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ADAPTIVE TEACHING STRATEGIES AND PERCEIVED STUDENT ENGAGEMENT IN INCLUSIVE PHYSICAL EDUCATION: BASIS FOR A PROPOSED PROGRAM IN THE SCHOOLS DIVISION OF TOLEDO CITY

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Abstract

This study examined how PE/MAPEH teachers implemented adaptive teaching strategies and how these practices were related to teacher-perceived student engagement in inclusive Physical Education in the Schools Division of Toledo City. It also explored teachers' opportunities, challenges, instructional support needs, and explanations of quantitative results. An explanatory sequential mixed-methods design was used. Survey data were summarized through descriptive statistics and analyzed using Pearson product-moment correlation. Interviews were analyzed thematically, and the qualitative findings were integrated with the survey results. Teachers reported that adaptive strategies were strongly practiced and that learners were highly engaged across behavioral, emotional, cognitive, and social dimensions. The relationship between adaptive teaching strategies and perceived engagement was moderate, positive, and statistically significant; this association does not establish causation. Inclusion techniques received the strongest ratings, while technology and equipment received comparatively lower ratings. Interview findings described opportunities for participation and peer support, as well as challenges involving equipment and budgets, class size, instructional time, facilities, technology access, teacher preparation, safety, and fair assessment. The integrated findings informed a proposed Inclusive Physical Education Program with components on technology integration, adaptive equipment, learner engagement, inclusive instruction and assessment, and professional collaboration. The proposed program is intended to strengthen teacher capacity and respond to identified instructional and resource needs in the division.

Keywords: Inclusive Physical Education, adaptive teaching strategies, student engagement, explanatory sequential mixed-methods design, proposed program, Schools Division of Toledo City.

Introduction

Physical Education promotes movement skills, cooperation, discipline, and social interaction. In inclusive settings, PE/MAPEH teachers must provide meaningful participation for learners with diverse physical, cognitive, behavioral, and social abilities. Adaptive teaching includes differentiated instruction, modification of activities and learning environments, inclusion techniques, accommodation, equipment, and technology. Engagement is considered through behavioral, emotional, cognitive, and social dimensions. The study examined these practices and teacher-perceived engagement in the Schools Division of Toledo City and used interviews to explain the quantitative findings.

Karamani et al. (2024) and Bertills and Björk (2024) discuss teachers' inclusive practices and participation barriers. Benitez et al. (2024) examine PE teacher readiness in the Philippines. Ben Rakaa et al. (2025), Hidayat et al. (2024), and Laborte and Mejarito (2025) address adaptations for learners with diverse needs. These studies motivate a localized examination of instructional practices, resources, and support rather than assuming uniform implementation across schools. The present investigation considered six strategy dimensions alongside four perceived engagement dimensions, then explored teachers' opportunities, challenges, and experiences to inform a proposed program.

Theoretical Framework and Legal Bases

Differentiated Instruction Theory (Tomlinson, 2017) explains instructional flexibility in response to learner readiness, interests, and needs. In Physical Education, teachers may adjust movement tasks, equipment, activity requirements, and assessments while retaining intended learning objectives. Vygotsky's Sociocultural Theory (1978) emphasizes

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social interaction, the Zone of Proximal Development, guided practice, feedback, and peer assistance. Self-Determination Theory (Deci & Ryan, 1985) addresses autonomy, competence, and relatedness as motivational conditions. These needs provide an interpretive foundation; they were not separately measured as psychological constructs in this study.

Kristén et al. (2025) and Mihajlovic (2024) discuss peer guidance and professional collaboration. Guo et al. (2025), Li and Zeng (2025), and Noetel et al. (2023) consider teacher support, motivation, and engagement. Holland et al. (2024) and Kirk and Holland (2025) emphasize learner experiences, while Nowland (2024) and Alhumaid (2022, 2023) examine teacher preparation and self-efficacy. These perspectives support investigation of association without attributing changes in engagement causally to adaptive strategies.

Republic Act No. 11650 (2022) provides the study's foundation for inclusive services, reasonable accommodations, and access for learners with disabilities. DepEd Order No. 044, s. 2021, addresses educational programs and services for learners with disabilities in K to 12, while DepEd Order No. 021, s. 2019, situates responsive instruction within the basic education curriculum. The rationale also cites DepEd Order No. 72, s. 2009. Ng et al. (2025) and Saiz-González et al. (2025) highlight technology-related knowledge and access concerns relevant to these instructional responsibilities. Figure 1 presents the supplied theoretical–conceptual framework.

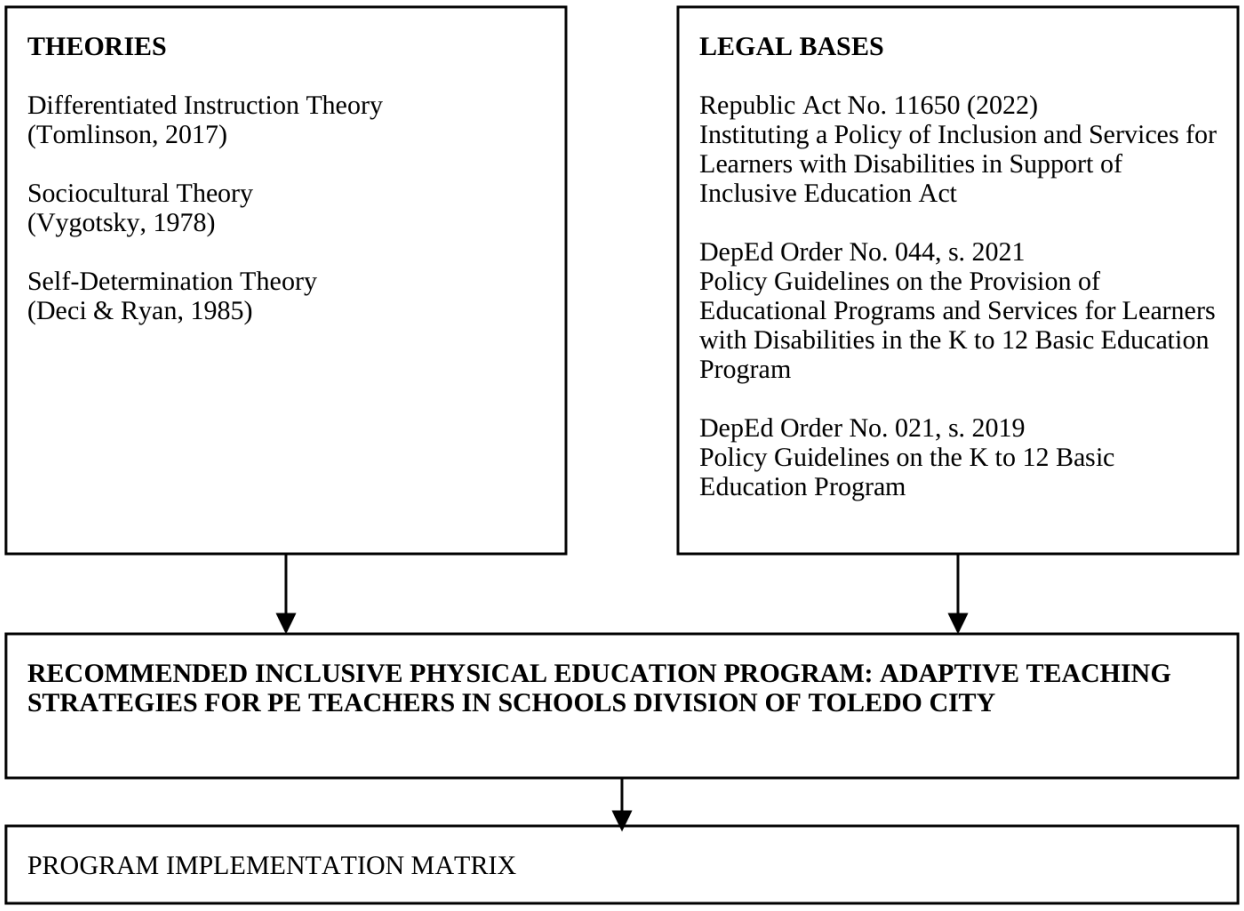


Figure 1
Theoretical–Conceptual Framework of the Study

Methods

Design, Setting, and Participants

An explanatory sequential mixed-methods design was used during School Year 2026–2027. The quantitative phase was descriptive-correlational and examined naturally occurring practices without manipulating classroom conditions (Creswell & Creswell, 2023). The subsequent qualitative phase explored teachers' opportunities, challenges, and

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experiences to explain the quantitative patterns. Integration of the findings informed the proposed Recommended Inclusive Physical Education Program.

The setting was the Schools Division of Toledo City, Cebu. Fifty PE/MAPEH teachers handling Junior High School or Senior High School classes participated through universal sampling of the identified eligible population. Eligibility required assignment to PE/MAPEH and at least one year of teaching experience. Teachers with less than one year of experience or without the required teaching assignments were excluded. Ten teachers were purposively selected from the quantitative respondents for interviews based on relevant experiences and their capacity to explain the survey findings. Learner engagement was assessed by teachers; the study did not collect direct learner self-reports.

