INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND ANALYSIS

ISSN(print): 2643-9840, ISSN(online): 2643-9875

Volume 09 Issue 10 October 2026

DOI: 10.47191/ijmra/v9-i10-41, Impact Factor: 8.685

Page No. 6999-7021

Examining Barriers, Enablers, and Teacher Support in Physical Activity Participation Among Learners with Special Needs

Christian Marion A. Obo[1], Geraldine C. Minas[2]

[1,2]University of Perpetual Help System Dalta – Las Piñas

ABSTRACT: This explanatory sequential mixed-methods study examined the barriers and enablers of physical activity participation among learners with special education needs (LSEN) from the perspectives of teachers in a Philippine school division. In the quantitative phase, 16 teacher-respondents rated the extent of learner-related, teacher/instructional, school/environmental, and family/community-related barriers and enablers, and were compared across profile variables. Barriers were perceived at a uniformly high extent (M = 3.94), while enablers were rated even higher (M = 3.98). Years of teaching experience was the only profile variable associated with significant barrier differences, and four significant positive correlations linked specific barrier and enabler domains, most strongly at the school/environmental level. In the qualitative phase, nine teachers were interviewed to explain these results. Barriers converged on the major theme Multilevel, Interlocking Barriers to Physical Activity Participation, comprising Learner-Related Vulnerabilities and Regulation Needs, Teacher and Instructional Constraints, School and Environmental Inadequacy, and Family and Community Constraints. Enablers converged on Layered, Collaborative Support Systems That Enable Inclusive Participation, comprising Learner-Centered Instructional Adaptations, Collaborative and Human Support Structures, Relevant, Inclusive Curriculum and Policy Reform, Environmental Readiness and Resourcing, and Family and Community Partnership. Integrating both phases, the study developed the Physical Activity Participation among Learners with Special Education Needs Framework, linking environmental readiness, instructional and collaborative practice, curriculum and policy reform, and family and community partnership to sustained participation. Findings affirm that inclusive physical education for LSEN depends on interacting, rather than isolated, supports, offering educators, administrators, and policymakers an evidence-based basis for strengthening inclusive practice and policy.

KEYWORDS: inclusive physical education, learners with special education needs, barriers and enablers, family and community partnership

I. INTRODUCTION

Physical activity plays an essential role in promoting the holistic development of learners by improving physical health, motor competence, psychological well-being, social interaction, and overall quality of life. For learners with special education needs, participation in physical activities provides opportunities to enhance functional abilities, develop independence, strengthen social relationships, and support inclusion within educational settings. Inclusive physical activity programs, when appropriately designed and implemented, can address diverse learner needs while fostering confidence, engagement, and meaningful participation. However, despite the recognized benefits of physical activity, learners with special education needs often experience lower levels of participation compared with their peers due to various personal, instructional, environmental, and social factors.

Learners with special education needs represent a diverse group with varying physical, cognitive, sensory, behavioral, and developmental characteristics. These differences may influence their ability and willingness to participate in physical activities. Challenges such as limitations in mobility, communication difficulties, sensory sensitivities, lack of confidence, fear of failure, and previous negative experiences may serve as learner-related barriers. Moreover, factors within the school environment, including limited facilities, insufficient adapted equipment, inadequate teacher preparation, and time constraints, may further restrict opportunities for participation. Family expectations, community accessibility, and social attitudes toward disability may also influence learners' engagement in physical activities.

Teachers play a critical role in creating supportive and inclusive physical activity experiences for learners with special

education needs. Their knowledge, beliefs, instructional strategies, and ability to modify activities significantly influence how learners experience participation. Teachers who possess adequate training in adapted physical activity and inclusive education are more capable of designing appropriate activities, implementing individualized support strategies, and encouraging active involvement among learners with diverse abilities. Conversely, limited preparation, insufficient resources, and challenges in managing diverse needs may affect teachers' capacity to provide meaningful physical activity opportunities.

In the context of inclusive education, identifying not only the barriers but also the enablers of physical activity participation is necessary for developing effective support systems. Enablers such as teacher encouragement, peer support, accessible facilities, family involvement, appropriate instructional modifications, and positive school environments can promote greater engagement among learners with special education needs. Understanding these factors from the perspectives of teachers is important because teachers have direct experiences in implementing programs, addressing challenges, and creating learning environments that accommodate individual differences.

Although previous studies have examined physical activity participation among individuals with disabilities, limited attention has been given to the perspectives and lived experiences of teachers who directly facilitate physical activity opportunities for learners with special education needs. Existing evidence often focuses on learner outcomes, physical activity levels, or intervention effectiveness, while fewer studies explore how teachers perceive barriers and enablers within actual educational contexts. This creates a need to examine the factors influencing participation from the viewpoint of educators who understand the practical realities of inclusive classrooms.

In the Philippine educational setting, the implementation of inclusive education continues to emphasize providing equitable learning opportunities for learners with disabilities and diverse needs. However, challenges related to teacher preparation, availability of resources, accessibility of facilities, and institutional support remain important concerns. Examining teachers' perspectives can provide valuable insights into the current conditions affecting physical activity participation and identify practices that can strengthen inclusive physical education and adapted physical activity programs.

This study, therefore, seeks to determine and explain the perceived barriers and enablers affecting physical activity participation among learners with special education needs through a sequential explanatory mixed-methods approach. The quantitative phase will identify the extent of barriers, enablers, and teacher support practices, while the qualitative phase will explore teachers' experiences and contextual explanations behind the quantitative findings. Through the integration of both forms of evidence, the study aims to contribute to the development of an inclusive physical activity support framework that may guide teachers, schools, and stakeholders in creating more accessible, responsive, and meaningful physical activity experiences for learners with special education needs.

Physical Education will be described as "education through the physical", emphasizing the integration of physical competence, movement awareness, and safety consciousness into the broader context of fostering active and healthy lifestyles (Education Bureau, 2022). Beyond its physical benefits, PE will significantly contribute to the development of essential life skills. Through various activities, it will cultivate self-confidence and equip students with vital abilities such as teamwork, communication, creativity, critical thinking, and aesthetic appreciation.

Despite the benefits of PE, learners with physical disabilities will continue to experience barriers to participation. A physical disability, which substantially limits one or more basic activities such as walking, lifting, or climbing, will restrict many learners' opportunities to take part in standard PE activities. Although Republic Act 7277 (Magna Carta for Disabled Persons) guarantees the right to education, challenges in implementation will remain. Quality education will not only mean admission to schools but also provision of accommodations, supports, and opportunities for thriving. As Ambiong (2020) noted, Filipino parents of children with disabilities will often ask, "Which schools will accept my child?"—a clear indication that legal guarantees will not automatically translate to inclusion.

Inclusive education will remain a vital and evolving framework in the Philippine educational system. Physical Education teachers in public schools will continue to witness both the promise and the limitations of this system—particularly when it comes to accommodating LSENs. Through DepEd Order No. 72, s. 2009, inclusive education will be reinforced as a national strategy to promote the participation of marginalized learners, especially those with health conditions or disabilities. Its overarching goal will be to provide equitable opportunities for all learners, regardless of ability or disability.

However, persistent barriers will still hinder the participation of LSENs in PE. Teachers will observe that learners with physical disabilities will often struggle to access the same physical, cognitive, and social benefits that PE offers their peers. This will be evident in national data showing that only 2% of the estimated 2.2 million Filipino children with disabilities will be served by the special education system. This disparity will reflect inequities in access and opportunity, particularly in PE classes often structured for able-bodied learners.

To better understand the issue, it was necessary to examine the types of disabilities that will influence PE participation. Physical disabilities—including cerebral palsy, muscular dystrophy, spina bifida, limb differences, orthopedic injuries, and chronic conditions like juvenile arthritis—will create challenges for learners in group activities, use of equipment, and peer interaction. As a result, they will often experience exclusion or isolation in PE settings.

In response, some teachers will implement localized strategies, such as creating culturally relevant and learner-centered materials. For example, as Daugherty (2022) emphasized, localized instructional materials will bridge the gap between curriculum and lived experiences. In Calamba City, innovative practices—such as personalized stories where learners with disabilities are represented as heroes was used to motivate and build resilience (Maloney & Winchell, 2021).

Despite these innovations, systemic issues will remain: limited access to adaptive equipment, inadequate facilities, lack of inclusive program designs, and persistent stigma and discrimination. These realities will continue to hinder the equitable participation of LSENs in PE classes in Calamba City.

Therefore, this study will be undertaken as an Explanatory Sequential Mixed-Methods Investigation to identify and analyze the barriers and enablers of physical activity among LSENs. The perspectives of SPED public school teachers in Calamba City will be examined to provide deeper insights into the systemic and classroom-level realities. Findings will be expected to inform inclusive practices and guide reforms aimed at ensuring that learners with special needs will have equitable opportunities to engage meaningfully in Physical Education.

Research Question

This mixed-methods explanatory sequential study aimed to determine and explain the perceived barriers and enablers of physical activity participation among learners with special education needs from teachers' perspectives. The quantitative phase measured the extent of perceived barriers, enablers, and teacher support practices. The qualitative phase then explained selected quantitative findings by exploring teachers' experiences, interpretations, and support practices related to the highest-rated barriers, strongest enablers, significant differences, and significant relationships. The integrated findings served as the basis for developing an inclusive physical activity support framework or recommendations.

Specifically, the study sought to answer the following questions:

1. What is the profile of the teacher-respondents in terms of:
    1.1 age;
    1.2 sex;
    1.3 years of teaching experience;
    1.4 years of experience handling learners with special education needs;
    1.5 training in adapted physical activity;
    1.6 primary disability category commonly handled?
2. What is the extent of perceived barriers to physical activity participation among learners with special education needs in terms of:
    2.1 learner-related barriers;
    2.2 teacher/instructional barriers;
    2.3 school/environmental barriers; and
    2.4 family/community-related barriers?
3. What is the extent of perceived enablers and teacher support practices that promote physical activity participation among learners with special education needs in terms of:
    3.1 learner-related enablers;
    3.2 teacher/instructional enablers and support practices;
    3.3 school/environmental enablers; and
    3.4 family/community-related enablers?
4. Is there a significant difference in perceived barriers, enablers, and support practices when teachers are grouped according to selected profile variables?
5. Is there a significant relationship between perceived barriers and perceived enablers/support practices?
6. How do teachers explain the quantitative findings on the barriers that strongly hinder learners' participation in physical activities?
7. How do teachers explain the quantitative findings on the enablers and support practices that strongly promote learners' participation in physical activities?

8. What teacher experiences, classroom situations, school conditions, or contextual factors help explain the significant differences or relationships found in the quantitative results?
9. Based on the integrated quantitative and qualitative findings, what inclusive physical activity support framework or recommendations may be developed to enhance physical activity participation among learners with special education needs?

