



Original article. Teaching smart under constraints: lesson pacing, space improvisation, and reflective practice in elementary Physical Education. Vol. 12, n.º 4; p. 1-19, August 2026.

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Teaching smart under constraints: lesson pacing, space improvisation, and reflective practice in elementary Physical Education

Enseñar de forma inteligente bajo restricciones: ritmo de las lecciones, improvisación espacial y práctica reflexiva en la Educación Física elemental

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Abstract

This study explored how Filipino Physical Education teachers navigate instructional constraints to optimize student learning, focusing on lesson pacing, space improvisation, and reflective practice. Recognizing the challenges posed by limited facilities, scarce equipment, large class sizes, and diverse student needs, the research aimed to describe the adaptive strategies teachers employ to sustain effective, inclusive, and engaging physical education. A qualitative phenomenology design was utilized to capture the lived experiences of 18 purposively selected PE teachers from urban and rural public schools. Data were collected through a semi-structured interview guide with open-ended questions, validated for clarity and relevance, allowing participants to share in-depth reflections and practical examples of their teaching strategies. Analysis followed Colaizzi's phenomenological framework, involving identification of significant statements, formulation of meanings, clustering into themes, and integration into an exhaustive description of adaptive teaching practices, with participant verification ensuring credibility. Findings revealed that teachers creatively repurpose available spaces, strategically pace lessons, engage peer teaching, collaborate with parents and community partners, and continuously reflect on their practice to enhance learning outcomes. These strategies collectively support student engagement, skill development, and holistic well-being despite resource limitations. The study highlights the critical role of adaptability, resourcefulness, and reflection in sustaining effective PE instruction and underscores the value of collaborative and community-oriented approaches. Implications for teacher preparation and curriculum design include fostering problem-solving, creativity, and metacognitive skills, while educational policies should support flexible, inclusive, and resilient learning environments. Overall, the study concludes that effective Physical Education teaching is defined not by the availability of resources but by the strategic, reflective, and innovative practices that educators employ to ensure meaningful and equitable learning experiences.

Keywords: adaptive pedagogy; classroom management; community engagement; peer learning; reflective practice

Resumen

Este estudio exploró cómo los docentes filipinos de Educación Física navegan las limitaciones instruccionales para optimizar el aprendizaje de los estudiantes, centrándose en el ritmo de la lección, la improvisación del espacio y la práctica reflexiva. Reconociendo los desafíos que presentan las instalaciones limitadas, el escaso equipamiento, las clases numerosas y la diversidad de necesidades estudiantiles, la investigación tuvo como objetivo describir las estrategias adaptativas que los maestros emplean para mantener una educación física efectiva, inclusiva y motivadora. Se utilizó un diseño descriptivo cualitativo para capturar las experiencias vividas de 18 docentes de Educación Física seleccionados intencionalmente de escuelas públicas urbanas y rurales. Los datos se recopilaban mediante una guía de entrevista semiestructurada con preguntas abiertas, validada por su claridad y relevancia, lo que permitió a los participantes compartir reflexiones profundas y ejemplos prácticos de sus estrategias docentes. El análisis siguió el marco fenomenológico de Colaizzi, que incluyó la identificación de declaraciones significativas, la formulación de significados, la agrupación en temas y la integración en una descripción exhaustiva de las prácticas docentes adaptativas, con

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verificación por los participantes para garantizar la credibilidad. Los hallazgos revelaron que los docentes reutilizan creativamente los espacios disponibles, organizan estratégicamente el ritmo de las lecciones, promueven la enseñanza entre pares, colaboran con padres y miembros de la comunidad y reflexionan continuamente sobre su práctica para mejorar los resultados de aprendizaje. Estas estrategias apoyan de manera integral la participación estudiantil, el desarrollo de habilidades y el bienestar holístico, a pesar de las limitaciones de recursos. El estudio destaca el papel crucial de la adaptabilidad, la creatividad y la reflexión en la enseñanza efectiva de la Educación Física y subraya el valor de enfoques colaborativos y orientados a la comunidad. Las implicaciones para la formación docente y el diseño curricular incluyen fomentar la resolución de problemas, la creatividad y las habilidades metacognitivas, mientras que las políticas educativas deben apoyar entornos de aprendizaje flexibles, inclusivos y resilientes. En general, el estudio concluye que la enseñanza efectiva de la Educación Física no se define por la disponibilidad de recursos, sino por las prácticas estratégicas, reflexivas e innovadoras que los educadores emplean para garantizar experiencias de aprendizaje significativas y equitativas.