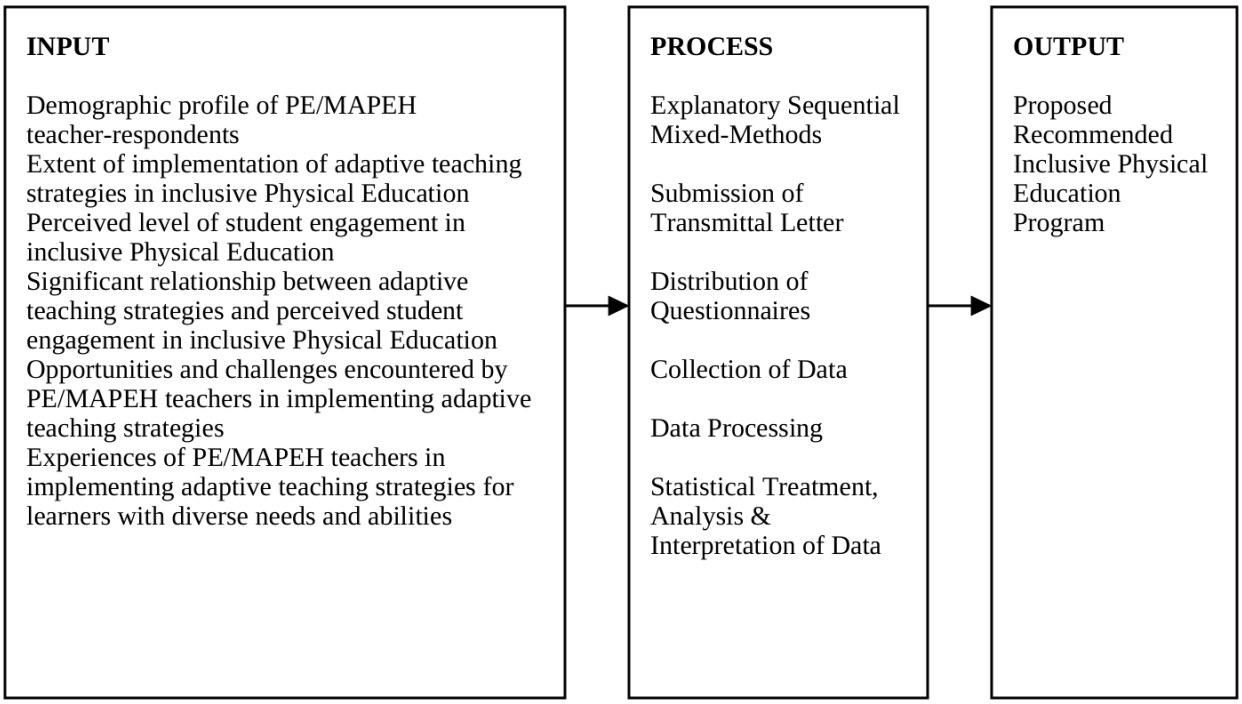


Figure 2
Flow of the Study

Table 1
Distribution of PE/MAPEH Teacher-Respondents by School

School	Number of Respondents	Percentage
Awihao National High School	4	8.00
Bato National High School	5	10.00
Bunga National High School	2	4.00
Cantabaco National High School	3	6.00
Don Andres Soriano National High School	6	12.00
General Climaco National High School	4	8.00
Luray II National High School	6	12.00
Magdugo National High School	4	8.00
Matab-ang National High School	4	8.00
Media Once National High School	2	4.00
Toledo City Science High School	2	4.00

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School	Number of Respondents	Percentage
Toledo National Vocational School	5	10.00
Pres. Sergio Osmeña Sr. National High School	3	6.00
Total	50	100.00



Figure 3
Environment of the Study

Instruments, Scoring, and Validation

The instruments comprised a demographic profile form, two researcher-developed questionnaires, and a semi-structured interview guide. Demographic variables were age and gender, highest educational attainment, grade level handled, and length of service. The adaptive-teaching questionnaire was informed by Winnick and Porretta (2017) and covered six dimensions. The engagement questionnaire was informed by Mandernach (2015) and covered

behavioral, emotional, cognitive, and social engagement. The appendix response anchors were 4—Strongly Agree, 3—Somewhat Agree, 2—Somewhat Disagree, and 1—Strongly Disagree. The scoring guides used practice and engagement descriptors (Tables 2–3).

Table 2

Scoring Guide for Adaptive Teaching Strategies

Scale	Weighted Mean Range	Verbal Description	Interpretation
4	3.25–4.00	Strongly Practiced	Adaptive teaching strategies were consistently implemented.
3	2.50–3.24	Practiced	Adaptive teaching strategies were regularly implemented.
2	1.75–2.49	Moderately Practiced	Adaptive teaching strategies were occasionally implemented.
1	1.00–1.74	Less Practiced	Adaptive teaching strategies were rarely implemented.

Table 3

Scoring Guide for Perceived Student Engagement

Scale	Weighted Mean Range	Verbal Description	Interpretation
4	3.25–4.00	Highly Engaged	Learners consistently demonstrated engagement in Physical Education activities.
3	2.50–3.24	Engaged	Learners regularly demonstrated engagement in Physical Education activities.
2	1.75–2.49	Moderately Engaged	Learners occasionally demonstrated engagement in Physical Education activities.
1	1.00–1.74	Less Engaged	Learners rarely demonstrated engagement in Physical Education activities.

Experts in Physical Education, Special Education, and educational research reviewed the instruments for relevance, clarity, and alignment. Revisions preceded pilot testing with 23 PE/MAPEH teachers outside the final sample. The manuscript reports Cronbach's alpha values above its .70 criterion. Table 4 retains the supplied reliability coefficients.

Table 4

Pilot Reliability Coefficients (23 Teachers)

Instrument / Dimension	Cronbach's α
Adaptive strategies: Differentiated instruction	0.711
Modification	0.757
Inclusion techniques	0.743
Accommodation	0.777
Equipment	0.868
Technology	0.821
Perceived engagement: Behavioral	0.708
Emotional	0.724
Cognitive	0.887
Social	0.722

The supplied questionnaire contains 70 adaptive-teaching statements and 39 engagement statements. The reported item analyses instead cover 60 and 30 items, respectively. The relationship between these versions is not specified. The demographic form also permits multiple grade levels, whereas the results allocate 50 entries across Grades 7–12. The classification rule for teachers who handled several grades is not documented.

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The interview guide addressed opportunities, implementation challenges, experiences adapting activities, and perceived support for learner participation and engagement. Probes requested specific examples, adjustments, learner responses, and ways of addressing challenges. The consent form estimated 15–20 minutes for questionnaires and 20–30 minutes for interviews. These are stated expected durations, not observed completion times.

Procedures and Ethics

The researcher submitted a transmittal letter and coordinated with division authorities and school administrators before gathering data. Questionnaires were distributed through Google Forms, and completed responses were checked, coded, and organized. Ten purposively selected teachers then completed semi-structured interviews guided by quantitative results. Interviews were documented and transcribed with consent. Quantitative findings were integrated with the thematic accounts to explain instructional practices and support needs.

The study reports informed consent, voluntary participation, the right to decline questions or withdraw without employment consequences, and confidentiality through participant codes and removal of identifying details. Data were stored securely for authorized research use. Participants could decline uncomfortable questions. The supplied permission letter is dated October 21, 2026 and concerns permission to conduct the study. No payment was offered in the consent form. Permissions to record interviews were sought separately within the stated procedures.

Analysis and Measurement Limits

Frequencies and percentages described the teacher profiles. Weighted means and SDs summarized questionnaire ratings, and Pearson product-moment correlation tested the relationship between adaptive strategies and perceived engagement at $\alpha = .05$. Thematic analysis followed Braun and Clarke's (2006) six phases: familiarization, coding, searching for themes, reviewing themes, defining and naming themes, and reporting. Interview accounts contextualized the survey patterns; they were not measurements of intervention effects.

The reported domain SD summaries coincide with averages of item SDs. They are identified below as mean item SDs rather than composite-score SDs, and practice or engagement descriptors apply only to means. Grand SD summaries similarly represent averages of domain SD summaries. Domain item counts differ, so an equal-domain mean differs from an all-item mean. The reported grand means are retained; the weighting used for the correlation is not specified in the supplied output.