II. SCOPE AND LIMITATION OF THE STUDY

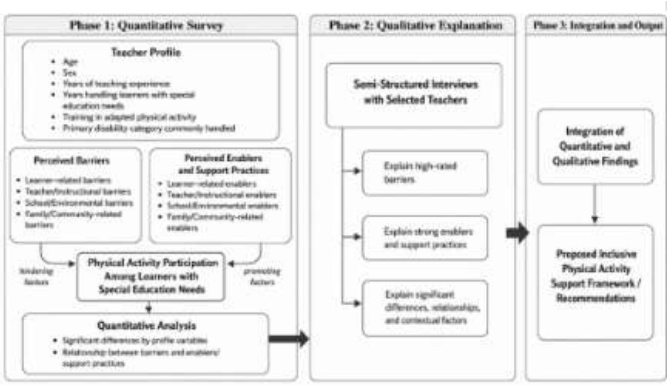
This study focused on identifying and understanding the barriers and enablers influencing physical activity participation among learners with special education needs in selected public schools in Calamba City. It examined the factors that may hinder or facilitate learners' engagement in physical activities based on the perspectives, experiences, and support practices of teachers who directly handle learners with special education needs. Specifically, the study explored learner-related, teacher/instructional, school/environmental, and family/community-related factors that may affect participation in physical education and other physical activity opportunities. It also considered the importance of addressing learners' specific needs, including health-related and disability-related considerations, to promote safe, meaningful, and inclusive participation.

The study employed an explanatory sequential mixed-methods research design. The quantitative phase was conducted first to determine the extent of teachers' perceived barriers, enablers, and support practices related to physical activity participation among learners with special education needs handled by 100 teachers. This phase also examined whether significant differences existed based on teachers' demographic and professional profiles and whether significant relationships existed between perceived barriers and enabling factors. The qualitative phase followed through interviews with 7 teacher-participants to further explain and contextualize the quantitative findings by exploring their experiences, classroom practices, challenges, and strategies in supporting learners' participation in physical activities. The integration of both phases served as the basis for proposing an inclusive physical activity support framework or recommendations. The participants of the study consisted of 100 teachers who had direct experience handling learners with special needs in selected public schools in Calamba City. The study was conducted during the School Year 2025–2026 and focused on the experiences and perspectives of teachers involved in supporting learners with diverse abilities in inclusive and special education settings.

The scope of the study was limited to selected public schools, particularly Calamba Integrated School and Makiling Elementary School, to ensure that the findings were context-specific and reflective of the local educational environment. The study did not include private schools, other educational institutions outside the identified research sites, or stakeholders such as learners with special education needs, parents, and community members as primary participants. Furthermore, the study was limited to physical activity participation and did not examine other academic subject areas or broader educational outcomes.

The study also had limitations. Since the data were based on teachers' self-reported perceptions, experiences, and practices, the findings may have been influenced by individual interpretations and professional experiences. The study did not directly measure learners' physical activity levels, physical performance, or health outcomes. Additionally, factors such as the severity and specific characteristics of learners' disabilities, availability of community-based physical activity programs, and socioeconomic conditions were not extensively examined. The proposed inclusive physical activity support framework or recommendations were based on the study findings; however, the actual implementation, evaluation, and long-term effectiveness of the proposed framework were beyond the scope of the research.

FRAMEWORK



In the first phase, the study begins with the quantitative survey. This phase examines the profile of teacher-respondents, including age, sex, years of teaching experience, years of experience handling learners with special education needs, training in

adapted physical activity, and the primary disability category commonly handled. These profile variables provide the contextual basis for understanding possible variations in teachers' perceptions of barriers, enablers, and support practices. The quantitative phase also measures two major constructs: perceived barriers and perceived enablers/support practices. The barriers are grouped into learner-related, teacher/instructional, school/environmental, and family/community-related barriers. These represent the conditions that may hinder the active participation of learners with special education needs in physical activities. In contrast, the enablers and support practices are also organized into learner-related, teacher/instructional, school/environmental, and family/community-related domains. These refer to the practices, resources, conditions, and forms of support that may promote participation.

At the center of the framework is physical activity participation among learners with special education needs. The framework assumes that participation is influenced by both hindering and promoting factors. Perceived barriers may reduce opportunities, confidence, safety, continuity, or access to physical activities, while enablers and support practices may strengthen learners' engagement, safety, motivation, and successful participation. The quantitative survey therefore determines the extent to which teachers perceive these factors as present and influential in actual school settings. Quantitative analysis is then used to examine significant differences in perceived barriers, enablers, and support practices when teachers are grouped according to selected profile variables. It also determines whether a significant relationship exists between perceived barriers and perceived enablers/support practices. These results provide the empirical basis for identifying which factors require further explanation.

The second phase of the framework is the qualitative explanation phase. After the quantitative data have been analyzed, selected teachers are invited to participate in semi-structured interviews. The purpose of this phase is not to generate the initial variables of the study, but to explain the quantitative results. Specifically, the interviews explore why certain barriers were rated highly, why certain enablers and support practices were perceived as strong, and how teachers interpret any significant differences or relationships found in the survey results. Through this phase, the study captures concrete teaching experiences, classroom situations, school conditions, learner needs, and support practices that may not be fully explained by numerical data alone.

The third phase involves the integration of quantitative and qualitative findings. In this phase, the survey results and interview findings are brought together to produce a more comprehensive understanding of the barriers and enablers of physical activity participation among learners with special education needs. The quantitative results identify the patterns, while the qualitative findings explain the reasons behind those patterns. This integration strengthens the explanatory power of the study because it combines measurable trends with teachers' actual experiences and contextual interpretations.

The final output of the framework is the development of a proposed inclusive physical activity support framework or set of recommendations. This output is informed by the integrated findings of the study. The proposed framework may include recommendations related to teacher training in adapted physical activity, use of adapted equipment, instructional modifications, learner support strategies, family collaboration, school policy, facility improvement, safety practices, assessment tools, and coordination with specialists or community partners. Thus, the conceptual framework shows a clear progression from quantitative measurement, to qualitative explanation, and finally to integrated framework development.

Research Design

This study employed an explanatory sequential mixed-methods design to examine and explain the barriers and enablers of physical activity participation among learners with special education needs (LSENs) in the Division of Calamba City. The research process was conducted in two sequential phases. The first phase involved the collection and analysis of quantitative data, which determined the extent of perceived barriers, enablers, and support practices related to physical activity participation among LSENs based on the perspectives of teachers. The second phase involved qualitative data collection through interviews, which provided deeper explanations and contextual understanding of the quantitative findings.

Specifically, the qualitative phase explored the experiences, perspectives, and practices of Special Needs Education (SNED) public school teachers regarding the factors that influenced learners' participation in physical activities. This phase focused on explaining the most significant barriers, strongest enablers, and contextual factors identified during the quantitative phase. The integration of both quantitative and qualitative findings provided a more comprehensive understanding of the research problem and served as the basis for developing recommendations for inclusive physical activity support.

According to Creswell (2012), as cited by Leite et al. (2021), an explanatory sequential mixed-methods design involved the initial collection and analysis of quantitative data, followed by qualitative inquiry to further explain, elaborate, and clarify the quantitative results. Each phase was conducted independently using appropriate data collection and analysis procedures, and the qualitative findings were used to provide meaningful interpretations of the numerical results.

Mixed-methods research has been recognized as an effective approach for investigating complex educational concerns because it combines the strengths of quantitative and qualitative methodologies while addressing the limitations of using a single research approach (Walters, 2021). In this study, the explanatory sequential design enabled the researcher to obtain a broader and more detailed understanding of the barriers and enablers affecting physical activity participation among LSENs by integrating statistical evidence with the lived experiences of SNED teachers.

Research Instrument

This study utilized a mixed-methods research instrument composed of two main tools: a structured questionnaire for the quantitative phase and a semi-structured interview guide for the qualitative phase.

For the quantitative phase, a researcher-developed questionnaire was used to gather data on the barriers and enablers of physical activity among learners with special needs (LSENs). The questionnaire was divided into two main parts. The first part collected the demographic profile of the respondents, including age, sex, years of teaching experience, and relevant training in Special Needs Education (SNED). The second part consisted of Likert-scale items designed to measure perceived barriers and enablers of physical activity. The items were adapted and modified from existing validated instruments in related studies and were reviewed by experts in the field to ensure content validity. A pilot testing procedure was also conducted to assess the reliability of the instrument before its full implementation,

For the qualitative phase, a semi-structured interview guide was used to explore the experiences and perspectives of selected SNED teachers. The interview questions focused on identifying specific challenges faced by LSENs in engaging in physical activities, strategies employed by teachers to address these barriers, and contextual factors that facilitate or hinder participation. Follow-up probing questions were used to obtain deeper and more detailed responses.

To ensure validity and trustworthiness, the interview guide underwent expert validation and was aligned with the quantitative findings for triangulation purposes. All interviews were conducted in a flexible and ethical manner, ensuring confidentiality and informed consent from all participants.

Data Gathering

To provide a clear and systematic guideline in the conduct of the study, the researcher implemented the following phases. Once the title was approved by the University of Perpetual Help System Delta, the researcher prepared a formal letter addressed to the Schools Division Superintendent seeking permission to conduct the study, since learners with special needs (LSENs) and Special Needs Education (SNED) public school teachers in Calamba City served as participants. The letter included the objectives of the study, the plan of action, and adherence to ethical standards in the pursuit of the academic paper.

To ensure the validity of the instruments, the researcher identified four (4) qualified validators, specifically experts in the field of education with experience in special and inclusive education, as well as one (1) language expert. Their comments and recommendations served as the basis to determine whether the items in the survey questionnaire and interview guide are appropriate in addressing the barriers and enablers of physical activity among LSENs. Feedback forms was provided to the validators to systematically track and integrate their suggestions.

After validation, the researcher identified the qualified respondents based on the scope of the study. The respondents were selected through stratified random sampling according to their respective schools and clusters. Each participant received an informed consent letter detailing the purpose, scope, and confidentiality measures of the study. Voluntary participation was ensured, and no participant was coerced into joining the study, thereby safeguarding ethical compliance and credibility.

In the quantitative phase, the researcher distributed an online survey questionnaire via Google Forms to the email addresses of the respondents. This allowed efficient data collection and tracking, especially in monitoring non-responses. For the qualitative phase, the researcher conducted semi-structured interviews with selected respondents to further explain and enrich the quantitative findings. The interviews was audio-recorded, and the recordings was transcribed verbatim to capture the participants' authentic responses.

The researcher encoded, tabulate, analyze, and interpret all gathered data. The quantitative findings was analyzed first and then further explained through the qualitative results. The integrated findings served as the basis for drawing conclusions and formulating recommendations related to addressing the barriers and strengthening the enablers of physical activity among learners with special needs in Calamba City.

Statistical Treatment

For the quantitative phase of the study, the collected data were analyzed using appropriate statistical tools to determine the barriers and enablers of physical activity among learners with special needs (LSENs) as perceived by public school teachers.

Descriptive statistics were primarily used to summarize the demographic profile of the respondents. Frequency and percentage distributions were employed to describe categorical variables such as sex, age group, years of teaching experience, and training in Special Needs Education (SNED).

