, $M = 3.3$), as well as in Readiness for Classroom Piloting (E3, $M = 3.6$), indicating areas that require refinement, particularly in ensuring consistency of objectives and alignment of assessment tasks.

Table 3. Summary of Expert Reviewers' Ratings, Mean Scores, and Qualitative Feedback Based on the Expert Feedback and Validation Checklist for the Alternative Classroom-Based PE Instructional Manual

Item	Criteria	Expert Reviewers			Mean	Description	Comments
		1	2	3			
Section A. Content Accuracy and Alignment							
A1	Activities are accurate and grounded in PE principles	4	4	4	4	Very Good / Appropriate	ER1: Needs compliance with international standards. ER2: Content aligned but some objectives not observed.
A2	Activities align with DepEd Grade 11 PE competencies	4	4	4	4	Very Good / Appropriate	ER2: Some competencies not consistently reflected in lessons.
A3	Learning objectives are clearly stated and appropriate	4	3	3	3.3	Good/ Acceptable	ER2: Some lessons lack clearly stated objectives. ER3: Objectives not consistently present across chapters.
A4	Content is developmentally appropriate for Grade 11 students	4	4	4	4	Very Good / Appropriate	ER3: Activities appropriate for learners' developmental level.
Section B. Instructional Design and Organization							
B1	Instructions are clear, logical, and easy to follow	4	4	4	4	Very Good / Appropriate	ER1: Improve visual placement. ER2: Follow constructive alignment.
B2	Activities are well-sequenced and structured	4	4	4	4	Very Good / Appropriate	ER2: Some sequencing not aligned with objectives.
B3	Time allocations are realistic for classroom use	4	4	4	4	Very Good / Appropriate	ER3: Time allocations realistic and feasible.
B4	Assessment tasks are aligned with learning objectives	4	3	3	3.3	Good/ Acceptable	ER2: Some misalignment observed. ER3: Lack of clear assessment methods noted.
Section C. Feasibility and Classroom Applicability							
C1	Activities can be implemented in limited classroom spaces	5	4	5	4.7	Excellent	ER3: Highly feasible in limited spaces.
C2	Activities require minimal equipment and resources	4	4	5	4.7	Excellent	ER3: Minimal resource requirement noted.
C3	Safety considerations are clearly addressed	4	4	4	4	Very Good / Appropriate	ER3: Safety present but may need strengthening.
C4	Activities are adaptable to large class sizes	4	4	5	4.3	Very Good / Appropriate	ER3: Adaptability across conditions emphasized.
Section D. Learner Engagement and Inclusivity							
D1	Activities promote active student participation	5	4	5	4.7	Excellent	ER1: Strong engagement across reviewers.
D2	Activities are inclusive of diverse ability levels	4	4	4	4	Very Good / Appropriate	ER3: Need for more differentiated strategies.

Item	Criteria	Expert Reviewers			Mean	Description	Comments
		1	2	3			
D3	Activities are culturally relevant to Filipino learners	4	4	4	4	Very Good / Appropriate	ER1 & ER2: Suggest inclusion of Filipino games and dances.
D4	Activities support student motivation and enjoyment	5	4	5	4.7	Excellent	ER3: Activities engaging and motivating.
Section E. Overall Evaluation							
E1	The manual is suitable for use in hinterland schools	5	4	5	4.7	Excellent	ER1: Strong contextual applicability.
E2	The manual supports teachers with varying experience levels	4	4	5	4.3	Very Good / Appropriate	ER3: User-friendly and accessible.
E3	The manual is ready for classroom piloting	4	3	4	3.6	Very Good / Appropriate	ER2 & ER3: Needs refinement before full implementation.

Further, *Table 4* presents the consolidated open-ended responses from the expert reviewers, highlighting key strengths, areas for improvement, and recommendations to enhance the instructional manual.