Results and Discussion

Respondent Profiles

Table 5
Age and Gender of Respondents

Age (in years)	Female f	Female %	Male f	Male %	Total f	Total %
36 and above	9	18.00	6	12.00	15	30.00
31-35	4	8.00	3	6.00	7	14.00
26-30	18	36.00	6	12.00	24	48.00
20-25	2	4.00	2	4.00	4	8.00
Total	33	66.00	17	34.00	50	100.00

Table 6
Highest Educational Attainment

Highest Educational Attainment	f	%
With Doctorate Units	1	2.00
Master's Degree	4	8.00
With Master's Units	25	50.00
Bachelor's Degree	20	40.00
Total	50	100.00

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Table 7
Grade Level Handled

Grade Level Handled	f	%
Grade 12	6	12.00
Grade 11	7	14.00
Grade 10	10	20.00
Grade 9	9	18.00
Grade 8	10	20.00
Grade 7	8	16.00
Total	50	100.00

Table 8
Length of Service

Length of Service	f	%
10 and above	16	32.00
6-10	11	22.00
1-5	23	46.00
Total	50	100.00

The largest age group was 26–30 years (24, 48.00%), and 33 respondents (66.00%) were female. Half had master's units (25, 50.00%). Grades 8 and 10 each accounted for ten respondents (20.00%), and the largest service group had 1–5 years (23, 46.00%). The service bands "6–10" and "10 and above" overlap at ten years; the labels therefore require clarification.

Adaptive Teaching Strategies

Table 9
Differentiated Instruction

S/N	Indicators	WM	SD	Verbal Description
1	I create flexible groups for students with similar interests or needs in PE.	3.60	0.49	Strongly Practiced
2	I tailor exercises to match each student's fitness level in PE.	3.68	0.47	Strongly Practiced
3	I offer different assignment types (e.g., practical, written) in PE.	3.52	0.61	Strongly Practiced
4	I use varied teaching methods (e.g., demonstrations, peer teaching) in PE.	3.72	0.50	Strongly Practiced
5	I provide extra challenges for advanced students and support for others in PE.	3.60	0.49	Strongly Practiced
6	I let students choose PE tasks that match their interests.	3.54	0.61	Strongly Practiced
7	I design tiered activities with different difficulty levels in PE.	3.62	0.60	Strongly Practiced
8	I give personalized feedback to students in PE.	3.90	0.36	Strongly Practiced
9	I use flexible assessments to measure student progress in PE.	3.90	0.30	Strongly Practiced
10	I offer enrichment activities for high-achieving students in PE.	3.86	0.35	Strongly Practiced
	Aggregate Mean	3.69		Strongly Practiced
	Mean item SD		0.48	

Legend: 3.26-4.00-Strongly Practiced; 2.51-3.25-Moderately Practiced; 1.76-2.50-Minimally Practiced; 1.00-1.75-Not Practiced

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Table 10

Modification of Physical Activities, Instructional Equipment, and Learning Environments

S/N	Indicators	WM	SD	Verbal Description
1	I modify game rules for fair participation in PE.	3.82	0.39	Strongly Practiced
2	I adjust lesson pace to meet all students' needs in PE.	3.80	0.40	Strongly Practiced
3	I change activity difficulty to match each student's abilities in PE.	3.76	0.43	Strongly Practiced
4	I use alternative assessments for diverse learning needs in PE.	3.74	0.44	Strongly Practiced
5	I revise curriculum content to include diverse backgrounds in PE.	3.78	0.42	Strongly Practiced
6	I incorporate student feedback to improve inclusivity in PE.	3.82	0.39	Strongly Practiced
7	I use modified sports to include students with varying abilities in PE.	3.56	0.54	Strongly Practiced
8	I create modified schedules for students with health or mobility issues in PE.	3.74	0.49	Strongly Practiced
9	I simplify or provide instructions in multiple formats in PE.	3.88	0.33	Strongly Practiced
10	I use smaller, adapted spaces for accessibility in PE.	3.80	0.40	Strongly Practiced
11	I offer alternative tasks for students with health concerns in PE.	3.82	0.44	Strongly Practiced
12	I adapt activity goals to be achievable for all students in PE.	3.80	0.40	Strongly Practiced
	Aggregate Mean	3.78		Strongly Practiced
	Mean item SD		0.42	

Table 11

Inclusion Techniques

S/N	Indicators	WM	SD	Verbal Description
1	I create a welcoming environment where every student feels valued in PE.	3.88	0.33	Strongly Practiced
2	I promote teamwork among students of varied backgrounds and abilities in PE.	3.90	0.30	Strongly Practiced
3	I ensure diverse perspectives are included in the PE curriculum.	3.88	0.33	Strongly Practiced
4	I incorporate culturally relevant activities in PE.	3.76	0.48	Strongly Practiced
5	I involve students in decision-making to promote inclusivity in PE.	3.76	0.43	Strongly Practiced
6	I use inclusive language and practices in PE.	3.72	0.45	Strongly Practiced
7	I celebrate the unique contributions of all students in PE.	3.78	0.46	Strongly Practiced
8	I create mixed-ability teams for competitive activities in PE.	3.80	0.45	Strongly Practiced
9	I facilitate discussions on diversity and inclusion in PE.	3.84	0.37	Strongly Practiced
10	I encourage students to reflect on their experiences in relation to PE activities.	3.88	0.33	Strongly Practiced
11	I collaborate with educators and community members to create inclusive PE programs.	3.88	0.33	Strongly Practiced
	Aggregate Mean	3.83		Strongly Practiced
	Mean item SD		0.39	

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Table 12
Accommodation

S/N	Indicators	WM	SD	Verbal Description
1	I provide extra help and accommodations like modified equipment or personalized instruction in PE.	3.78	0.42	Strongly Practiced
2	I allow extra time or breaks during PE activities for students who need it.	3.74	0.44	Strongly Practiced
3	I use visual aids and simplified language to support student understanding in PE.	3.74	0.44	Strongly Practiced
4	I adjust lesson plans to include students with physical or cognitive challenges in PE.	3.68	0.51	Strongly Practiced
5	I implement safety protocols tailored to the needs of students with disabilities in PE.	3.82	0.39	Strongly Practiced
6	I break down complex activities into smaller, manageable steps for students in PE.	3.78	0.42	Strongly Practiced
7	I use peer support systems to help students with disabilities engage more fully in PE.	3.82	0.39	Strongly Practiced
	Aggregate Mean	3.77		Strongly Practiced
	Mean item SD		0.43	

Table 13
Equipment

S/N	Indicators	WM	SD	Verbal Description
1	I use interactive whiteboards and multimedia to engage students in PE.	3.44	0.54	Strongly Practiced
2	I provide adapted equipment to ensure all students can participate in PE.	3.38	0.57	Strongly Practiced
3	I incorporate fitness apps and wearables to track and motivate student progress in PE.	3.42	0.54	Strongly Practiced
4	I use tools like resistance bands and balance balls to accommodate different abilities in PE.	3.38	0.57	Strongly Practiced
5	I offer alternative seating options, like stability balls or cushions, in PE.	3.50	0.51	Strongly Practiced
6	I use sensory equipment to support students with processing needs in PE.	3.38	0.57	Strongly Practiced
7	I provide visually contrasting equipment for students with visual impairments in PE.	3.48	0.50	Strongly Practiced
8	I integrate technology-based equipment like heart rate monitors to enhance PE learning.	3.40	0.57	Strongly Practiced
9	I provide lightweight or modified sports equipment for students with physical disabilities in PE.	3.64	0.48	Strongly Practiced
10	I ensure all equipment is safe and accessible for students with diverse needs in PE.	3.58	0.54	Strongly Practiced
	Aggregate Mean	3.46		Strongly Practiced
	Mean item SD		0.54	

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Table 14
Technology

S/N	Indicators	WM	SD	Verbal Description
1	I track student progress with fitness apps and wearables, offering personalized feedback.	3.34	0.56	Strongly Practiced
2	I use virtual reality simulations for realistic physical activities in PE.	3.28	0.57	Strongly Practiced
3	I facilitate peer learning through online forums and collaborative platforms in PE.	3.56	0.50	Strongly Practiced
4	I connect students with experts via video conferencing tools for diverse insights in PE.	3.36	0.60	Strongly Practiced
5	I utilize online platforms to provide additional resources and practice opportunities in PE.	3.52	0.54	Strongly Practiced
6	I use digital portfolios to help students track and reflect on their progress in PE.	3.38	0.60	Strongly Practiced
7	I implement video analysis tools to help students improve their techniques in PE.	3.30	0.68	Strongly Practiced
8	I use adaptive software to tailor PE lessons to individual students' needs.	3.26	0.66	Strongly Practiced
9	I create interactive quizzes and games using technology to assess student understanding in PE.	3.58	0.50	Strongly Practiced
10	I integrate wearable technology to monitor and enhance students' physical activity levels in PE.	3.48	0.54	Strongly Practiced
	Aggregate Mean	3.41		Strongly Practiced
	Mean item SD		0.58	

Table 15
Summary of Adaptive Teaching Strategies

Components	WM	Mean item SD	Verbal Description
Differentiated Instruction	3.69	0.48	Strongly Practiced
Modification	3.78	0.42	Strongly Practiced
Inclusion Techniques	3.83	0.39	Strongly Practiced
Accommodation	3.77	0.43	Strongly Practiced
Equipment	3.46	0.54	Strongly Practiced
Technology	3.41	0.58	Strongly Practiced
Grand Mean	3.66		Strongly Practiced
Mean of domain SD summaries		0.47	

Adaptive strategies were rated Strongly Practiced overall (reported grand mean = 3.66). Inclusion techniques had the highest domain mean (3.83); technology (3.41) and equipment (3.46) were comparatively lower. Technology indicators on adaptive software (3.26), virtual reality (3.28), and video analysis (3.30) identify relative priorities without indicating that these practices were absent. The results-table legend differs from the Methods scoring guide in its lower-band labels and cutoffs; all reported domain means nevertheless fall in the highest band under both guides.