To determine the level of perceived barriers and enablers of physical activity, weighted mean and standard deviation were used. The weighted mean was used to interpret the average responses of the participants based on the Likert-scale items, while the standard deviation measured the degree of variability or dispersion of responses.

To interpret the results of the Likert-scale data, the following scale range was used:

3.50–4.00 – Strongly Agree (Very High Level)

2.25–43.49 – Agree (High Level)

1.50–2.24 – 1.81–2.60 – Disagree (Low Level)

1.00–1.49 – Strongly Disagree (Very Low Level)

If differences in responses were examined across selected demographic variables, inferential statistics such as t-test or one-way ANOVA were applied, depending on the number of comparison groups and the nature of the variables. A 0.05 level of significance was set as the decision criterion for all inferential tests.

For the qualitative phase, thematic analysis was used to analyze interview data. Responses were transcribed, coded, and organized into emerging themes that further explained and enriched the quantitative findings through triangulation.

III. RESULTS

This chapter analyzes data from both phases of this mixed-methods study. It starts with the profile of 16 teacher-respondents from the survey, then discusses their perceptions of barriers, enablers, and support practices affecting learners with special needs. The chapter examines if these perceptions vary across teacher profiles and if barriers relate to enablers and support. It then shifts to the qualitative phase, where nine respondents were interviewed to explain their ratings and the significant survey findings.

Table 1
SOP Question 1.1: Profile of Teacher-Respondents by Age

Age group	*n*	%
20 to 30 years	7	43.8
31 to 40 years	4	25.0
41 to 50 years	5	31.3
Total	**16**	**100.0**

Note. $N = 16$.

Among the 16 respondents, teachers aged 20 to 30 years formed the largest age group, n = 7 (43.8%). Teachers aged 31 to 40 years formed the smallest group, n = 4 (25.0%), while five respondents (31.3%) were aged 41 to 50 years. For a small, purposive sample of this kind, the practical implication is that any recommendations arising from this study should not be framed as generational advice but as guidance that generalist and specialist teachers alike, regardless of age, can apply.

In plain terms, the sample included more younger teachers than teachers in the two older age groups, although all three groups were represented. Age describes the composition of the sample but does not by itself explain how teachers view inclusion. This distinction is consistent with Arnaiz-Sanchez et al. (2020), who reported no statistically significant age differences in perceived barriers to learning and participation.

Table 2
SOP Question 1.3: Profile of Teacher-Respondents by Years of Teaching Experience

Teaching experience	*n*	%
1 to 5 years	3	18.8
6 to 10 years	6	37.5
11 to 15 years	3	18.8
More than 15 years	4	25.0
Total	**16**	**100.0**

Note. $N = 16$.

The largest teaching-experience group had 6 to 10 years of service, n = 6 (37.5%). The 1 to 5 year and 11 to 15 year groups were tied for the lowest frequency, each with n = 3 (18.8%). Four respondents (25.0%) had more than 15 years of teaching experience. Because years of teaching experience later distinguished how barriers were rated (Table 14), this concentration of moderately to highly experienced teachers in the sample is an important lens for interpreting the barrier findings that follow.

The distribution shows that most respondents were not beginning teachers. This matters because experience can shape how teachers identify learner needs, adapt instruction, and manage safety. Porsanger (2023) noted that beginning teachers may be more vulnerable in risk and safety management because they have less formal preparation and classroom experience. Suryobroto et al. (2022) likewise connected teachers' inclusive physical education experiences with preparedness, available resources, and the ability to adapt instruction.

To answer SOP Question 1.4, Table 3 presents the profile of teacher-respondents by experience handling learners with special education needs.

Respondents with more than 10 years of experience handling learners with special education needs formed the largest group, n = 8 (50.0%). Those with 1 to 5 years of such experience formed the smallest group, n = 2 (12.5%).

Table 3
SOP Question 1.4: Profile of Teacher-Respondents by Experience Handling Learners with Special Education Needs

Experience handling learners with special education needs	*n*	%
1 to 5 years	2	12.5
6 to 10 years	6	37.5
More than 10 years	8	50.0
Total	**16**	**100.0**

Note. $N = 16$.

The remaining six respondents (37.5%) had 6 to 10 years of experience. This depth of direct exposure to learners with special education needs strengthens confidence that the barriers and enablers reported in the tables that follow reflect lived classroom experience rather than general impressions.

Half of the sample had worked with learners with special education needs for more than a decade. This suggests sustained exposure to varied learner characteristics and classroom situations, although years of experience should not be treated as direct proof of competence. The review notes that disability conditions can create different instructional challenges (Hoffman, 2013) and that teachers' ability to respond also depends on preparation, resources, and adaptive practice (Suryobroto et al., 2022).

Table 4
SOP Question 1.5: Profile of Teacher-Respondents by Training in Adapted Physical Activity

Training in adapted physical activity	*n*	%
1 to 2 training activities	2	12.5
3 to 5 training activities	6	37.5
More than 5 training activities	8	50.0
Total	**16**	**100.0**

Note. $N = 16$

Teachers who had attended more than five adapted physical activity training activities formed the largest group, n = 8 (50.0%). Teachers with only one or two training activities formed the smallest group, n = 2 (12.5%). Six respondents (37.5%) had attended three to five training activities. Because training frequency did not later separate barrier or enabler ratings (Tables 16 and 21), the present profile suggests that even well-trained teachers continued to perceive strong barriers, underscoring that training alone may not resolve structural and environmental constraints.

The sample reported considerable exposure to adapted physical activity training. Such exposure is relevant because teachers need specific knowledge to modify tasks, equipment, and instruction. Nanayakkara (2022) found that teachers were generally less confident in including students with disabilities and observed that disability-focused preparation was often separated from regular in-service programs. The present profile suggests that many respondents had received repeated training, but the table does not indicate its quality, duration, or direct effect on practice.

Table 5

SOP Question 2.1: Extent of Learner-Related Barriers to Physical Activity Participation

Indicator	*M*	Interpretation
1. Learners' motor, balance, mobility, or stamina needs require activity modifications during physical activities.	4.00	Very High Extent
2. Learners' communication needs require visual cues, demonstrations, or simplified instructions during physical activities.	4.00	Very High Extent
3. Learners' sensory sensitivities, such as noise, touch, space, or light, reduce participation in some physical activities.	3.94	Very High Extent
4. Learners' behavioral or emotional regulation needs require structured routines during physical activities.	3.88	Very High Extent
5. Learners' health-related conditions require monitoring, pacing, or activity restrictions during physical activities.	4.00	Very High Extent
6. Learners' low confidence or fear of movement reduces willingness to try physical activities.	4.00	Very High Extent
7. Learners' difficulty following multi-step directions limits participation without step-by-step instruction.	3.88	Very High Extent
8. Learners' limited attention span requires shorter tasks, frequent breaks, or repeated reminders during physical activities.	4.00	Very High Extent
9. Learners' difficulty with peer interaction limits participation in partner or group physical activities.	4.00	Very High Extent
10. Learners' fatigue after repeated movement limits continuous participation in physical activities.	4.00	Very High Extent
Composite mean	**3.97**	**Very High Extent**

Legend. 1.00–1.75 = Strongly Disagree/Very Low Extent; 1.76–2.50 = Disagree/Low Extent; 2.51–3.25 = Agree/High Extent; 3.26–4.00 = Strongly Agree/Very High Extent.

Learner related barriers had a composite mean of M = 3.97. The highest item mean was M = 4.00 for seven indicators involving motor or mobility needs, communication needs, health monitoring, low confidence or fear of movement, limited attention, peer interaction, and fatigue. The lowest item mean was M = 3.88 for behavioral or emotional regulation needs and difficulty following multistep directions. Read together, these ratings suggest that no single accommodation is sufficient; a learner who receives a communication support but not a pacing adjustment, for example, may still be excluded from full participation.

Teachers therefore viewed learner needs as frequent and wide ranging, rather than as a single physical limitation. In practical terms, participation may require changes to communication, pacing, routines, social grouping, and task difficulty at the same time. This pattern agrees with Yu et al. (2022), who identified limited physical ability, low confidence, reduced motivation, safety concerns, limited opportunities, and insufficient support as common barriers. It also reflects the finding of Behzadnia et al. (2022) that people with intellectual disabilities may have lower physical activity and intrinsic motivation. The high rating for peer interaction is consistent with Rademaker et al. (2020), who identified negative peer attitudes as a barrier to social participation.

Table 6

SOP Question 2.2: Extent of Teacher/Instructional Barriers to Physical Activity Participation

Indicator	*M*	Interpretation
1. Limited training in adapted physical activity reduces teachers' confidence in modifying tasks, equipment, and instructions.	4.00	Very High Extent
2. Limited planning time makes it difficult to prepare individualized or modified physical activities.	4.00	Very High Extent
3. Lack of assessment tools makes it difficult to monitor learners' physical activity progress.	4.00	Very High Extent
4. Large class size limits the teacher's ability to provide one-to-one assistance during adapted physical activities.	4.00	Very High Extent
5. Limited knowledge of disability-specific safety precautions makes activity selection more difficult.	4.00	Very High Extent
6. Limited access to adapted physical education lesson examples reduces the variety of activities used.	4.00	Very High Extent
7. Difficulty preparing differentiated tasks for mixed-ability groups affects physical activity implementation.	3.94	Very High Extent
8. Limited time to coordinate with specialists reduces the appropriateness of activity modifications.	3.88	Very High Extent
9. Incomplete learner profiles or unclear individual education plan information limits activity planning.	4.00	Very High Extent
10. Limited teacher confidence in managing possible safety incidents restricts physical activity choices.	4.00	Very High Extent
Composite mean	**3.98**	**Very High Extent**

Legend. 1.00–1.75 = Strongly Disagree/Very Low Extent; 1.76–2.50 = Disagree/Low Extent; 2.51–3.25 = Agree/High Extent; 3.26–4.00 = Strongly Agree/Very High Extent.

Teacher and instructional barriers had a composite mean of M = 3.98. Eight indicators received the highest item mean of M = 4.00. These concerned training, planning time, assessment tools, class size, disability-specific safety knowledge, lesson examples, learner information, and confidence in managing safety incidents. Limited time to coordinate with specialists had the lowest item mean, M = 3.88. The consistently high ratings across preparation, planning, and safety items indicate that instructional barriers were experienced as a connected set of demands rather than as isolated gaps, which helps explain why teachers later described training and workload pressures as compounding rather than separate concerns.

The findings indicate that teachers perceived instructional barriers across preparation, planning, assessment, class management, and safety. Even the lowest-rated item remained strongly endorsed, which means coordination time was still viewed as a substantial concern. Suryobroto et al. (2022) reported that preparedness, resources, and the ability to adapt instruction shape teachers' experiences in inclusive physical education. Nanayakkara (2022) also linked low confidence with gaps

in disability-focused training and institutional support. The safety items are consistent with Porsanger (2023), who described risk assessment and safety management as complex tasks that require specialized teacher knowledge.