Table 4. *Open-Ended Expert Feedback on the Alternative Classroom-Based PE Instructional Manual*

Guide Question	Expert Reviewer	Comments	Expected Action
1. What are the key strengths of the instructional manual?	1	The manual is simple and easy to understand, aligned with the strengthened curriculum, and uses visuals that support learning. The intervention is unique and relevant.	Retain the current structure, clarity, and visual design; ensure consistency of these strengths across all chapters.
	2	The instructional manual contains clear structure, visual guidance, and practical activities. Activities are appropriate for students' developmental level.	Maintain the developmental appropriateness and structured presentation of activities; ensure continuity across all lessons.
	3	Clear formatting and layout, including headings, bullet points, and visuals. Readable and user-friendly. Explanation of concepts uses clear and simple language. Aligned with curriculum standards and learning competencies.	Preserve formatting, readability, and alignment; standardize layout and language use throughout the manual.
2. What specific aspects require improvement or revision?	1	Suggested improvements include incorporating Filipino games and dances, improving clarity of terms to avoid ambiguity, and strengthening focus on study results rather than literature formatting.	Integrate Filipino games and dances; revise terminology for clarity; strengthen emphasis on results and practical application.
	2	Most of the activities are not clearly aligned with the stated objectives. Only Chapters 4 and 5 have objectives, while the rest of the chapters do not. The manual lacks clear assessment or evaluation methods.	Ensure all chapters include clearly stated objectives; establish constructive alignment (objectives-activities-assessment); develop and integrate assessment tools.

Guide Question	Expert Reviewer	Comments	Expected Action
	3	The information presented should be accurate, evidence-based, and reviewed by experts (content) to ensure credibility. Include more strategies for diverse learners, including differentiated instruction and inclusive teaching approaches.	Validate content with expert review; incorporate evidence-based references; add differentiated and inclusive instructional strategies.
3. What recommendations can you offer to further enhance the instructional manual?	1	—	No additional action indicated.
	2	Suggestions include revising instructions following suggestions, checking illustrations if AI-generated, and using referenced sources identified.	Revise instructions for clarity; verify and annotate AI-generated visuals; ensure proper citation of sources.
	3	It is recommended that the manual must undergo expert validation, pilot testing, and continuous revision to ensure accuracy, relevance, and usability of the materials. Utilize and adapt the manual according to the DepEd classroom context, resources, and learners' abilities. Clear assessment methods should be included. The manual is easy to use and navigate.	Conduct pilot testing and iterative revisions; contextualize implementation to DepEd settings; strengthen assessment components; maintain usability and navigation features.

As indicated by expert reviewers in the open-ended summary of their qualitative feedback presented in Table 4, the instructional manual is highly regarded for its clearly articulated content that was organized in a structured manner, user-friendly design, and language use, as well as relevance to the strengthened curriculum, suggesting strong foundational quality and practical applicability. Reviewers noted that the manual possesses strengths in its clear, concise presentation of concepts, appropriate use of graphics, and developmentally appropriate activities that support usability in a classroom-based physical education setting. Nonetheless, the feedback has also pinpointed specific areas for improvement, such as constructive alignment (objectives–activities–assessment), the inclusion of Filipino games and dances, clarity of terminology, increased emphasis on assessment methods, and evidence-based validation of source content. Recommendations also stressed the need for differentiated and inclusive approaches, verification of instructional materials (for example, AI-generated visual representations), and pilot testing and iterative evolution.

Moreover, Table 5 summarizes the expert reviewers' annotated feedback on the draft instructional manual, organized by chapter and highlighting key areas for revision and improvement.

Table 5. Summary of Expert Reviewers' Annotated Feedback

Chapter	Expert Reviewer	Key Feedback
Chapter 1	1	Minimize overly decorative images
	2	Add references per chapter; include a statement on the use of AI-generated images
	3	Provide legal basis in the rationale and context
Chapter 2	1	Provide a Safe-Space Protocol checklist
	2 & 3	In place
Chapter 3	All Reviewers	In place
Chapter 4	1 & 2	In place
	3	Add learning outcomes; align objectives; ensure measurability

Chapter 5	All Reviewers	In place
Chapter 6	All Reviewers	In place
Chapter 7	1 & 2	In place
	3	Add references; begin with learning outcomes
Chapter 8	1 & 2	In place
	3	Add citations; include assessment tasks
Chapter 9	1 & 2	In place
	3	Add activities and rubrics (Sections 9.2 & 9.4)
Chapter 10	All Reviewers	In place
Chapter 11	1	Maximize use of space
	2	In place
	3	Add objectives and revise rubrics
Chapter 12	All Reviewers	In place