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Teacher-Perceived Student Engagement

Table 16

Behavioral Engagement

S/N	Indicators	WM	SD	Verbal Description
1	Students actively participate in PE activities.	3.92	0.27	Highly Engaged
2	Students follow instructions and rules during PE.	3.82	0.39	Highly Engaged
3	Students show enthusiasm and energy during PE activities.	3.80	0.40	Highly Engaged
4	Students complete PE tasks with effort and persistence.	3.78	0.42	Highly Engaged
5	Students attend and are punctual to PE classes regularly.	3.84	0.37	Highly Engaged
6	Students are open to trying new activities or sports in PE.	3.80	0.40	Highly Engaged
	Aggregate Mean	3.83		Highly Engaged
	Mean item SD		0.38	

Legend: 3.26-4.00-Highly Engaged; 2.51-3.25-Moderately Engaged; 1.76-2.50-Minimally Engaged; 1.00-1.75- Not Engaged

Table 17

Emotional Engagement

S/N	Indicators	WM	SD	Verbal Description
1	Students feel confident in their abilities to succeed in PE.	3.88	0.33	Highly Engaged
2	Students are motivated to improve their skills and performance in PE.	3.80	0.40	Highly Engaged
3	Students appear relaxed and comfortable during PE classes.	3.82	0.39	Highly Engaged
4	Students are not easily discouraged by challenges or setbacks in PE.	3.80	0.40	Highly Engaged
5	Students express excitement about upcoming PE lessons or activities.	3.86	0.35	Highly Engaged
6	Students are eager to participate in group activities or team sports in PE.	3.78	0.42	Highly Engaged
	Aggregate Mean	3.82		Highly Engaged
	Mean item SD		0.38	

Table 18

Cognitive Engagement

S/N	Indicators	WM	SD	Verbal Description
1	Students ask questions about the skills or activities being taught in PE.	3.82	0.39	Highly Engaged
2	Students understand the objectives of PE activities.	3.84	0.37	Highly Engaged
3	Students apply feedback to improve their performance in PE.	3.80	0.40	Highly Engaged
4	Students set personal goals for their fitness or skills in PE.	3.78	0.46	Highly Engaged
5	Students use critical thinking and problem-solving during PE activities.	3.84	0.37	Highly Engaged
6	Students show interest in health and fitness concepts taught in PE.	3.82	0.39	Highly Engaged
7	Students reflect on their performance and identify areas for improvement in PE.	3.84	0.37	Highly Engaged

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S/N	Indicators	WM	SD	Verbal Description
8	Students connect PE activities to their overall well-being.	3.86	0.35	Highly Engaged
9	Students participate in planning or leading activities when given the chance in PE.	3.76	0.48	Highly Engaged
10	Students persist in mastering difficult skills or concepts in PE.	3.92	0.27	Highly Engaged
	Aggregate Mean	3.83		Highly Engaged
	Mean item SD		0.39	

Table 19
Social Engagement

S/N	Indicators	WM	SD	Verbal Description
1	Students support and encourage their classmates in PE.	3.88	0.33	Highly Engaged
2	Students participate in group discussions or reflections after PE activities.	3.74	0.44	Highly Engaged
3	Students demonstrate leadership skills during team activities or sports in PE.	3.84	0.37	Highly Engaged
4	Students communicate respectfully with peers and teachers during PE.	3.84	0.37	Highly Engaged
5	Students are willing to work with different classmates during partner or group activities in PE.	3.86	0.35	Highly Engaged
6	Students help and mentor others who struggle with certain PE activities.	3.78	0.42	Highly Engaged
7	Students show respect for the diversity of skills and abilities in the PE class.	3.84	0.37	Highly Engaged
8	Students actively contribute to creating a positive and inclusive environment in PE.	3.90	0.30	Highly Engaged
	Aggregate Mean	3.84		Highly Engaged
	Mean item SD		0.37	

Table 20
Summary of Teacher-Perceived Student Engagement

Components	WM	Mean item SD	Verbal Description
Behavioral Engagement	3.83	0.38	Highly Engaged
Emotional Engagement	3.82	0.38	Highly Engaged
Cognitive Engagement	3.83	0.39	Highly Engaged
Social Engagement	3.84	0.37	Highly Engaged
Grand Mean	3.83		Highly Engaged
Mean of domain SD summaries		0.38	

Engagement was rated Highly Engaged overall (grand mean = 3.83). Social engagement was highest (3.84); behavioral and cognitive engagement were each 3.83, and emotional engagement was 3.82. These are teachers' perceptions, not direct student measurements. Lower-rated items included participation in planning or leading activities (3.76) and group discussions or reflections (3.74), which informed proposed learner-led and reflective activities.

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Relationship between Adaptive Strategies and Perceived Engagement

Table 21

Reported Pearson Correlation

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Adaptive Teaching Strategies and Learner's Engagement	0.598*	Moderate Positive	<.001	Reject Ho	Significant

*significant at p<0.05 (two-tailed)

Table 22

Supporting Correlation Output

		adaptive	engagement
adaptive	Pearson Correlation	1	.598**
adaptive	Sig. (2-tailed)		.000
adaptive	N	50	50
engagement	Pearson Correlation	.598**	1
engagement	Sig. (2-tailed)	.000	
engagement	N	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

The reported correlation was moderate and positive ($r = .598$, $n = 50$, $p < .001$), and the null hypothesis was rejected. The supporting output displays .000 as a rounded significance value; it does not indicate a probability of zero. This association does not establish causation. Both variables came from the same teacher respondents, and the findings do not isolate the effects of implementing an intervention.

Qualitative Findings and Integration

Table 23

Illustrative Themes and Categories: Opportunities and Challenges

Themes	Categories
Expanding Inclusive Participation	Accessible tasks; Learner confidence; Opportunities for success
Strengthening Peer Relationships	Cooperation and peer support; Respect for diverse abilities
Resource and Environmental Constraints	Limited equipment and budget; Large classes and limited time; Inaccessible facilities and technology
Demands of Inclusive Instruction	Training and safety concerns; Fair assessment; Preparation and learner attitudes

Table 24

Illustrative Themes and Categories: Teaching Experiences

Themes	Categories
Adapting Tasks to Learner Readiness	Modified rules and distances; Adjusted repetitions and movements; Gradual skill development
Building Participation Through Support	Peer assistance; Encouragement and confidence; Cooperative learning
Practicing Responsive and Learner-Centered Teaching	Flexible lesson delivery; Learner communication; Participation-focused assessment

Teachers described wider participation through accessible tasks and alternative activities, increased confidence, peer support, and respect for different abilities. Challenges involved equipment and budgets, class size, preparation time, facilities, technology, training, safety, and fair assessment. Experiences included modified rules and distances, adjusted repetitions, gradual skill development, peer assistance, encouragement, flexible delivery, communication,

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and participation-focused assessment. The following tables retain the supplied codes and quotations, including their original Cebuano and English wording.