To answer SOP Question 2.3, Table 7 presents the extent of school/environmental barriers to physical activity participation.

School and environmental barriers had a composite mean of M = 3.79. Limited accessible space, limited time in the school schedule, and limited school budget shared the highest item mean, M = 4.00. Insufficient storage or maintenance of equipment had the lowest item mean, M = 2.75. The remaining indicators ranged from M = 3.75 to M = 3.94. The comparatively lower rating for storage and maintenance, set against near-uniform concern for space, time, and budget, suggests that teachers distinguish between chronic structural shortages and more manageable, day-to-day upkeep issues.

Table 7
SOP Question 2.3: Extent of School/Environmental Barriers to Physical Activity Participation

Indicator	M	Interpretation
1. Limited adapted equipment, such as soft balls, visual markers, modified targets, or assistive devices, reduces participation opportunities.	3.88	Very High Extent
2. Limited accessible spaces, safe surfaces, or movement areas make it difficult to conduct physical activities.	4.00	Very High Extent
3. Lack of teacher aides, peer buddies, or support personnel limits participation during group activities.	3.88	Very High Extent
4. Safety concerns, such as crowding, slippery surfaces, or lack of supervision, limit activity choices.	3.88	Very High Extent
5. Insufficient storage or maintenance of equipment limits the regular use of adapted physical activity materials.	2.75	High Extent
6. Lack of covered or climate-appropriate activity areas limits implementation during unfavorable weather.	3.88	Very High Extent
7. Noisy or overstimulating activity areas limit participation for learners with sensory needs.	3.75	Very High Extent
8. Limited time allocation in the school schedule reduces opportunities for receiving physical activity practice.	4.00	Very High Extent
9. Lack of clear school guidelines for inclusive physical activity leads to inconsistent implementation.	3.94	Very High Extent
10. Limited school budget for adapted equipment, materials, or training reduces program readiness.	4.00	Very High Extent
Composite mean	**3.79**	**Very High Extent**

Legend: 1.00–1.75 = Strongly Disagree/Very Low Extent; 1.76–2.50 = Disagree/Low Extent; 2.51–3.25 = Agree/High Extent; 3.26–4.00 = Strongly Agree/Very High Extent

Teachers placed the greatest emphasis on whether schools had usable space, enough scheduled time, and sufficient funds. Storage and maintenance received a much lower score, suggesting that this concern was less consistently experienced than access, scheduling, or budget limitations. The review reports that inadequate facilities and equipment can lead learners with disabilities to withdraw from physical activity (Harafsheh et al., 2020). Nel et al. (2020) likewise found that inadequate infrastructure compromises physical access, while Arnaiz-Sanchez et al. (2020) emphasized the need for school resources, support, and differentiated materials. The present findings therefore locate participation barriers partly in the conditions schools provide.

Table 8
SOP Question 2.4: Extent of Family/Community-Related Barriers to Physical Activity Participation

Indicator	M	Interpretation
1. Limited parent or guardian communication makes it difficult to reinforce movement routines at home.	4.00	Very High Extent
2. Irregular attendance caused by health, transportation, or family concerns reduces activity continuity.	4.00	Very High Extent
3. Limited access to safe play or movement spaces outside school reduces opportunities for practice.	4.00	Very High Extent
4. Limited family awareness of adapted physical activity reduces home support for learners' participation.	4.00	Very High Extent
5. Parent or guardian concerns about injury limit learners' participation in selected physical activities.	4.00	Very High Extent
6. Limited transportation support affects learners' participation in school or community physical activity programs.	4.00	Very High Extent
7. Limited family time or resources reduces opportunities for physical activity practice at home.	4.00	Very High Extent
8. Inconsistent home routines make it difficult to maintain physical activity habits learned in school.	4.00	Very High Extent
9. Limited coordination with community health or therapy services reduces continuity of physical activity support.	4.00	Very High Extent
10. Family or community beliefs about disability and physical activity may limit encouragement for learner participation.	4.00	Very High Extent
Composite mean	**4.00**	**Very High Extent**

Legend: 1.00–1.75 = Strongly Disagree/Very Low Extent; 1.76–2.50 = Disagree/Low Extent; 2.51–3.25 = Agree/High Extent; 3.26–4.00 = Strongly Agree/Very High Extent

Family and community related barriers had a composite mean of M = 4.00. Every indicator received M = 4.00, so the highest and lowest item means were identical. Respondents uniformly endorsed concerns involving communication, attendance, safe spaces, family awareness, injury concerns, transportation, time and resources, home routines, service coordination, and beliefs about disability and physical activity. That every indicator in this domain received the same rating is itself informative: teachers did not single out one family or community condition as more pressing than another, which is consistent with a view of the home and community environment as a single, interconnected support system rather than a set of separate concerns.

The uniform ratings indicate that teachers saw home and community conditions as closely connected with participation at school. In plain language, a learner may receive appropriate support during class but still have difficulty sustaining physical activity when transportation, family time, safety concerns, or opportunities outside school are limited. Liang et al. (2022) described participation through a socio-ecological perspective in which individual, interpersonal, organizational, and environmental factors interact. The result also matches the review's emphasis on family encouragement, transportation support, community acceptance, and accessible recreation as conditions that extend participation beyond school.

Table 9
SOP Question 3.1: Extent of Learner-Related Enablers of Physical Activity Participation

Indicator	M	Interpretation
1. Individualized activity goals help learners' complete movement tasks at their own level.	4.00	Very High Extent
2. Allowing learners to choose from activity options increases their willingness to participate.	3.94	Very High Extent
3. Familiar routines and repeated practice help learners participate with less hesitation.	4.00	Very High Extent
4. Activities matched to learners' ability levels help learners participate safely and confidently.	3.94	Very High Extent
5. Short activity tasks with planned rest breaks help learners sustain participation.	3.94	Very High Extent
6. Preferred materials, music, games, or themes increase learner engagement in physical activities.	4.00	Very High Extent
7. Clear success criteria help learners understand what they need to do during physical activities.	4.00	Very High Extent
8. Gradual progression from simple to more complex movement tasks support learner readiness.	4.00	Very High Extent
9. Small-group or partner-based options help learners participate with appropriate social support.	3.94	Very High Extent
10. Simple progress charts or feedback records help learners recognize their physical activity progress.	4.00	Very High Extent
Composite mean	**3.98**	**Very High Extent**

Legend: 1.00–1.75 = Strongly Disagree/Very Low Extent; 1.76–2.50 = Disagree/Low Extent; 2.51–3.25 = Agree/High Extent; 3.26–4.00 = Strongly Agree/Very High Extent

Learner-related enablers had a composite mean of M = 3.98. Six indicators received the highest item mean of M = 4.00: individualized goals, familiar routines, preferred materials or themes, clear success criteria, gradual progression, and progress feedback. Learner choice, ability-matched activities, rest breaks, and small-group or partner options shared the lowest item mean, M = 3.94. The consistently high ratings across individualization, familiarity, and feedback-related items suggest that teachers regard learner-centered adaptation not as an optional add-on but as a baseline requirement for participation.

Teachers strongly valued practices that make activities understandable, achievable, and personally meaningful. The narrow range from M = 3.94 to M = 4.00 shows broad agreement rather than a sharp preference for one practice. Bailey and Sweeney (2022) identified accessibility, participation, individualization, environmental adaptation, activity modification, and supportive relationships as central principles of inclusive physical activity. The emphasis on choice, achievable goals, and feedback is also compatible with Behzadnia et al. (2022), who found better motivational outcomes when learners experienced greater need satisfaction and less frustration.

To answer SOP Question 3.2, Table 10 presents the extent of teacher/instructional enablers and support practices.
Teacher and instructional enablers and support practices had a composite mean of M = 3.99. Nine indicators received the highest item mean of M = 4.00. The only lower item involved the combined use of modified rules, task breakdown, adapted equipment, and visual demonstrations, M = 3.94. The slightly lower, though still strongly endorsed, rating for the combined modification item may reflect the greater skill and preparation time that combining several strategies at once demands, a possibility explored further in the qualitative findings.

Table 10
SOP Question 3.2: Extent of Teacher/Instructional Enablers and Support Practices

Indicator	M	Interpretation
1. Specific teacher prompts, praise, and reassurance help learners start and continue physical activities.	4.00	Very High Extent
2. Modified rules, task breakdown, adapted equipment, and visual demonstrations help learners participate in physical activities.	3.94	Very High Extent
3. Visual schedules, picture cards, demonstrations, or gesture cues help learners follow activity instructions.	4.00	Very High Extent
4. Breaking activities into small steps helps learners complete movement tasks.	4.00	Very High Extent
5. Teacher modeling before independent practice helps learners understand movement expectations.	4.00	Very High Extent
6. Positive reinforcement after effort or participation helps learners continue the activity.	4.00	Very High Extent
7. Consistent routines and transition signals help learners prepare for physical activity tasks.	4.00	Very High Extent
8. Alternative response modes, such as gestures, pointing, or partner assistance, support learner participation.	4.00	Very High Extent
9. Observation checklists help teachers adjust activities based on learner performance.	4.00	Very High Extent
10. Collaboration between special education teachers and physical education teachers improves activity planning.	4.00	Very High Extent
Composite mean	**3.99**	**Very High Extent**

Legend: 1.00–1.75 = Strongly Disagree/Very Low Extent; 1.76–2.50 = Disagree/Low Extent; 2.51–3.25 = Agree/High Extent; 3.26–4.00 = Strongly Agree/Very High Extent

The near-maximum composite mean indicates strong agreement that teachers can increase participation through prompts, modeling, visual supports, small steps, reinforcement, routines, alternative response modes, observation, and collaboration. The slightly lower score for the combined modification item still represented strong endorsement. Bailey and Sweeney (2022) stressed the value of modifying activities and environments while promoting individualized participation. Al Salim (2021) similarly reported that inclusion can be strengthened when physical education teachers receive support and modify rules and equipment. These studies support the teachers' emphasis on concrete changes to instruction rather than simple physical placement in an activity.

Table 11
SOP Question 3.3: Extent of School/Environmental Enablers of Physical Activity Participation

	Indicator	M	Interpretation
1.	Administrative support for scheduling, equipment, space, and teacher training strengthens physical activity implementation.	3.88	Very High Extent
2.	Accessible and safe activity spaces support learners' participation in physical activities.	3.88	Very High Extent
3.	Peer buddy systems, flexible grouping, and non-competitive activity options support participation in physical activities.	4.00	Very High Extent
4.	Availability of adapted equipment supports safer and more active participation.	4.00	Very High Extent
5.	Quiet or low-distraction activity spaces support learners with sensory needs.	4.00	Very High Extent
6.	Adequate time in the school's schedule allows repeated practice of adapted physical activities.	4.00	Very High Extent
7.	Available support personnel help teachers supervise and assist learners during physical activities.	4.00	Very High Extent
8.	Accessible pathways, restrooms, and transition areas support learners' movement before and after activities.	4.00	Very High Extent
9.	Clear school guidelines for inclusive physical activity support consistent implementation.	4.00	Very High Extent
10.	Regular budget and maintenance support keep adapted physical activity materials usable.	4.00	Very High Extent
Composite mean		**3.98**	**Very High Extent**

Legend: 1.00–1.75 = Strongly Disagree/Very Low Extent; 1.76–2.50 = Disagree/Low Extent; 2.51–3.25 = Agree/High Extent; 3.26–4.00 = Strongly Agree/Very High Extent.