The results indicate that the majority of chapters (Chapters 3, 5, 6, 10, and 12) were evaluated as “in place”, suggesting that these sections already meet acceptable standards in terms of content, structure, and alignment. However, targeted revisions were recommended in selected chapters, particularly in Chapter 1 (visual design, references, and legal grounding), Chapter 4 (learning outcomes and alignment), Chapter 7 (references and outcomes), Chapter 8 (citations and assessment tasks), Chapter 9 (activities and rubrics), and Chapter 11 (space utilization, objectives, and rubric refinement). These comments collectively point to specific areas that require enhancement in terms of instructional clarity, alignment, assessment, and academic grounding.

Problem 4. What is the PE teacher’s assessment of the proposed manual in terms of content, clarity, and relevance?

Table 6 presents a summary of the PE teacher implementer’s and students’ experiences in using the instructional manual, organized according to the dimensions of content, clarity, and relevance, with supporting verbatim excerpts and corresponding line references from the interview and focus group discussion. The table presents a structured synthesis of the experiences of the PE teacher implementer and student participants in relation to the instructional manual, organized into the dimensions of content, clarity, and relevance. Under content, the findings show that the activities are well-aligned with objectives and competencies, developmentally appropriate, and accurately executed. In terms of clarity, both the teacher and the students emphasized that the instructions are simple, well-sequenced, and easy to understand, which facilitated effective implementation and participation. Meanwhile, the relevance dimension highlights that the activities are engaging, practical, and adaptable to classroom conditions, particularly in resource-limited settings, although constraints such as limited space and safety concerns were also noted.

Table 6. Summary of Teacher Implementer and Student Experiences in Using the Instructional Manual in Terms of Content, Clarity, and Relevance

Dimension	Core Ideas	Quotes (with English Translation)	Reference
Content	Activities clearly reflect objectives	“everything reflects on the activities”	Teacher Implementer; Lines 44–46
	Alignment with SHS PE competencies	“the competencies are really connected to the new curriculum”	Teacher Implementer; Lines 49–51
	Developmentally appropriate activities	“simple sya, but very encouraging... helps the students to develop” (It is simple, but very encouraging... it helps the students develop)	Teacher Implementer; Lines 54–57

Dimension	Core Ideas	Quotes (with English Translation)	Reference
	Accurate execution of movement tasks	“sakto pagka buhat sa student” (<i>the students perform the movements correctly</i>)	Teacher Implementer; Lines 62–64
Clarity	Instructions are easy to understand	“easy ra kaayo to understand” (<i>very easy to understand</i>)	Teacher Implementer; Lines 82–83
	Teacher demonstrates understanding	“the teacher really understand the activity”	Teacher Implementer; Lines 70–72
	Step-by-step procedures guide implementation	“naa man step by step instruction” (<i>there are step-by-step instructions</i>)	Teacher Implementer; Lines 79–80
	Logical sequencing of activities	“process man gyud na... dili man diretso” (<i>it follows a process... it is not done abruptly</i>)	Teacher Implementer; Lines 201–204
	Students easily understand instructions	“di sya lisod... gipasabot man og maayo” (<i>it is not difficult... it was explained well</i>) “dali ra sya masabtan” (<i>it is easy to understand</i>)	Student FGD Participant; Lines 327–328 Student FGD Participant; Lines 370–371
Relevance	Activities are engaging and enjoyable	“very engaging”	Student FGD Participant; Line 313
		“nag enjoy gyd ang tanan” (<i>everyone really enjoyed it</i>)	Teacher Implementer; Lines 133–134
	Activities are relevant to classroom context	“relevant... naa sya sa curriculum... maka relate ang mga bata” (<i>it is relevant... it is in the curriculum... students can relate to it</i>)	Teacher Implementer; Lines 120–122
	Practical for classroom-based PE	“very practical... no need na mo gawas” (<i>very practical... no need to go outside</i>)	Teacher Implementer; Lines 166–169
	Materials are adaptable and improvised	“crumple paper instead of ball”	Teacher Implementer; Lines 110–112
	Applicable in resource-limited schools	“helpful... limited ang resources” (<i>helpful... resources are limited</i>)	Teacher Implementer; Lines 227–229
	Limited classroom space affects movement	“limited ang space... mag lisod me lihod” (<i>space is limited... it is hard to move</i>)	Student FGD Participant; Lines 386–387
	Safety concerns due to environment	“danlog ang salog” (<i>the floor is slippery</i>)	Student FGD Participant; Lines 381–382

Problem 5. Based on the reviews and feedback, what instructional manual for classroom-based activities for physical education may be recommended?