Table 25

Thematic Audit Trail: Opportunities and Challenges

Theme / Category / Codes	Raw Data from the Interview
Expanding Inclusive Participation Accessible tasks • Simplifying instructions • modifying activities • offering alternatives	Participant 1 (Q1): "Ahm, sa akong experience, ma'am, mas daghan ang maka-participate kung atoang i-adjust ang activities. Like, naa koy students nga dili kaayo maayo sa sports, pero kung simplehon nimo ang instructions, moapil na sila. Before kay maglingkod ra gyud sila sa kilid. Karon, at least, willing na sila mo-try." Participant 6 (Q1): "Sa ako lang, ma'am, mas inclusive ang classroom kung flexible ta. Dili man tanan bata parehas og learning pace. Kung naa tay alternative activities, naa gyud silay opportunity nga maka-participate. Mao na akong nakita nga positive."
Learner confidence • Reducing fear of failure • encouraging willingness to join	Participant 2 (Q1): "Actually, ma'am, ang opportunity ani kay mahatagan nato og chance ang tanan learners. Dili man gud parehas ilang abilities. So, instead nga parehas tanan og activity, akong gina-adjust depende sa ilang kaya. Makita nako nga mas confident sila kung dili kaayo lisod ang task." Participant 4 (Q1): "For me, ma'am, adaptive teaching helps students enjoy PE. Kay usahay naa gyud tay learners nga mahadlok mapakyas. So, kung atong usbon gamay ang activity, mas comfortable sila. Makita nimo nga malingaw na sila, dili na kaayo maulaw."
Opportunities for success • Recognizing improvement • adjusting performance expectations	Participant 9 (Q1): "I think, ma'am, adaptive strategies give students more chances to succeed. Dili man kinahanglan nga parehas tanan og performance. Ang importante kay naa silay improvement. Mas motivated sila kung makita nila nga kaya ra diay nila." Participant 10 (Q1): "Sa akong teaching, ma'am, ang pinaka-positive kay mas willing na ang students mo-join. Especially katong mga shy or dili athletic. Kung i-modify ang rules, mas open sila nga mo-participate."
Strengthening Peer Relationships Cooperation and peer support • Classmates helping each other • shared tasks	Participant 3 (Q1): "Kanang, ma'am, one thing nga akong na-observe kay mas cooperative ang students. For example, during group activities, ang uban nga maayo moduwa kay motabang sa ilang classmates. Nindot siya kay dili lang physical skills ilang ma-develop, apil pud ang respect."
Respect for diverse abilities • Encouraging communication • valuing different contributions	Participant 7 (Q1): "Actually, ma'am, maka-improve siya sa relationship sa students. Kay during modified games, kinahanglan man sila magtinabangay. Ang mga bata nga usually dili kaayo makig-interact, mo-communicate na sa ilang classmates."
Resource and Environmental Constraints Limited equipment and budget • Improvising materials • shortage of suitable equipment	Participant 1 (Q2): "Ang pinaka-challenge gyud, ma'am, kay equipment. Limited ra among sports materials. Usahay mag-improvise na lang ko gamit plastic bottles or improvised balls. Lisod usahay kay dili tanan activities naa tay appropriate materials."

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Theme / Category / Codes	Raw Data from the Interview
Large classes and limited time • Difficulty monitoring • preparation demands	Participant 2 (Q2): "Ahm, ma'am, class size gyud. Imagine, daghan kaayo students, unya lain-lain ilang needs. Lisod kaayo i-monitor tanan. Sometimes, bisan gusto nimo hatagan og individual attention, dili gyud kaya sa time." Participant 5 (Q2): "Kanang, ma'am, time preparation. Kung adaptive teaching, dili man gud pwede nga usa ra ka activity para tanan. Magprepare ka og alternatives. Sometimes, maglisod ko kay naa pa man pud other teaching responsibilities."
Inaccessible facilities and technology • Limited space and facilities • access to digital tools	Participant 4 (Q2): "Facilities, ma'am. Among playground dili kaayo ideal, especially kung ting-ulan. Dili pud accessible tanan areas. So, kinahanglan nako mag-adjust sa activities based sa available space." Participant 7 (Q2): "Ahm, technology pud, ma'am. Naa untay videos or apps nga helpful, pero dili stable ang internet. Usahay wala pud available projector. So, balik na lang ko sa demonstration."
Demands of Inclusive Instruction Training and safety concerns • Need for specialized training • uncertainty in adjustments	Participant 3 (Q2): "Sa akoa, ma'am, kulang pa gyud ko og training. Kabalo ko sa basic modifications, pero kung specific needs na, like students with physical limitations, magduha-duha ko usahay kung sakto ba akong approach."
Fair assessment • Adjusting performance criteria • measuring progress	Participant 8 (Q2): "Sa akoa kay safety concerns. Kung naa kay students nga different physical abilities, kinahanglan careful ka sa activities. Usahay maglisod ko unsa nga modifications ang safe ug appropriate."
Preparation and learner attitudes • Preparing alternatives • managing learner reactions	Participant 5 (Q2): "Kanang, ma'am, time preparation. Kung adaptive teaching, dili man gud pwede nga usa ra ka activity para tanan. Magprepare ka og alternatives. Sometimes, maglisod ko kay naa pa man pud other teaching responsibilities." Participant 10 (Q2): "For me, ma'am, challenging ang assessment. Kay kung different activities ang students, kinahanglan pud fair ang evaluation. Dili man pwede nga same standards tanan kung lahi ilang abilities."

Table 26
Thematic Audit Trail: Supporting Diverse Learners

Theme / Category / Codes	Raw Data from the Interview
Adapting Tasks to Learner Readiness Modified rules and distances • Changing game rules • shortening activity distance	Participant 1 (Q3): "Ahm, naa koy experience during volleyball. Naay student nga maglisod og serve, so akong gipa-allow nga mas duol siya sa net. At first, hesitant siya, pero after pila ka attempts, naka-serve na gyud. Nalipay siya, ma'am, pati iyang classmates nag-cheer." Participant 10 (Q3): "Ahm, during badminton, ma'am, akong gi-adjust ang distance ug allowed attempts. Ang uban learners kay lisod maka-hit sa shuttlecock. So, instead nga one attempt, gihatagan nako sila og additional chances."

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Theme / Category / Codes	Raw Data from the Interview
Adjusted repetitions and movements • Reducing repetitions • varying exercise demands	Participant 2 (Q3): "During fitness activities, ma'am, naa koy learners nga dali kapuyon. Instead nga parehas tanan og repetitions, akong gipa-adjust ang number. Like, ang uban ten repetitions, ang uban five lang. Ang importante kay correct ang movement ug safe sila." Participant 8 (Q3): "Kanang, ma'am, naa koy learner nga mahadlok moapil sa ball games. So, akong gipa-start sa simple catching activity before siya giapil sa actual game. Gradually, mas confident na siya."
Gradual skill development • Increasing challenge gradually • monitoring improvement	Participant 4 (Q3): "Sa dance activities, ma'am, naa koy learner nga maglisod sa coordination. So, akong gi-simplify ang steps. Instead nga full routine, basic movements lang sa. Eventually, naka-follow na siya sa group, bisan dili perfect."
Building Participation Through Support Peer assistance • Pairing learners • classmates giving guidance	Participant 6 (Q3): "Actually, ma'am, naa koy experience nga akong gigamit ang peer assistance. During throwing activities, akong gipa-partner ang student nga kinahanglan og guidance sa classmate nga patient motudlo. Nakatabang siya kay mas comfortable ang learner."
Encouragement and confidence • Giving positive feedback • reducing hesitation	Participant 3 (Q4): "Ahm, ma'am, I realized nga importante gyud ang encouragement. Dili lang kay instructions. Usahay simple nga 'very good' or 'kaya nimo na' makatabang na para dili sila mo-give up." Participant 5 (Q4): "Kuan, ma'am, mas maayo gyud kung cooperative ang activities. Kay kung competition pirmi, naay uban nga ma-discourage. Pero kung teamwork, mas daghan ang willing moapil."
Cooperative learning • Group tasks • shared participation	Participant 1 (Q4): "Ma'am, akong na-learn nga dili kinahanglan parehas tanan og activity. Ang importante kay naa silay chance nga maka-participate. Mas patient na ko karon, especially sa learners nga kinahanglan og extra guidance."
Practicing Responsive and Learner-Centered Teaching Flexible lesson delivery • Changing planned tasks • offering options	Participant 4 (Q4): "Ang akong experience, ma'am, nagtudlo nako nga kinahanglan flexible ang teacher. Dili tanan lesson plan masunod exactly. Sometimes, kinahanglan nimo usbon ang activity on the spot depende sa response sa learners."
Learner communication • Listening to learner needs • checking comfort	Participant 6 (Q4): "I learned nga importante ang communication with students. Mangutana ko kung comfortable ba sila sa activity or kinahanglan og adjustment. At least, makabalo ko unsa ilang needs."
Participation-focused assessment • Recognizing effort • considering improvement	Participant 8 (Q4): "Sa akoa, ma'am, mas importante na karon ang participation kaysa perfect performance. Dili man tanan students mahimong athletes. Ang goal kay ma-develop ilang skills ug confidence."

Table 27
Additional Verbatim Interview Accounts

Code	Verbatim Account
Question 1. What opportunities have you encountered in implementing adaptive teaching strategies in inclusive Physical Education?	
R5	"Ah, yes, ma'am. Ang advantage kay ma-discover nimo nga naa diay abilities ang bata nga wala nimo nakita before. Like, naa koy learner nga dili kaayo active sa running activities, pero maayo siya sa throwing. So, akong gihatagan og activity nga suited sa iyaha."