School and environmental enablers had a composite mean of M = 3.98. Eight indicators received the highest item mean of M = 4.00. Administrative support and accessible and safe activity spaces shared the lowest item mean, M = 3.88. That administrative support and safe spaces received the lowest, though still strong, ratings in this domain foreshadows a theme developed further in the qualitative phase: that enabling conditions exist but are not always consistently or formally institutionalized.

Respondents viewed equipment, supportive personnel, adequate time, accessible pathways, school guidelines, peer systems, and regular funding as strong supports. Administrative support and safe spaces received the lowest ratings, although both remained strongly endorsed. Liang et al. (2022) emphasized coordinated support from administrators, teachers, and other stakeholders, together with accessible facilities, resources, policies, and professional development. The findings also align with Arnaiz-Sanchez et al. (2020), who stressed that schools need resources and support to respond to learners with disabilities. In practical terms, teacher effort is easier to sustain when the school supplies the time, people, space, and materials needed for inclusive activity.

To answer SOP Question 3.4, Table 12 presents the extent of family/community-related enablers of physical activity participation.

Family and community related enablers had a composite mean of M = 3.96. Collaboration among teachers, parents, therapists, and specialists; parent updates; community partners; and family encouragement shared the highest item mean, M = 4.00. The remaining six indicators shared the lowest item mean, M = 3.94. The narrow spread of ratings in this domain, much like in Table 8, indicates that teachers view family and community support as a single, mutually reinforcing system rather than as isolated forms of help.

Table 12
SOP Question 3.4: Extent of Family/Community-Related Enablers of Physical Activity Participation

	Indicator	M	Interpretation
1.	Regular collaboration among teachers, parents, therapists, and specialists supports learners' participation in physical activities.	4.00	Very High Extent
2.	Parent or guardian updates about school activities help reinforce movement routines at home.	4.00	Very High Extent
3.	Coordination with therapists or health professionals helps teachers match activities to learners' needs.	3.94	Very High Extent
4.	Community-based support, such as safe movement spaces or local programs, helps extend learners' physical activity opportunities.	3.94	Very High Extent
5.	Parent or guardian orientation on adapted physical activity improves home support for participation.	3.94	Very High Extent
6.	Family-provided information about health conditions, interests, and triggers helps teachers plan safer activities.	3.94	Very High Extent
7.	Home practice routines aligned with school activities support continuity of physical activity participation.	3.94	Very High Extent
8.	Community partners can provide facilities, equipment, or inclusive activity events for learners.	4.00	Very High Extent
9.	Family encouragement through reminders and praise supports learners' confidence in physical activities.	4.00	Very High Extent
10.	Referral pathways to health, therapy, or community services help sustain physical activity support.	3.94	Very High Extent
Composite mean		**3.96**	**Very High Extent**

Legend: 1.00–1.75 = Strongly Disagree/Very Low Extent; 1.76–2.50 = Disagree/Low Extent; 2.51–3.25 = Agree/High Extent; 3.26–4.00 = Strongly Agree/Very High Extent.

Teachers strongly endorsed shared responsibility between school, home, health professionals, and community partners. The small difference between the highest and lowest ratings indicates that no single form of support was viewed as sufficient by itself. Liang et al. (2022) explained that inclusive physical education depends on interacting support systems at individual, interpersonal, organizational, and environmental levels. The reviewed literature also identifies family encouragement, transportation, positive attitudes, community acceptance, and accessible recreation as factors that help learners remain active beyond school. The present ratings support coordinated communication and continuity across these settings.

Table 13
SOP Question 4: Differences in Perceived Barriers by Teacher-Respondents' Age

Barrier domain	*M*	*SD*	*F*	*p*	Decision
Learner related barriers	3.97	0.048	0.35	.715	Not significant
Teacher and instructional barriers	3.97	0.048	0.35	.715	Not significant
School and environmental barriers	3.98	0.054	1.27	.315	Not significant
Family and community related barriers	3.98	0.040	0.08	.922	Not significant

Note. $N = 16$. Degrees of freedom were 2, 13. Tests were evaluated at $\alpha = .05$.

No barrier domain differed significantly across age groups. The tests ranged from $F(2, 13) = 0.08$, $p = .922$, for family and community related barriers to $F(2, 13) = 1.27$, $p = .315$, for school and environmental barriers. All p-values exceeded .05. This null result is useful groundwork for the qualitative phase, since it indicates that any experience-related explanation for the significant results in Table 14 is unlikely to be confounded with the age of the respondents.

In plain terms, the three age groups gave statistically similar barrier ratings. This result does not prove that the groups had identical experiences; it means that the observed differences were not large enough to reach statistical significance in this sample. The finding is consistent with Arnaiz-Sanchez et al. (2020), who reported no statistically significant age differences in perceived barriers to learning and participation.

Table 14 presents the results of the one-way analysis of variance comparing perceived barriers across the respondents' years of teaching experience.

Table 14
SOP Question 4: Differences in Perceived Barriers by Years of Teaching Experience

Barrier domain	*M*	*SD*	*F*	*p*	Decision
Learner related barriers	3.97	0.048	12.50	.001	Significant
Teacher and instructional barriers	3.97	0.048	12.50	.001	Significant
School and environmental barriers	3.98	0.054	1.07	.398	Not significant
Family and community related barriers	3.98	0.040	0.88	.481	Not significant

Note. $N = 16$. Degrees of freedom were 3, 12. Tests were evaluated at $\alpha = .05$.

Years of teaching experience produced significant differences in learner related barriers, $F(3, 12) = 12.50$, $p = .001$, and teacher and instructional barriers, $F(3, 12) = 12.50$, $p = .001$. School and environmental barriers, $F(3, 12) = 1.07$, $p = .398$, and family and community related barriers, $F(3, 12) = 0.88$, $p = .481$, were not significant.

The significant results mean that at least one teaching-experience group rated learner related and teacher or instructional barriers differently from another group. Porsanger (2023) observed that beginning teachers may be vulnerable in risk and safety management because of limited formal preparation and experience. Suryobroto et al. (2022) also linked inclusive teaching experiences with preparedness, resources, and adaptive instruction. These studies make an experience-related difference plausible, but the direction and practical size of the present difference require additional analysis. Because this is one of only two significant comparisons in the entire quantitative phase, the qualitative interviews that follow were used specifically to explore how teachers at different career stages actually describe learner-related and instructional barriers, in order to give this statistical difference a concrete, explanatory account.

Table 15 presents the results of the one-way analysis of variance comparing perceived barriers across the respondents' years of experience handling learners with special education needs.

No barrier domain differed significantly by years of experience handling learners with special education needs. The smallest p value was for school and environmental barriers, $F(2, 13) = 1.74$, $p = .214$. The other tests ranged from $p = .413$ to $p = .753$.

Table 15
SOP Question 4: Differences in Perceived Barriers by Experience Handling Learners with Special Education Needs

Barrier domain	*M*	*SD*	*F*	*p*	Decision
Learner related barriers	3.97	0.048	0.55	.413	Not significant
Teacher and instructional barriers	3.97	0.048	0.55	.413	Not significant
School and environmental barriers	3.98	0.054	1.74	.214	Not significant
Family and community related barriers	3.98	0.040	0.29	.753	Not significant

Note. $N = 16$. Degrees of freedom were 2, 13. Tests were evaluated at $\alpha = .05$.

Teachers with different lengths of experience handling learners with special education needs reported statistically similar barrier levels. This does not mean that direct experience has no value. Suryobroto et al. (2022) described preparedness and the ability to adapt instruction as important parts of teachers' inclusive physical education experiences. The present result means only that years of LSEN experience, as grouped in this sample, did not separate the barrier ratings clearly. The small sample and ratings clustered near the top of the scale may have reduced the ability to detect differences. Combined with the significant result for general teaching experience in Table 14, this suggests that it is accumulated classroom experience broadly, rather than

years spent specifically with learners with special education needs, that shapes how instructional and learner-related barriers are perceived.

Table 16 presents the results of the one-way analysis of variance comparing perceived barriers across the respondents' number of adapted physical activity training activities attended.

Table 16
SOP Question 4: Differences in Perceived Barriers by Training in Adapted Physical Activity

Barrier domain	*M*	*SD*	*F*	*p*	Decision
Learner related barriers	3.97	0.048	0.95	.413	Not significant
Teacher and instructional barriers	3.97	0.048	0.95	.413	Not significant
School and environmental barriers	3.98	0.054	0.16	.817	Not significant
Family and community related barriers	3.98	0.040	0.68	.526	Not significant

Note. $N = 16$. Degrees of freedom were 2, 13. Tests were evaluated at $\alpha = .05$.

No barrier domain differed significantly according to the number of adapted physical activity training activities attended. Learner related and teacher and instructional barriers each produced $F(2, 13) = 0.95$, $p = .413$. School and environmental barriers produced $F(2, 13) = 0.16$, $p = .817$, while family and community related barriers produced $F(2, 13) = 0.68$, $p = .526$.

The training groups did not report statistically different barrier levels. This finding should not be interpreted as evidence that training is unimportant because the analysis measured the number of training activities, not their quality, content, or application. Nanayakkara (2022) found that teachers' confidence and inclusion practices were affected by disability-focused preparation and institutional support. The current result indicates that training frequency alone did not distinguish barrier ratings in this small, high-scoring sample. This reinforces the pattern already visible in Table 4: attending more training sessions did not, by itself, change how strongly barriers were perceived, which points toward the content and application of training, rather than its frequency, as the more useful target for the recommendations developed later in this chapter.

Table 17 summarizes the p values for the comparisons of perceived barriers across the four teacher profile variables.

Table 17
SOP Question 4: Summary of Differences in Perceived Barriers Across Selected Teacher Profile Variables

Barrier domain	Age	Years of teaching experience	Years of experience handling learners with special education needs	Training in adapted physical activity
Learner related barriers	.715	.001**	.413	.413
Teacher and instructional barriers	.715	.001**	.413	.413
School and environmental barriers	.315	.398	.214	.817
Family and community related barriers	.922	.481	.753	.526

Note. Values are *p* values. * $p < .05$. ** $p < .01$.

The summary analysis confirms that only two comparisons were statistically significant. Years of teaching experience was associated with learner related barriers, $p = .001$, and teacher and instructional barriers, $p = .001$. None of the barrier domains differed significantly by age, experience handling learners with special education needs, or adapted physical activity training frequency.