Table 7 presents the development matrix for the recommended instructional manual, showing how key inputs and evidence-based feedback informed the revision process and led to the final enhanced product.

Table 7. Development Process of the Recommended Instructional Manual Based on Feedback and Validation

Input (Basis)	Process (Revisions Made by the Developer)	Output (Final Product)
Expert validation results (Table 3) indicating issues in objectives and assessment alignment	Standardized and explicitly stated learning objectives across all chapters; aligned assessment tasks with objectives	A constructively aligned instructional manual with clear objectives and corresponding assessment tools
Annotated feedback (Table 5) highlighting need for references, legal basis, and citations	Integrated DepEd policies, K-12 curriculum standards, and added references and citations in relevant chapters	A theoretically grounded and policy-aligned instructional manual
Feedback on lack of assessment tools and rubrics	Developed and incorporated performance-based rubrics, checklists, and evaluation tools	A manual with clear, measurable, and observable assessment mechanisms
Suggestions to improve clarity and organization (visuals, layout, wording)	Simplified visual design, refined instructional language, and standardized formatting across chapters	A user-friendly, clear, and well-organized instructional manual
Recommendation to include culturally relevant content	Integrated Filipino games and dance-based activities into selected lessons	A culturally responsive instructional manual that enhances learner engagement
Feedback on inclusivity and diverse learner needs	Added differentiated instruction strategies and activity modifications for varying ability levels	An inclusive instructional manual adaptable to diverse learners
Contextual challenges (limited space, lack of equipment, large class size) from Problem 1 findings	Designed classroom-based activities, incorporated improvised materials (e.g., paper balls), and included group-based strategies	A context-responsive and feasible manual for hinterland and resource-limited schools
Safety concerns observed during implementation	Integrated safety guidelines and safe-space protocols in each activity	A safe and structured instructional manual for classroom-based physical activities
Recommendations for usability and teacher support	Provided step-by-step procedures, time allotments, and implementation guides	A practical and teacher-friendly manual suitable for regular PE use
Recommendation for validation and refinement	Proposed pilot testing and continuous revision mechanisms	A validated and continuously improvable instructional manual

DISCUSSION

The findings show that the Strengthened SHS PE 2 curriculum promotes a performance- and competency-based approach in which learners demonstrate sport skills, dance choreography, and organized physical activities. This supports evidence that physical education is most effective when learning is experiential and performance-based, as such conditions enhance motor competence, physical literacy, and sustained engagement in physical activity (Gutierrez *et al.*, 2023; An *et al.*, 2022). The inclusion of leadership, event organization, and continuous assessment further indicates that PE extends beyond skill execution to the development of social skills, collaboration, and responsibility (Gutierrez *et al.*, 2023).

At the same time, the findings reveal that classroom-based PE implementation is strongly shaped by contextual constraints. Spatial limitations, overcrowded classrooms, and inflexible learning environments restrict movement-based instruction, while limited equipment necessitates the use of improvised materials. These conditions are consistent with studies highlighting how environmental and resource constraints hinder effective PE delivery, particularly in low-resource and hinterland settings (Aquino, 2023; Magallanes, 2024; Mok *et al.*, 2020). Such constraints require adaptive and context-sensitive instructional approaches.

Safety considerations also significantly influenced instructional decisions, with teachers favoring low-impact, structured activities to minimize risk. This aligns with research emphasizing that safety is a fundamental concern in PE, especially in constrained environments where space and facilities are limited (An *et al.*, 2022; Gutierrez *et al.*, 2023). Consequently, teachers employed flexible pedagogical strategies, including activity modification, grouping techniques, and the integration of theoretical instruction when practical engagement was not feasible. These adaptive practices reflect the need for flexible and responsive teaching in physical education (Mok *et al.*, 2020; McGowan *et al.*, 2020).