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Code	Verbatim Account
R8	"Kuan, ma'am, ang opportunity gyud kay maka-adjust ta based sa needs sa learners. For example, kung naa koy students nga dali kapuyon, pwede nako pakunhuran ang repetitions. At least, dili sila ma-left behind."
Question 2. What challenges have you experienced in implementing adaptive teaching strategies in inclusive Physical Education?	
R6	"One challenge is student attitude. Naa gyud uban nga dili dayon makasabot nganong lahi ang activity sa ilang classmates. So, akong i-explain nga fairness doesn't always mean doing exactly the same thing."
R9	"Kuan, ma'am, lack of support materials. Gusto unta ko mag-use og adapted equipment, pero limited among budget. So, maghimo na lang ko og improvised materials, pero dili tanan effective."
Question 3. Can you describe your experiences in adapting Physical Education activities to accommodate learners with diverse needs and abilities?	
R3	"Kuan, ma'am, during basketball, naa koy students nga dili kaayo confident. So, akong gi-modify ang game. Dili kaayo strict ang rules, unya akong gi-encourage nga tanan makagunit sa bola before mo-shoot. Mas daghan ang naka-participate."
R5	"I remember, ma'am, during relay games, naa koy student nga dili kaayo paspas modagan. So, instead of focusing on speed, akong gi-change ang activity into a cooperative challenge. Dili na paunahay, but completing the task together."
R7	"During our exercise routine, ma'am, naa koy students nga dili makasunod sa fast movements. So, akong gi-slow down ang demonstration ug gihatagan sila og alternative movements. Mas okay ilang participation."
R9	"Sa akong class, ma'am, naa koy students nga different levels of physical fitness. So, akong gi-group based sa ilang readiness. Pero akong gina-rotate ang groups para dili sila ma-label nga weak or strong."
Question 4. Based on your teaching experiences, how have adaptive teaching strategies helped you support learner participation and engagement in inclusive Physical Education?	
R2	"For me, ma'am, adaptive teaching helps build confidence. Kay kung ang activity suited sa ability sa bata, mas willing siya mo-try. Mao nang akong gina-consider pirmi ilang individual differences."
R7	"Actually, ma'am, nakatabang ang adaptive strategies para mas ma-involve ang students. Pero kinahanglan gyud og preparation. Dili pwede nga basta-basta lang kay lahi-lahi ilang abilities."
R9	"Ma'am, akong na-realize nga ang small adjustments dako na diay og effect. Like changing the distance or simplifying the rules. Sometimes, mao ra na ang kinahanglan para maka-join ang learner."
R10	"For me, ma'am, inclusive PE requires patience, creativity, and understanding. Dili lang kay magtudlo ka og sports. Kinahanglan pud nimo siguraduhon nga ang students feel accepted and included."

The appendix labels a repeated set of excerpts "INTERVIEW RESPONSE PRACTICE TRANSCRIPTS"; the status of these passages as collected interview data requires confirmation. The interview accounts contextualize the comparatively lower technology and equipment ratings and describe how teachers adjusted tasks, used peer support, and encouraged participation. They do not show that resources or conditions were identical across schools. Some category–quotation links in the audit trail require confirmation. The proposed program responds to the combined quantitative priorities and qualitative accounts.

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Detailed Item Statistics

Table 28

Supporting Item-Level Descriptive Statistics

Code	N	Min	Max	Mean	SD	Code	N	Min	Max	Mean	SD
Differentiated Instruction											
DI1	50	3.00	4.00	3.6000	.49487	DI2	50	3.00	4.00	3.6800	.47121
DI3	50	2.00	4.00	3.5200	.61412	DI4	50	2.00	4.00	3.7200	.49652
DI5	50	3.00	4.00	3.6000	.49487	DI6	50	2.00	4.00	3.5400	.61312
DI7	50	1.00	4.00	3.6200	.60238	DI8	50	2.00	4.00	3.9000	.36422
DI9	50	3.00	4.00	3.9000	.30305	DI10	50	3.00	4.00	3.8600	.35051
Valid N	50										
Modification of Physical Activities, Instructional Equipment, and Learning Environments											
M1	50	3.00	4.00	3.8200	.38809	M2	50	3.00	4.00	3.8000	.40406
M3	50	3.00	4.00	3.7600	.43142	M4	50	3.00	4.00	3.7400	.44309
M5	50	3.00	4.00	3.7800	.41845	M6	50	3.00	4.00	3.8200	.38809
M7	50	2.00	4.00	3.5600	.54060	M8	50	2.00	4.00	3.7400	.48697
M9	50	3.00	4.00	3.8800	.32826	M10	50	3.00	4.00	3.8000	.40406
M11	50	2.00	4.00	3.8200	.43753	M12	50	3.00	4.00	3.8000	.40406
Valid N	50										
Inclusion Techniques											
I1	50	3.00	4.00	3.8800	.32826	I2	50	3.00	4.00	3.9000	.30305
I3	50	3.00	4.00	3.8800	.32826	I4	50	2.00	4.00	3.7600	.47638
I5	50	3.00	4.00	3.7600	.43142	I6	50	3.00	4.00	3.7200	.45356
I7	50	2.00	4.00	3.7800	.46467	I8	50	2.00	4.00	3.8000	.45175
I9	50	3.00	4.00	3.8400	.37033	I10	50	3.00	4.00	3.8800	.32826
I11	50	3.00	4.00	3.8800	.32826	Valid N	50				
Accommodation											
A1	50	3.00	4.00	3.7800	.41845	A2	50	3.00	4.00	3.7400	.44309
A3	50	3.00	4.00	3.7400	.44309	A4	50	2.00	4.00	3.6800	.51270
A5	50	3.00	4.00	3.8200	.38809	A6	50	3.00	4.00	3.7800	.41845
A7	50	3.00	4.00	3.8200	.38809	Valid N	50				
Equipment											
E1	50	2.00	4.00	3.4400	.54060	E2	50	2.00	4.00	3.3800	.56749
E3	50	2.00	4.00	3.4200	.53795	E4	50	2.00	4.00	3.3800	.56749
E5	50	3.00	4.00	3.5000	.50508	E6	50	2.00	4.00	3.3800	.56749
E7	50	3.00	4.00	3.4800	.50467	E8	50	2.00	4.00	3.4000	.57143

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Code	N	Min	Max	Mean	SD	Code	N	Min	Max	Mean	SD
E9	50	3.00	4.00	3.6400	.48487	E10	50	2.00	4.00	3.5800	.53795
Valid N	50										
Technology											
T1	50	2.00	4.00	3.3400	.55733	T2	50	2.00	4.00	3.2800	.57286
T3	50	3.00	4.00	3.5600	.50143	T4	50	2.00	4.00	3.3600	.59796
T5	50	2.00	4.00	3.5200	.54361	T6	50	2.00	4.00	3.3800	.60238
T7	50	2.00	4.00	3.3000	.67763	T8	50	2.00	4.00	3.2600	.66425
T9	50	3.00	4.00	3.5800	.49857	T10	50	2.00	4.00	3.4800	.54361
Valid N	50										
Behavioral Engagement											
B1	50	3.00	4.00	3.9200	.27405	B2	50	3.00	4.00	3.8200	.38809
B3	50	3.00	4.00	3.8000	.40406	B4	50	3.00	4.00	3.7800	.41845
B5	50	3.00	4.00	3.8400	.37033	B6	50	3.00	4.00	3.8000	.40406
Valid N	50										
Emotional Engagement											
EE1	50	3.00	4.00	3.8800	.32826	EE2	50	3.00	4.00	3.8000	.40406
EE3	50	3.00	4.00	3.8200	.38809	EE4	50	3.00	4.00	3.8000	.40406
EE5	50	3.00	4.00	3.8600	.35051	EE6	50	3.00	4.00	3.7800	.41845
Valid N	50										
Cognitive Engagement											
C1	50	3.00	4.00	3.8200	.38809	C2	50	3.00	4.00	3.8400	.37033
C3	50	3.00	4.00	3.8000	.40406	C4	50	2.00	4.00	3.7800	.46467
C5	50	3.00	4.00	3.8400	.37033	C6	50	3.00	4.00	3.8200	.38809
C7	50	3.00	4.00	3.8400	.37033	C8	50	3.00	4.00	3.8600	.35051
C9	50	2.00	4.00	3.7600	.47638	C10	50	3.00	4.00	3.9200	.27405
Valid N	50										
Social Engagement											
S1	50	3.00	4.00	3.8800	.32826	S2	50	3.00	4.00	3.7400	.44309
S3	50	3.00	4.00	3.8400	.37033	S4	50	3.00	4.00	3.8400	.37033
S5	50	3.00	4.00	3.8600	.35051	S6	50	3.00	4.00	3.7800	.41845
S7	50	3.00	4.00	3.8400	.37033	S8	50	3.00	4.00	3.9000	.30305
Valid N	50										

Note. "Valid N" denotes "Valid N (listwise)" for the corresponding domain; Min and Max mean Minimum and Maximum. The two sets of columns list consecutive records within each domain. These detailed statistics support the reported items and do not supply respondent-level composite scores or the covariance information needed to verify a composite SD.

Output of the Study

The proposed Recommended Inclusive Physical Education Program responds to the reported adaptive-strategy mean of 3.66 and perceived-engagement mean of 3.83. Technology (3.41) and equipment (3.46) were lower-rated domains. Priorities included adaptive software (3.26), virtual reality (3.28), video analysis (3.30), adapted equipment, resistance bands and balance balls, and sensory equipment (3.38 each). Learner-led activities (3.76) and group reflection (3.74) informed engagement components.