Teaching experience was the only profile variable that separated respondents' barrier ratings, and it did so only for learner and instructional concerns. Porsanger (2023) described how limited experience may affect teachers' risk and safety management, while Suryobroto et al. (2022) linked teaching experience with preparedness and the ability to adapt instruction. This summary result anchors the qualitative phase of the study, which follows next: because teaching experience was the only variable that produced a significant difference, and only for two of the four barrier domains, the interviews focused on drawing out how more and less experienced teachers actually talk about learner-related and instructional barriers differently.

Table 18
SOP Question 4: Differences in Perceived Enablers and Support Practices by Age

Enabler domain	*M*	*SD*	*F*	*p*	Decision
Learner related enablers	3.98	0.045	0.05	.954	Not significant
Teacher and instructional enablers and support practices	3.99	0.025	0.61	.559	Not significant
School and environmental enablers	3.98	0.058	0.70	.515	Not significant
Family and community related enablers	3.96	0.050	0.22	.807	Not significant

Note. $N = 16$. Degrees of freedom were 2, 13. Tests were evaluated at $\alpha = .05$.

Teachers across the three age groups expressed similarly strong views about the supports that promote participation. Age therefore did not distinguish their ratings of learner, teacher, school, or family enablers in this sample. This shared pattern fits the review's description of accessibility, individualization, activity modification, and supportive relationships as general requirements

of inclusive physical activity (Bailey & Sweeney, 2022). Together with the non-significant result for barriers in Table 13, this indicates that age was not a meaningful lens for interpreting either construct in this sample.

Table 19 presents the results of the one-way analysis of variance comparing perceived enablers and support practices across the respondents' years of teaching experience.

Table 19
SOP Question 4: Differences in Perceived Enablers and Support Practices by Years of Teaching Experience

Enabler domain	*M*	*SD*	*F*	*p*	Decision
Learner related enablers	3.98	0.045	1.54	.255	Not significant
Teacher and instructional enablers and support practices	3.99	0.025	0.50	.689	Not significant
School and environmental enablers	3.98	0.058	0.71	.567	Not significant
Family and community related enablers	3.96	0.050	0.39	.762	Not significant

Note. $N = 16$. Degrees of freedom were 3, 12. Tests were evaluated at $\alpha = .05$.

No enabler domain differed significantly by years of teaching experience. The smallest p value was for learner related enablers, $F(3, 12) = 1.54$, $p = .255$. The remaining tests ranged from $p = .567$ to $p = .762$.

Although teaching experience differentiated two barrier domains in Table 14, it did not differentiate ratings of enabling practices. Teachers at different career stages broadly agreed on what helps learners participate. Suryobroto et al. (2022) identified preparedness, resources, and adaptive instruction as important to inclusive physical education. The present result suggests that respondents recognized these supports consistently, even if their perceptions of some barriers varied by experience. This asymmetry is itself a notable finding: teaching experience sharpened how barriers were perceived but not how enablers were perceived, suggesting that experienced and less experienced teachers alike recognize the same supportive practices even when they disagree about the severity of the obstacles those practices address.

Table 20 presents the results of the one-way analysis of variance comparing perceived enablers and support practices across the respondents' years of experience handling learners with special education needs.

Table 20
SOP Question 4: Differences in Perceived Enablers and Support Practices by Experience Handling Learners with Special Education Needs

Enabler domain	*M*	*SD*	*F*	*p*	Decision
Learner related enablers	3.98	0.045	0.38	.690	Not significant
Teacher and instructional enablers and support practices	3.99	0.025	0.93	.420	Not significant
School and environmental enablers	3.98	0.058	0.07	.930	Not significant
Family and community related enablers	3.96	0.050	0.81	.465	Not significant

Note. $N = 16$. Degrees of freedom were 2, 13. Tests were evaluated at $\alpha = .05$.

No enabler domain differed significantly by years of experience handling learners with special education needs. The tests ranged from $F(2, 13) = 0.07$, $p = .930$, for school and environmental enablers to $F(2, 13) = 0.93$, $p = .420$, for teacher and instructional enablers and support practices.

The groups agreed strongly on enabling practices regardless of how long they had handled learners with special education needs. The result may reflect a common understanding of inclusive support across the respondents. Bailey and Sweeney (2022) identified individualization, accessibility, environmental adaptation, and supportive relationships as central principles, while Liang et al. (2022) emphasized coordinated support across school and social systems. The present data show broad endorsement of those principles across experience groups. This consistency across experience levels suggests that knowledge of enabling practices may be shared through school-wide culture and peer exchange rather than acquired solely through individual years of direct exposure to learners with special education needs.

Table 21 presents the results of the one-way analysis of variance comparing perceived enablers and support practices across the respondents' number of adapted physical activity training activities attended.

Table 21
SOP Question 4: Differences in Perceived Enablers and Support Practices by Training in Adapted Physical Activity

Enabler domain	*M*	*SD*	*F*	*p*	Decision
Learner related enablers	3.98	0.045	0.70	.514	Not significant
Teacher and instructional enablers and support practices	3.99	0.025	0.40	.677	Not significant
School and environmental enablers	3.98	0.058	0.81	.465	Not significant
Family and community related enablers	3.96	0.050	0.81	.465	Not significant

Note. $N = 16$. Degrees of freedom were 2, 13. Tests were evaluated at $\alpha = .05$.

No enabler domain differed significantly according to adapted physical activity training frequency. The smallest p value was .465 for school and environmental enablers, $F(2, 13) = 0.81$, and family and community related enablers, $F(2, 13) = 0.81$. The other p values were .514 and .677.

Teachers with different amounts of training reported similarly high support ratings. Because responses were concentrated near the maximum value, the scale had little room to distinguish groups. Nanayakkara (2022) still provides a strong reason to value disability-focused training, particularly for teacher confidence and inclusion. The non-significant result means that the training-frequency categories did not yield statistically distinct enabler scores in this sample; it does not show that well-designed professional development has no effect. Considered alongside Table 16, this indicates that the number of training sessions attended did not distinguish teachers' views of either the barriers or the enablers they encounter, again pointing to training quality and relevance rather than quantity as the more consequential factor.

Table 22 summarizes the p values for the comparisons of perceived enablers and support practices across the four teacher profile variables.

The summary table shows that none of the 16 comparisons for perceived enablers and support practices was statistically significant. The p values ranged from .255 for learner related enablers by years of teaching experience to .954 for learner related enablers by age.

Table 22
SOP Question 4: Summary of Differences in Perceived Enablers and Support Practices Across Selected Teacher Profile Variables

Enabler domain	Age	Years of teaching experience	Years of experience handling learners with special education needs	Training in adapted physical activity
Learner related enablers	.954	.255	.690	.514
Teacher and instructional enablers	.559	.689	.420	.677
School and environmental enablers	.515	.567	.930	.465
Family and community related enablers	.807	.762	.465	.465

Note. Values are p values. * $p < .05$. ** $p < .01$.

The respondents therefore expressed broadly similar views about helpful practices across all profile groupings. This agreement is consistent with the review's emphasis on accessibility, individualization, activity modification, and supportive relationships as common elements of inclusive physical activity (Bailey & Sweeney, 2022). Liang et al. (2022) also described coordinated school and social support as important across settings. Because the sample was small and ratings were close to the maximum score, the absence of significant differences should be interpreted cautiously. This complete absence of significant differences, in direct contrast to the two significant barrier comparisons in Table 17, suggests that while teachers' experience shapes how strongly they feel constrained, it does not similarly shape their shared understanding of what would help a distinction the qualitative interviews were used to probe further.

Table 23
SOP Question 5: Relationships Between Perceived Barrier and Enabler Domains

Barrier domain	Learner related enablers	School and environmental enablers	Family and community related enablers	Teacher and instructional enablers and support practices
Learner related barriers	.545* (.029)	.422 (.103)	-.244 (.363)	.383 (.143)
Teacher and instructional barriers	.545* (.029)	.422 (.103)	-.244 (.363)	.383 (.143)
School and environmental barriers	-.206 (.445)	.902** (< .001)	-.276 (.301)	.398 (.126)
Family and community related barriers	.092 (.733)	.072 (.792)	-.041 (.879)	.537* (.032)

Note. Values are r with two-tailed p values in parentheses. $N = 16$. * $p < .05$. ** $p < .01$.

Four positive correlations were statistically significant. Learner-related barriers were associated with learner-related enablers, $r(14) = .545$, $p = .029$. Teacher and instructional barriers had the same association with learner-related enablers, $r(14) = .545$, $p = .029$. School and environmental barriers were strongly associated with school and environmental enablers, $r(14) = .902$, $p < .001$. Family and community related barriers were associated with teacher and instructional enablers and support practices, $r(14) = .537$, $p = .032$. The remaining correlations were not significant.

These positive relationships mean that teachers who reported stronger barriers also tended to report stronger corresponding supports. The results do not show that the supports caused the barriers. A cautious interpretation is that needs become more visible when constraints are stronger, so teachers may recognize or mobilize more supports. The very strong school-level relationship is consistent with Liang et al. (2022), who described barriers and supports as interacting across organizational and

environmental levels. The learner-level relationships fit Bailey and Sweeney's (2022) emphasis on individualized activities, environmental adaptation, and supportive relationships. The family-to-teacher relationship may indicate that classroom support becomes especially important when continuity outside school is difficult. These correlations, particularly the very strong school-level relationship, were used to guide the interview questions that generated the qualitative findings presented next, since they identify precisely which barrier-enabler pairings most warranted a firsthand, explanatory account from teachers.

The quantitative findings show that substantial perceived barriers coexisted with strong endorsement of enabling practices. The unweighted mean across barrier domains was M = 3.94, while the corresponding mean across enabler and support domains was M = 3.98. Teachers therefore appeared to recognize both the constraints learners face and the supports needed to address them. This pattern reflects the socio-ecological view in the review, which treats participation as the product of interacting learner, interpersonal, school, and environmental conditions (Liang et al., 2022).

The inferential findings add two points. First, teaching experience was related to different ratings of learner and instructional barriers, although the available results do not identify which experience groups differed. Second, the significant positive correlations suggest that stronger perceived needs were accompanied by stronger recognition of relevant supports. These findings should be interpreted cautiously because the sample contained only 16 teachers and most ratings were close to the maximum score. Group means, post hoc comparisons, and effect sizes are needed before the direction and practical importance of the experience differences can be established. The correlations describe association and do not establish causation.

Table 24

SOP Question 6: Qualitative Themes Explaining Barriers to Physical Activity Participation

Sub-theme	Description	Related Quantitative Domain
Learner-Related Vulnerabilities and Regulation Needs	Barriers rooted in learners' own sensory, emotional, behavioral, and disability-specific characteristics that surface regardless of how well-resourced or well-taught a class is.	Learner-related barriers (Table 5)
Teacher and Instructional Constraints	Barriers arising from how teaching capacity, training, policy, activity design, and pacing are currently structured.	Teacher/instructional barriers (Table 6)
School and Environmental Inadequacy	Barriers rooted in the physical school environment: infrastructure, equipment, funding, and the uneven distribution of these resources across schools.	School/environmental barriers (Table 7)
Family and Community Constraints	Barriers originating outside the school day, in the home and surrounding community, that shape a learner's readiness and opportunity to be physically active.	Family/community-related barriers (Table 8)

Note. Sub-themes were derived from axial coding of interview responses from nine teacher-respondents (Teachers 1–9).