The proposed instructional manual addresses these contextual realities by translating curriculum competencies into space-adaptive, resource-sensitive, and safety-conscious instructional strategies. The high feasibility and usability ratings suggest that the manual is practical for classroom implementation, particularly in constrained settings. However, relatively lower ratings in the alignment of objectives, activities, and assessment indicate a need to strengthen constructive alignment. This finding supports literature asserting that coherence among learning objectives, instructional strategies, and assessment is essential for effective teaching and valid evaluation of learning outcomes (An *et al.*, 2022).

Qualitative feedback further supports these findings. Experts described the manual as clear, organized, and applicable but recommended improvements in assessment clarity, alignment, and integration of culturally relevant content. The suggested inclusion of Filipino games, differentiated strategies, and safe-space protocols reflects the importance of culturally responsive and inclusive pedagogy in enhancing engagement and relevance in PE (Magallanes, 2024; Gutierrez *et al.*, 2023). These insights highlight the need to balance instructional rigor with contextual and cultural responsiveness.

Overall, the results reinforce that effective PE instruction in hinterland schools requires alignment between curriculum expectations and classroom realities. The revised instructional manual represents a context-responsive approach that integrates clear objectives, feasible activities, structured assessment, and culturally relevant content. Consistent with existing literature, such materials must be adaptable, resource-sensitive, and iteratively refined to remain effective in diverse educational settings (Aquino, 2023; An *et al.*, 2022). In this regard, the manual serves as a practical and pedagogically grounded resource for delivering meaningful physical education in constrained environments.

CONCLUSION

The study developed and expert-validated a context-sensitive, evidence-based instructional manual for alternative classroom-based Physical Education for Grade 11 learners in hinterland schools. Through the systematic application of the Successive Approximation Model (SAM), the manual was refined through iterative stages of design, expert validation, implementation, and revision, ensuring that it was practical, relevant, and responsive to the realities of schools with limited space, insufficient facilities, and constrained instructional resources. Findings indicated that the instructional manual was designed to bridge the gap between the competency-driven expectations of the Strengthened Senior High School Physical Education curriculum and the contextual limitations experienced in actual school environments, as judged by expert reviewers and the implementing teacher. The manual was recognized as feasible, engaging, and developmentally appropriate, offering teachers a structured and adaptable resource that supports meaningful physical literacy, active participation, and curriculum-aligned Physical Education even within classroom-based and resource-limited settings.

The findings further demonstrate that effective Physical Education in constrained environments requires instructional materials that are flexible, culturally responsive, safety-conscious, and grounded in continuous feedback and contextual adaptation. By integrating expert recommendations, classroom realities, and policy alignment, the developed manual serves not only as a practical teaching resource but also as a model for innovative and inclusive Physical Education delivery in underserved schools. This reinforces the value of developmental instructional design frameworks such as SAM in producing sustainable educational materials that evolve according to learner needs, teacher experiences, and institutional demands. Ultimately,

the study contributes to the broader goal of expanding equitable access to quality Physical Education by showing that meaningful, standards-based movement education can be successfully delivered beyond traditional gymnasiums through well-designed, classroom-adapted instructional innovation.

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Conflict of Interest: *The author declares that there is no conflict of interest regarding the publication of this article.*

Acknowledgements: *The researcher extends his sincere gratitude to Almighty God for His wisdom and grace, to his thesis mentor, professors, and panellists for their invaluable guidance and support, and to his family and loved ones for their unwavering love and encouragement, to whom all glory is humbly offered.*

Funding: *This research received no external funding and was supported solely by the personal resources of the primary author.*

Ethical Approval: *The study was conducted in accordance with the ethical principles of the Belmont Report and received institutional approval prior to data collection. Informed consent was obtained from the teacher-participants; for the students involved in the classroom implementation and focus group discussion, written parental consent and student assent were secured. Data were handled in compliance with the Data Privacy Act of 2012.*

AI Declaration: *This study utilized artificial intelligence tools to assist in preparing this article. Specifically, an AI assistant was used to help condense the full thesis manuscript into a reduced journal-article format and to enhance language quality, clarity, and tone, with human supervision and editing throughout. The author carefully reviewed and edited all outputs to ensure academic rigor and integrity.*

Data Availability Statement: *The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request. Requests for access will be evaluated in accordance with ethical guidelines and data privacy policies.*