Interview accounts identified resource, preparation, safety, assessment, and participation needs. The five program components address technology integration, adaptive equipment, learner engagement, inclusive instruction and assessment, and professional collaboration. The reported association ($r = .598$, $p < .001$) supports examining these practices together but does not establish program effectiveness. All activities, budgets, targets, and monitoring procedures below are proposed; no completed implementation is claimed.

RECOMMENDED INCLUSIVE PHYSICAL EDUCATION PROGRAM

Strengthening Adaptive Teaching Strategies for PE Teachers in the Schools Division of Toledo City

Program Objectives

General Objective

To strengthen the implementation of adaptive teaching strategies among PE/MAPEH teachers and promote meaningful student engagement in inclusive Physical Education in the Schools Division of Toledo City.

Specific Objectives

1. Improve teachers' skills in using adaptive software and digital tools for inclusive Physical Education.
2. Develop affordable and adapted instructional equipment that meets learners' diverse needs and abilities.
3. Increase learners' confidence, leadership, and participation through group activities and peer support.
4. Strengthen teachers' skills in modifying activities, ensuring safety, and assessing learners with diverse abilities.
5. Promote collaborative planning and resource sharing among PE/MAPEH teachers to address instructional challenges.

Target Participants

The proposed program will primarily benefit PE/MAPEH teachers in the Schools Division of Toledo City.

The following individuals and groups will be involved in its implementation:

Table 29

Participants and Proposed Responsibilities

Participants	Role
PE/MAPEH Teachers	Primary participants responsible for applying adaptive teaching strategies in their respective Physical Education classes.
Special Education (SPED) Teachers	Provide professional guidance on learner-specific accommodations, differentiated instruction, behavioral support, and appropriate strategies for learners with diverse needs and abilities.
School Administrators	Provide administrative support, resources, and assistance in implementing the proposed activities.
Master Teachers	Facilitate professional development, instructional coaching, and collaborative planning.
ICT Coordinators	Provide technical assistance in integrating digital tools and technology-supported instructional activities.
School DRRM Coordinators	Assist in promoting safety procedures during inclusive Physical Education activities.

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Participants	Role
Learners	Intended beneficiaries of the proposed program through improved instructional practices, adapted physical activities, and inclusive learning opportunities that aim to promote meaningful participation and engagement in Physical Education.

Program Components and Implementation Matrix

Table 30

Implementation Matrix, Component 1: Technology Integration

Field	Program Details
Program component / Area of concern	1. Technology Integration - Limited use of adaptive software, video analysis tools, and digital resources in inclusive PE
Focus	This component focuses on improving teachers' competencies in using digital tools and adaptive technology to support inclusive Physical Education instruction.
Objective	Improve teachers' skills in using adaptive software and digital tools for inclusive Physical Education.
Strategies and activities	Conduct hands-on training on adaptive applications, video analysis, digital assessments, and technology-supported PE lessons. Include demonstration teaching and lesson development. Conducting hands-on training on adaptive applications and digital learning tools. Demonstrating the use of video analysis tools for teaching and assessing physical skills. Developing technology-supported Physical Education lesson plans. Integrating interactive quizzes and digital assessments into PE instruction. Exploring accessible digital resources appropriate for learners with diverse abilities.
Persons involved	School Head, ICT Coordinator, Master Teachers, PE/MAPEH Teachers
Budget	₱8,000 — Training materials ₱2,000; internet/data ₱1,500; digital accessories ₱3,000; printing and supplies ₱1,500
Source of budget	School MOOE
Time frame	November 16–20, 2026 – Training and workshops; December 7–11, 2026 – Classroom application
Expected outcome / Target	At least 80% of participating teachers develop and implement one technology-supported inclusive PE lesson. Expected outcome: Teachers will be able to develop and implement technology-supported inclusive Physical Education lessons using appropriate digital tools and resources.
Actual accomplishment	To be accomplished after implementation
Remarks	For implementation

Table 31

Implementation Matrix, Component 2: Adaptive Equipment Development

Field	Program Details
Program component / Area of concern	2. Adaptive Equipment Development - Limited availability of adapted, sensory, and accessible PE equipment
Focus	This component focuses on developing affordable, accessible, and modified instructional equipment to support learners with different physical and learning needs.
Objective	Develop affordable and adapted instructional equipment that meets learners' diverse needs and abilities.

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Field	Program Details
Strategies and activities	Conduct workshops on developing low-cost adapted PE equipment. Purchase materials and produce modified balls, targets, cones, resistance bands, and sensory materials. Conducting workshops on developing low-cost adaptive PE equipment. Producing modified balls, targets, cones, and visual markers. Utilizing resistance bands and balance balls for modified physical activities. Preparing sensory materials to support learners who require additional sensory assistance. Organizing and maintaining accessible instructional equipment.
Persons involved	School Head, Master Teachers, PE/MAPEH Teachers, Property Custodian
Budget	₱10,000 — Adapted balls ₱2,500; cones and markers ₱1,500; resistance bands ₱2,000; sensory materials ₱2,000; workshop supplies ₱2,000
Source of budget	School MOOE and approved stakeholder donations
Time frame	January 11–15, 2027 – Equipment development; January 18–29, 2027 – Classroom utilization
Expected outcome / Target	At least five types of safe, affordable, and adapted PE equipment are developed and used during inclusive PE activities. Expected outcome: Teachers will have access to safe, affordable, and adapted instructional materials that support the participation of learners with diverse needs and abilities.
Actual accomplishment	To be accomplished after implementation
Remarks	For implementation

Table 32

Implementation Matrix, Component 3: Inclusive Learner Engagement

Field	Program Details
Program component / Area of concern	3. Inclusive Learner Engagement – Need to strengthen learner confidence, leadership, group reflection, and peer participation
Focus	This component aims to strengthen learners' confidence, leadership, cooperation, and participation through inclusive and collaborative Physical Education activities.
Objective	Increase learners' confidence, leadership, and participation through group activities and peer support.
Strategies and activities	Implement peer-assisted games, cooperative activities, learner-led exercises, group reflections, and rotating leadership roles during PE lessons. Implementing peer-assisted games and cooperative physical activities. Providing opportunities for learners to lead warm-up exercises and simple PE activities. Conducting structured group discussions and reflections after activities. Assigning rotating leadership roles during group activities. Providing encouragement and positive feedback to strengthen learner confidence. Designing activities that encourage participation regardless of individual ability.
Persons involved	PE/MAPEH Teachers, Class Advisers, Learners
Budget	₱5,000 — Activity materials ₱2,000; leadership and reflection cards ₱1,000; printing ₱1,000; documentation supplies ₱1,000
Source of budget	School MOOE
Time frame	February 1–26, 2027 – Peer-assisted and learner-led activities; March 1–5, 2027 – Evaluation

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Field	Program Details
Expected outcome / Target	Each participating class completes at least two learner-led activities and two group reflections, with documented learner participation. Expected outcome: Learners will have increased opportunities to demonstrate confidence, leadership, cooperation, and meaningful participation in inclusive Physical Education activities.
Actual accomplishment	To be accomplished after implementation
Remarks	For implementation

Table 33

Implementation Matrix, Component 4: Inclusive Instruction and Assessment

Field	Program Details
Program component / Area of concern	4. Inclusive Instruction and Assessment – Need for further training in activity modification, learner safety, and fair assessment.
Focus	This component focuses on strengthening teachers' competencies in modifying physical activities, providing appropriate accommodations, ensuring learner safety, and implementing fair assessment practices.
Objective	Strengthen teachers' skills in modifying activities, ensuring safety, and assessing learners with diverse abilities.
Strategies and activities	Conduct workshops on activity modification, inclusive assessment, safety procedures, and lesson adaptation. Include demonstration teaching, peer observation, and development of assessment rubrics. Conducting workshops on differentiated instruction and activity modification. Demonstrating modifications in game rules, movement requirements, and physical tasks. Developing inclusive assessment rubrics based on individual abilities and participation. Discussing safety procedures for learners with diverse physical and cognitive needs. Preparing flexible lesson plans and alternative activities. Conducting peer observation and demonstration teaching.
Persons involved	School Head, Master Teachers, PE/MAPEH Teachers, School DRRM Coordinator
Budget	₱7,000 — Training materials ₱2,000; demonstration equipment ₱2,000; safety supplies ₱2,000; printing ₱1,000
Source of budget	School MOOE
Time frame	June 14–18, 2027 – Training and demonstration; June 21–30, 2027 – Classroom application
Expected outcome / Target	At least 80% of participating teachers develop and implement modified PE lessons with appropriate safety measures and inclusive assessment tools. Expected outcome: Teachers will be able to develop and implement modified Physical Education lessons that consider learners' readiness, abilities, safety, and individual learning needs.
Actual accomplishment	To be accomplished after implementation
Remarks	For implementation