This sub-theme accounts for the uniform, ceiling-level ratings recorded across every indicator in the family and community barriers domain (M = 4.00, Table 8), the only domain in which every single item received the identical, highest possible mean. The interviews explain this uniformity: whether the concern was overprotective parenting, the cost of daily transportation, or the absence of safe places to play outside school hours, teachers described these conditions as operating together rather than separately, shaping a learner's readiness and opportunity for physical activity well before or after the school day. This pattern is consistent with Oluwasanu et al. (2021), who found that family attitudes, economic constraints, and the availability of community spaces jointly influenced school-based physical activity participation from the perspective of teachers and school leaders. It also underscores why, as noted in the quantitative findings, the school functions as the primary and sometimes only consistent venue for physical activity available to many of these learners, making classroom-level enablers especially consequential.

Across all four sub-themes, teachers converged on a single underlying pattern: barriers to physical activity participation were rarely singular. A learner's own sensory or regulation needs, the teacher's instructional capacity, the school's physical resources, and the family's circumstances at home each contributed independently, and often simultaneously, to whether a learner with special education needs could fully participate. This convergence directly addresses the significant quantitative finding that years of teaching experience distinguished learner-related and teacher/instructional barrier ratings (Table 14): more experienced teachers, drawing on a longer history of encountering these compounding barriers across many learners, may have developed a more differentiated, higher, or more precise sense of exactly where and how these barriers appear, while less experienced teachers had not yet accumulated the same breadth of comparison. The qualitative findings therefore do not contradict the quantitative results; they give the statistical pattern a concrete, classroom-level explanation.

Table 25
SOP Question 7: Qualitative Themes Explaining Enablers and Teacher Support Practices

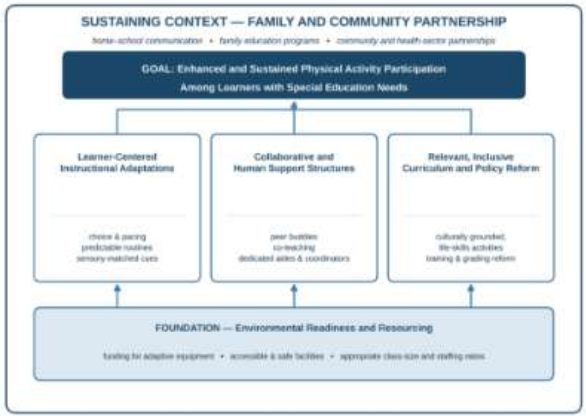
Sub-theme	Description	Related Quantitative Domain
Learner-Centered Instructional Adaptations	Enablers that work directly at the point of instruction — giving learners choice, predictability, and sensory-matched supports so activities meet them where they are.	Learner-related enablers (Table 9)
Collaborative and Human Support Structures	Enablers built around additional people — peers, co-teachers, aides, and outside specialists or coordinators — who share the work of supporting an individual learner.	Teacher/instructional enablers (Table 10)
Relevant, Inclusive Curriculum and Policy Reform	Enablers that reshape what is taught and how success is defined — culturally grounded, life-skills-linked activities alongside formal training, grading, and policy support.	Teacher/instructional & school/environmental enablers (Tables 10–11)
Environmental Readiness and Resourcing	Enablers rooted in having the physical groundwork — funding, equipment, safe and appropriately sized spaces — in place before instructional strategies are applied.	School/environmental enablers (Table 11)
Family and Community Partnership	Enablers that extend support beyond the classroom through consistent home-school communication and structured family or community programs.	Family/community-related enablers (Table 12)

Note. Sub-themes were derived from axial coding of interview responses from nine teacher-respondents (Teachers 1–9).

This account, together with the Teacher and Instructional Constraints sub-theme discussed above, suggests that the significant experience effect in Table 14 does not necessarily mean that less experienced teachers face different or additional barriers; rather, it suggests that experience functions as an informal substitute for the formal training that, as that sub-theme showed, remains inconsistently available. Newer teachers appear to rate learner-related and instructional barriers more strongly not because their classrooms are objectively more difficult, but because they have not yet accumulated the improvised repertoire of adaptations that only comes with time on the job in the absence of systematic training. This interpretation is consistent with Benitez et al. (2025), who found that confidence and perceived readiness among Philippine physical education teachers were closely tied to accumulated practical exposure rather than to formal credentials alone. It also explains why the same experience variable did not produce a significant difference in school/environmental or family/community barriers (Table 14): these barriers are structural and external to the teacher, so accumulated classroom experience would not be expected to change how strongly they are perceived.

The four significant positive correlations in Table 23 are likewise explained by the layered, mutually reinforcing relationship between barriers and enablers that the qualitative sub-themes describe. The strongest of the four relationships, between school/environmental barriers and school/environmental enablers, $r(14) = .902$, $p < .001$, reflects the same teachers who most strongly criticized broken infrastructure and equipment shortages, such as Teacher 6's account of "a lack of money for adaptive gear and unsafe school spaces," also most strongly endorsed infrastructure repair and dedicated funding as the top priority for improvement. Teachers who experience the sharpest resource gaps appear to be the ones most able to specify exactly what environmental support would resolve them, producing a tight, almost one-to-one correspondence between the two ratings. The two learner-related correlations, in which both learner-related barriers and teacher/instructional barriers were associated with learner-related enablers, $r(14) = .545$, $p = .029$ for both, similarly reflect teachers who recognized learner vulnerability and instructional strain together with the individualized, learner-centered adaptations needed to address them, consistent with the Learner-Centered Instructional Adaptations sub-theme discussed above. The remaining correlation, between family/community barriers and teacher/instructional enablers, $r(14) = .537$, $p = .032$, suggests that when teachers perceive strong barriers originating at home, they compensate by leaning more heavily on classroom-level enablers, such as the home-school communication practices described in the Family and Community Partnership sub-theme, since the school-side support is often the more immediately actionable lever available to them. None of these relationships establishes causation, but each is given a plausible, teacher-grounded explanation by the qualitative findings.

Figure 1



The Physical activity participation among learners with special education needs Framework

Note. Arrows indicate the direction of support: environmental readiness underlies all three pillars, and all three pillars jointly sustain the overarching goal of enhanced and sustained physical activity participation. The sustaining outer context of family and community partnership surrounds and reinforces the entire model.

The framework is organized to reflect two consistent patterns identified across both phases of the study. First, the quantitative results showed that school/environmental factors underlie the strongest single relationship found in the entire study, the near-unity correlation between school/environmental barriers and enablers (Table 23), and the qualitative findings confirmed that teachers regarded adequate infrastructure and funding as a precondition rather than an optional support. Second, both phases converged on the finding that no single enabler works in isolation; the enabler sub-themes function as layered, mutually reinforcing systems rather than independent techniques. The framework is accordingly structured as a foundation, three instructional and support pillars, and a sustaining outer context, culminating in a single overarching goal.

At the foundation of the framework is Environmental Readiness and Resourcing, directly derived from the enabler sub-theme of the same name and from the barrier sub-theme of School and Environmental Inadequacy. Because the quantitative findings showed that school and environmental barriers and enablers were almost perfectly correlated (Table 23), the framework treats funding for adaptive equipment, accessible and safe facilities, and appropriate class-size and staffing ratios as the non-negotiable groundwork on which every other layer depends.

Resting on this foundation are three pillars. The first, Learner-Centered Instructional Adaptations, translates the barrier sub-theme of Learner-Related Vulnerabilities and Regulation Needs into concrete practice: choice and pacing, predictable routines, and sensory-matched cues. The second, Collaborative and Human Support Structures, responds to the instructional-capacity barriers identified in the Teacher and Instructional Constraints sub-theme through peer-buddy systems, co-teaching, and dedicated aides and coordinators. The third, Relevant, Inclusive Curriculum and Policy Reform, addresses the same sub-theme's concerns about rigid, unmodified activities and assessment standards through culturally grounded, life-skills-oriented activities together with formal training and grading reform.

Surrounding and sustaining all three pillars is the outer layer of Family and Community Partnership, drawn from both the family/community barrier and enabler sub-themes: home-school communication, family education programs, and community and health-sector partnerships. Together, the foundation, the three pillars, and the sustaining context are directed toward a single goal: enhanced and sustained physical activity participation among learners with special education needs.

Table 26
SOP Question 9: Integrated Inclusive Physical Activity Support Framework for Learners with Special Education Needs

Framework Component	Key Recommendations	Grounded In
Foundation — Environmental Readiness and Resourcing	Secure dedicated funding for adaptive equipment; repair and audit facility accessibility; enforce appropriate class-size and staffing ratios.	School/environmental barriers & enablers (Tables 7, 11, 23); School and Environmental Inadequacy sub-theme
Pillar 1 — Learner-Centered Instructional Adaptations	Build in learner choice and self-paced options; standardize predictable routines; match sensory cues (visual, tactile) to individual learner needs.	Learner-related barriers & enablers (Tables 5, 9); Learner-Related Vulnerabilities sub-theme
Pillar 2 — Collaborative and Human Support Structures	Institutionalize peer-buddy and co-teaching programs; fund dedicated SPED aide positions; establish transition-coordinator roles.	Teacher/instructional barriers & enablers (Tables 6, 10); Teacher and Instructional Constraints sub-theme
Pillar 3 — Relevant, Inclusive Curriculum and Policy Reform	Adapt culturally familiar and life-skills-based activities; reform grading rubrics and uniform policies; mandate inclusive-PE training for general education teachers.	Teacher/instructional & school/environmental enablers (Tables 10–11); Relevant Curriculum and Policy Reform sub-theme
Sustaining Context — Family and Community Partnership	Establish consistent home-school communication channels; offer family education programs; formalize partnerships with community and health-sector providers.	Family/community barriers & enablers (Tables 8, 12); Family and Community Partnership/Constraints sub-themes
Goal	Enhanced and sustained physical activity participation among learners with special education needs.	Integrated quantitative and qualitative findings

Note. Table numbers refer to the quantitative tables presented earlier in this chapter; sub-themes refer to the qualitative findings presented in Sections 7 and 8 of this chapter.

The framework is deliberately sequenced rather than treated as a menu of equally weighted options. Consistent with the qualitative finding that infrastructure and funding function as a precondition rather than a parallel support, schools with the most severe environmental barriers should prioritize the foundation layer before layering on instructional or curricular reforms that assume a baseline of accessible space and equipment already exists. Schools that have already met this foundation, by contrast, may find more immediate returns from strengthening the three pillars, particularly collaborative staffing arrangements, which teachers in this study described as the most directly actionable enabler regardless of school level or resource profile. Because the enabler ratings did not differ significantly across any teacher profile variable (Table 22), the recommended practices within each pillar are offered as broadly applicable across teachers of varying age, experience, and training background, to be adapted rather than restricted by local context.