Table 34

Implementation Matrix, Component 5: Professional Collaboration and Resource Sharing

Field	Program Details
Program component / Area of concern	5. Professional Collaboration and Resource Sharing –Limited instructional resources, preparation time, and opportunities for professional collaboration

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Field	Program Details
Focus	This component promotes collaboration among PE/MAPEH teachers through professional development, instructional planning, and sharing of inclusive teaching resources.
Objective	Promote collaborative planning and resource sharing among PE/MAPEH teachers to address instructional challenges.
Strategies and activities	Conduct monthly LAC sessions, collaborative lesson planning, peer coaching, resource sharing, and development of a shared collection of inclusive PE instructional materials. Conducting regular Learning Action Cell (LAC) sessions. Organizing collaborative lesson-planning activities. Establishing peer coaching and instructional sharing sessions. Developing a shared collection of inclusive PE lesson plans and modified activities. Sharing locally available instructional materials and adaptive teaching practices. Discussing classroom challenges and possible solutions during professional learning sessions.
Persons involved	School Head, LAC Coordinator, Master Teachers, PE/MAPEH Teachers
Budget	₱5,000 — LAC materials ₱1,500; printing ₱1,000; internet/data ₱1,000; documentation and supplies ₱1,500
Source of budget	School MOOE
Time frame	July 2027 – October 2027 – Monthly LAC sessions, scheduled during the second week of each month
Expected outcome / Target	At least four documented LAC sessions are conducted, and a shared collection of inclusive PE lesson plans, adapted activities, and assessment tools is developed. Expected outcome: PE/MAPEH teachers will have increased opportunities for professional collaboration, resource sharing, and continuous improvement of inclusive Physical Education practices.
Actual accomplishment	To be accomplished after implementation
Remarks	For implementation

Total Proposed Budget: ₱35,000.00

Note: The proposed budget is an estimated allocation subject to the availability of school funds, applicable DepEd budgeting guidelines, and approval of the school administration. Activities and schedules may be adjusted based on the school's calendar and available resources.

Scheme of Implementation

The program will be implemented through the collaborative efforts of PE/MAPEH teachers, school administrators, master teachers, and other relevant stakeholders in the Schools Division of Toledo City.

The implementation will begin with an orientation to present the program's objectives, components, planned activities, expected outcomes, and responsibilities of the participants.

School-based training and Learning Action Cell (LAC) sessions will be conducted to strengthen teachers' competencies in technology integration, adaptive equipment development, inclusive learner engagement, activity modification, and inclusive assessment.

Following the training sessions, PE/MAPEH teachers will apply the strategies in their respective classes through adapted physical activities, peer-assisted learning, group reflections, and learner-led tasks.

School administrators and designated coordinators will monitor the implementation through classroom observations, instructional material reviews, teacher feedback, and learner participation records.

Regular evaluation meetings will be conducted to assess progress, identify implementation challenges, and recommend necessary improvements. The results of monitoring and evaluation will serve as a basis for refining the activities and sustaining effective practices that strengthen adaptive teaching strategies and promote learner engagement in inclusive Physical Education.

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Monitoring and Evaluation

Monitoring and evaluation will be conducted to determine the progress and effectiveness of the proposed program. The school administrators, master teachers, and designated coordinators will oversee the implementation of the activities and assess whether the expected outcomes are achieved.

1. Classroom Observation. Classroom observations will be conducted to determine whether teachers apply adaptive teaching strategies, modified activities, and inclusive assessment practices during Physical Education lessons.

2. Review of Instructional Materials. Developed lesson plans, adapted equipment, digital resources, and inclusive assessment tools will be reviewed to determine their appropriateness and usefulness in supporting learners with diverse needs.

3. Teacher Feedback. PE/MAPEH teachers will provide feedback regarding the relevance, applicability, and challenges encountered during the implementation of the program.

4. Learner Participation Records. Participation records and classroom documentation will be reviewed to monitor learners' involvement in peer-assisted activities, group reflections, learner-led exercises, and other inclusive PE activities.

5. Evaluation Meetings. Regular evaluation meetings will be conducted to discuss accomplishments, identify implementation gaps, and recommend improvements to the program.

Before program activities begin, the designated program team will record baseline measures of teachers' adaptive teaching practices using the study's existing adaptive-teaching questionnaire and a structured classroom-observation record. After the planned implementation period, the same measures will be administered again and compared with the baseline to identify changes. These are proposed monitoring procedures; the program has not yet been implemented.

Table 35

Program Evaluation Indicators and Means of Verification

Evaluation Areas	Performance Indicators	Means of Verification
Technology Integration	At least 80% of participating teachers implement one technology-supported inclusive PE lesson.	Lesson plans, classroom observation records, and documentation
Adaptive Equipment Development	At least five types of adapted PE equipment are developed and utilized.	Inventory, photographs, and utilization records
Inclusive Learner Engagement	Each participating class completes at least two learner-led activities and two group reflections.	Activity documentation and participation records
Inclusive Instruction and Assessment	At least 80% of participating teachers implement modified PE lessons with safety measures and inclusive assessment tools.	Lesson plans, assessment rubrics, and observation records
Professional Collaboration	At least four documented LAC sessions are conducted, with a shared collection of inclusive PE resources developed.	LAC documentation, attendance sheets, and resource compilation
Baseline and follow-up assessment	Adaptive teaching practice measures are recorded before activities and repeated after the implementation period; results are compared to identify changes.	Completed questionnaires, observation records, and a brief comparison summary

The results of the monitoring and evaluation will provide information on the implementation progress, accomplishments, and areas requiring improvement. These will also serve as a basis for recommending the continuation, modification, and possible expansion of the program to strengthen inclusive Physical Education practices in the Schools Division of Toledo City.

At regular evaluation meetings, school administrators, master teachers, and designated coordinators will review baseline and follow-up results, observation records, teacher feedback, and implementation documentation. They will identify activities that need revision, resource gaps that need attention, and instructional supports that should be continued or expanded. Decisions and revisions will be recorded in the program monitoring documents.

Program Sustainability

To sustain the implementation of the Recommended Inclusive Physical Education Program, PE/MAPEH teachers and school administrators are encouraged to integrate the proposed activities into existing school-based professional development and instructional improvement initiatives.

Regular Learning Action Cell sessions, collaborative planning, resource sharing, and peer coaching may be continued to strengthen teachers' competencies in adaptive teaching strategies. Schools may also maximize locally available and recyclable materials in developing affordable adaptive PE equipment.

Furthermore, school administrators may consider incorporating relevant program activities into their school improvement initiatives and annual implementation plans, subject to available resources and applicable policies.

Through continuous collaboration, monitoring, and improvement, the program may serve as a practical guide for strengthening inclusive Physical Education instruction and promoting meaningful participation among learners with diverse needs and abilities.

Conclusion

Based on the findings, the researcher concluded that there was a statistically significant moderate positive relationship between the extent of implementation of adaptive teaching strategies and the perceived level of student engagement in inclusive Physical Education, as shown by the Pearson correlation coefficient of 0.598 and p-value of less than .001. Thus, the null hypothesis was rejected. This indicated that stronger implementation of adaptive teaching strategies was associated with higher levels of behavioral, emotional, cognitive, and social engagement among learners, as perceived by PE/MAPEH teachers.

The researcher further concluded that differentiated instruction, modification of physical activities, inclusion techniques, accommodation, equipment, and technology were important aspects of inclusive Physical Education. Although all components were strongly practiced, equipment and technology obtained the lowest ratings, indicating areas requiring further improvement. The high levels of perceived student engagement suggested that learners demonstrated active participation, confidence, persistence, and positive social interaction during Physical Education activities.

The significant relationship supported the importance of strengthening adaptive teaching strategies to promote inclusive learning opportunities. However, the correlation did not establish that these strategies directly caused higher student engagement. The researcher therefore concluded that improving instructional resources, teacher preparedness, and appropriate learning accommodations could further support the delivery of inclusive Physical Education for learners with diverse needs and abilities.

Recommendations

Based on the findings and conclusions of the study, the researcher recommended the development and implementation of a Recommended Inclusive Physical Education Program to strengthen adaptive teaching strategies and student engagement in inclusive Physical Education. The proposed program prioritizes the areas requiring further improvement, particularly technology, equipment, differentiated instruction, modification of physical activities, inclusion techniques, and accommodation. It focuses on improving the use of adaptive software, providing suitable instructional and sensory equipment, developing varied assessment tasks, implementing modified sports activities, promoting inclusive language, and adjusting lesson plans to address learners' diverse physical and cognitive needs. Furthermore, the program includes activities that strengthen learner confidence, motivation, and willingness to participate in group activities. School administrators and other relevant stakeholders are encouraged to provide the necessary instructional resources, technical assistance, and institutional support to facilitate the implementation of the proposed program.

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