This chapter presents a synthesis of the study's findings, the conclusions drawn from the quantitative and qualitative analyses presented in Chapter 4, and the corresponding recommendations. It integrates insights from both phases of this explanatory sequential mixed-methods study to articulate the overall contribution of the research to the practice of inclusive physical education and to policy affecting learners with special education needs.

This section synthesizes the major findings of the study in relation to each of the nine research questions that guided this investigation, organized according to the quantitative profile and measurement results, the significance-testing results, and the qualitative explanatory findings.

1. The teacher-respondents were an experienced, purposively selected group with substantial direct exposure to learners with special education needs. Half of the 16 respondents had more than ten years of experience handling learners with special education needs, and half had attended more than five adapted physical activity training activities, providing a credible experiential basis for their perceptions of barriers and enablers.
2. Barriers to physical activity participation were perceived at a uniformly high extent across all four domains. The unweighted overall mean was M = 3.94, with family and community-related barriers rated highest (M = 4.00, with every indicator sharing the identical top rating) and school and environmental barriers rated lowest, though still strongly endorsed (M = 3.79).
3. Enablers and support practices were perceived at an even higher, near-ceiling extent than the barriers they addressed. The unweighted overall mean was M = 3.98, with teacher and instructional enablers rated highest (M = 3.99), indicating strong endorsement of individualized, collaborative, and well-resourced support practices.
4. Years of teaching experience was the only teacher profile variable associated with a statistically significant difference in perceived barriers, and only for two of the four barrier domains. Learner-related and teacher/instructional barriers differed significantly by teaching experience, $F(3, 12) = 12.50$, $p = .001$ for both, while age, years of experience with learners with special education needs, and training frequency produced no significant differences in any barrier domain.

5. None of the sixteen comparisons of perceived enablers and support practices across teacher profile variables reached statistical significance. Teachers of varying age, experience, and training background expressed a broadly shared understanding of what helps learners participate, in direct contrast to the more variable barrier ratings described above.
6. Perceived barriers and perceived enablers were positively and significantly correlated in four specific domain pairings, most strongly at the school and environmental level. The near-unity correlation between school/environmental barriers and enablers, $r(14) = .902$, $p < .001$, was the strongest relationship found in the entire quantitative phase, alongside three further significant correlations involving the learner-related and family/community domains.
7. Teachers explained the quantitative barrier findings through four interlocking qualitative sub-themes describing a multilevel, compounding set of obstacles. Learner-Related Vulnerabilities and Regulation Needs, Teacher and Instructional Constraints, School and Environmental Inadequacy, and Family and Community Constraints together showed that no single barrier operated independently of the others.
8. Teachers explained the quantitative enabler findings through five mutually reinforcing qualitative sub-themes describing a layered support system. Learner-Centered Instructional Adaptations, Collaborative and Human Support Structures, Relevant, Inclusive Curriculum and Policy Reform, Environmental Readiness and Resourcing, and Family and Community Partnership together indicated that enabling practice depends on several layers working together rather than on any single intervention.
9. The integrated qualitative and quantitative findings explained the study's significant results and gave rise to two complementary practical outputs. Teachers' accounts of accumulated, improvised skill explained the significant experience-related barrier difference, and their accounts of mutually reinforcing needs and supports explained the four significant correlations; these integrated insights directly informed the development of the Physical activity participation among learners with special education needs Framework.

This section presents the conclusions of the study based on the synthesis of the quantitative and qualitative findings and their alignment with the reviewed literature and with the study's Social Model of Disability and Universal Design for Learning frameworks. Based on the analysis, the study concludes the following:

1. Physical activity participation among learners with special education needs is constrained not by a single dominant barrier but by a dense, multilevel system of learner, instructional, school, and family/community conditions. This conclusion is consistent with the Social Model of Disability's emphasis on participation as a function of environmental and systemic conditions rather than of the learner's impairment alone, and it is substantiated by teachers' own accounts of compounding, simultaneous obstacles.
2. Enabling inclusive physical activity requires layered, mutually reinforcing supports rather than any single intervention. The near-ceiling, narrowly ranged ratings across all four enabler domains, together with the five interlocking qualitative sub-themes, indicate that instructional adaptation, human support, curricular and policy reform, environmental readiness, and family/community partnership function as an interdependent system, consistent with Universal Design for Learning's premise that flexible, multiple means of engagement benefit the widest range of learners and with identification of individualized adaptation and policy reform as jointly necessary strategies for inclusive physical education.
3. Accumulated classroom experience functions as an informal substitute for formal, systematic training in adapted physical education. The significant experience-related difference in barrier ratings, together with teachers' own descriptions of improvised, on-the-job adaptation, indicates that where structured training is inconsistently available, teachers rely on years of trial-and-error exposure to manage learner-related and instructional demands.
4. The strength of perceived barriers and the strength of perceived enablers rise together, most strongly where the underlying condition is structural rather than individual. The near-unity correlation between school and environmental barriers and enablers suggests that teachers who most acutely experience resource constraints are also the ones most able to identify precisely what would resolve them, indicating that need and support recognition are two sides of the same lived experience rather than independent phenomena.
5. Family and community conditions occupy a uniquely central position in this study, functioning simultaneously as the most uniformly perceived barrier domain and as a currently under-formalized enabler domain. Every indicator in the family/community barrier domain received the identical highest rating, while the qualitative findings showed that simple, low-cost communication practices produced outsized benefits, together suggesting that this domain offers a high-

leverage, comparatively low-cost point of intervention that warrants its own dedicated framework alongside broader instructional and school-level reform.

6. Qualitative accounts from teachers substantiate, and give concrete explanatory texture to, the statistically observed patterns in the quantitative results, confirming the value of the explanatory sequential mixed-methods design adopted in this study. Teachers' verbatim descriptions of specific classroom moments and school conditions transformed abstract statistical differences and correlations into a grounded, actionable account of why those patterns occurred
7. The study affirms and extends prior research on inclusive physical education in the Philippine setting by demonstrating, through an integrated design, that instructional and policy reform alone are insufficient without paired environmental readiness and family/community partnership.

This section provides specific and actionable recommendations for future research based on the findings and limitations of the present study.

1. Schools and MAPEH departments should institutionalize, rather than leave to individual initiative, the peer-buddy systems, co-teaching arrangements, and dedicated aide support that teachers identified as the most directly actionable enablers in this study. Combined with individualized pacing, choice, and sensory-matched cues, these practices should be treated as baseline instructional capacity rather than optional accommodations.
2. Teachers should treat routine, low-cost family communication, progress updates, shared behavioral information, and physical-activity-focused conferences — as a core part of instructional practice rather than a supplementary courtesy, given the outsized benefits these practices produced in this study's findings.
3. School division- and school-level policy should formally recognize adequate funding, accessible facilities, and appropriate class-size and staffing ratios as preconditions for inclusive physical education, not as aspirational goals pursued after instructional reforms are already in place, consistent with the near-unity relationship this study found between school/environmental barriers and enablers.
4. Policymakers should formalize family and community partnership through structured referral pathways, recognized coordination roles, and support for community and health-sector linkages as a standard component of inclusive education governance rather than leaving it to informal, teacher-initiated effort.
5. Future studies should pilot and formally evaluate the framework proposed in this study, assessing their feasibility, fidelity of implementation, and measurable impact on physical activity participation, in keeping with recommended practice for translating qualitative and mixed-methods findings into applied educational tools.
6. Because this study captured the family and community domain exclusively through teachers' perceptions, future research should directly include parents, guardians, and, where developmentally appropriate, learners themselves, to test and enrich the assumptions underlying the Physical Activity Participation among Learners with Special Education Needs Framework.

REFERENCES

1) **Benitez, M. A., Hinaniban, R., Deloso, M. K. F., & Tantog, I. M. L. (2025)**. Towards inclusive physical education: Assessing the readiness of PE teachers in the Philippines. La Salle University & Cebu Normal University.
2) **Braun, V., & Clarke, V. (2021).** Thematic analysis: A practical guide. SAGE
3) **Creswell, J. W., & Creswell, J. D. (2023)**. Research design: Qualitative, quantitative, and mixed methods approaches (6th ed.). SAGE Publications.
4) **Cruz, M. A. D., Serna, J. D., David, M. H. M., Lacsa, G. B. L., Punsalan, M. F. B. L., Castro, M. C., Miranda, J. P. P., et al. (2026).** Barriers and enablers of online instruction in hospitality education in the Philippines: An exploratory study. arXiv. https://arxiv.org/abs/2604.25047
5) **Etikan, I. (2016)**. Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1–4.
6) **Factor, S. D., & Saenz, C. R. (2025)**. Barriers and enablers of inclusive education for learners with disabilities: The case of Philippine primary schools. International Journal of Research and Innovation in Social Science, 9(8), 1925–1942. https://doi.org/10.47772/IJRISS.2025.908000158
7) **Gazali, N., Sari, M., Setiawan, E., Rahmadani, A., Perdima, F. E., Abdullah, N. M., & Longakit, J. (2025).** Realising inclusive physical education: Barriers and strategies for including students with disabilities. Journal of Sport Science and Education.

8) **Kim, M., & Hodge, S. R. (2021).** Curricular and pedagogical barriers to students' physical activity in physical education classes. International Journal of Inclusive Education, 28(6), 875–890. https://doi.org/10.1080/13603116.2021.1968517
9) **Leite, W. L., Svinicki, M. D., & Shi, Y. (2021).** Mixed methods research in education: A review of approaches and applications. Educational Research Review, 34, 100403. https://doi.org/10.1016/j.edurev.2021.100403
10) **Marsden, L., Munn, L., Magee, L., Ferrinda, M., St. Pierre, J., & Third, A. (2023).** Inclusive online learning in Australia: Barriers and enablers. arXiv. https://arxiv.org/abs/2312.04777
11) **Mertens, D. M. (2023).** Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods (6th ed.). SAGE Publications.
12) **Montales, C. L. (2025).** Assessing inclusive education needs and challenges in teaching LSEN in the Philippines. Journal of Innovative Research. https://doi.org/10.54536/jir.v4i1.5091
13) **Oluwasanu, M. M., Oladepo, O., & Ibitoye, S. E. (2021).** Qualitative views of teachers and principals on barriers and opportunities for school-based physical activity. BMC Public Health, 21, 2302. https://doi.org/10.1186/s12889-021-12327-x
14) **Plano Clark, V. L., & Ivankova, N. V. (2021).** Mixed methods research: A guide to the field. SAGE Publications.
15) **Subedi, K. R. (2021).** Determining the sample size in qualitative research. Scholarly Research Journal for Interdisciplinary Studies, 10(65), 14084–14093.
16) **Walters, S. (2021).** The use of mixed methods research to understand complex educational issues: Opportunities and challenges. International Journal of Research & Method in Education, 44(4), 401–414.

There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non-Commercial 4.0 International (CC BY-NC 4.0) (https://creativecommons.org/licenses/by-nc/4.0/), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.