Palabras clave: pedagogía adaptativa; gestión del aula; compromiso comunitario; aprendizaje entre pares; práctica reflexiva

Introduction

Physical Education (PE) is a structured pedagogical practice that emphasizes the development of students' motor skills, physical fitness, cognitive understanding, and psychosocial growth through movement-based learning (Mainsbridge et al., 2025). It integrates cognitive, affective, and psychomotor domains to foster lifelong engagement in physical activity and holistic well-being (Mwaanga & Chifita, 2025). Beyond skill acquisition, PE encourages socialization, teamwork, and personal discipline, creating learning environments that balance performance with inclusive participation (Baena-Morales et al., 2021). It is both an educational and developmental domain that equips learners with knowledge, confidence, and resilience applicable across life contexts (Siedentop & Van der Mars, 2022).

In the Philippine context, teaching PE presents distinct challenges arising from limited facilities, scarce equipment, large class sizes, and environmental constraints such as small or uneven play spaces (Adel et al., 2025). Teachers often face the added complexity of addressing diverse student needs, cultural sensitivities, and variable levels of motivation (Whalen et al., 2021). These limitations can hinder the implementation of standard curricula, affect lesson pacing, and demand improvisation and adaptive

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strategies (Barba-Martín et al., 2020). Consequently, PE educators must constantly negotiate contextual realities while maintaining pedagogical objectives (Adewojo, 2025).

PE teachers cope with these challenges by employing creativity, resourcefulness, and reflective practice to optimize learning outcomes (Hognestad et al., 2022). They adjust activities to available spaces, improvise equipment, and design flexible lessons that accommodate diverse student abilities (Uhlenbrock & Meier, 2021). Classroom management and student motivation are reinforced through strategic pacing, behavioral guidance, and structured engagement (Baena-Morales et al., 2023). Teachers also seek mentorship, professional development, and peer collaboration to refine their strategies and maintain instructional quality (Ali & Saxena, 2024). These coping mechanisms collectively support inclusive, safe, and effective PE delivery in resource-constrained settings (Haegele et al., 2021).

Recent studies on adaptive teaching in PE emphasize the importance of flexibility, resourcefulness, and reflective practice for ensuring student engagement and skill development (Corbin, 2021). Research highlights that improvisation, use of alternative spaces, and attention to lesson pacing enhance both learning outcomes and students' motivation (Burson et al., 2021). Furthermore, reflective teaching practices allow educators to continuously adjust strategies based on learner responses, environmental constraints, and pedagogical goals (Spencer et al., 2020).

Despite these studies, there remains limited research documenting how Filipino PE teachers specifically manage lesson pacing, improvise physical spaces, and engage in reflective practices to sustain effective learning. Little is known about the interplay between these strategies and student engagement, well-being, and skill development in actual classroom contexts. This study seeks to address the question: How do Physical Education teachers navigate time, space, and instructional constraints to optimize learning outcomes? The general purpose is to explore and describe the strategies employed by PE teachers to teach effectively under constraints, focusing on lesson pacing, space improvisation, and reflective practice.

This research provides insights into resilient, adaptive teaching practices that have implications for teacher preparation, curriculum design, and policy formulation. For participants, it highlights their professional expertise and reflective capacities. For the



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body of knowledge, it contributes empirical data on adaptive pedagogy in PE under resource limitations. For the broader academic community, it underscores the value of creativity, flexibility, and reflection as essential competencies for sustaining quality education in constrained environments.

Methods

Research Design

This study employed a qualitative research design, particularly phenomenology approach. Qualitative research is an inquiry process that seeks to understand and interpret the meanings individuals ascribe to their experiences within specific contexts (Creswell, 2021). A phenomenology approach in qualitative research focuses on presenting a detailed account of participants' experiences and perceptions without manipulating the study environment, allowing rich, contextually grounded insights to emerge (Sandelowski, 2000). By using this design, the study captured the lived experiences of Physical Education teachers as they navigated constraints related to lesson pacing, space limitations, and reflective practice.

The choice of a qualitative phenomenology design is most appropriate for this study because it enables the researcher to explore and articulate the nuances of teachers' strategies and coping mechanisms in real classroom settings. This approach allows for in-depth understanding of practical challenges, contextual adaptations, and reflective decision-making, providing a holistic view of teaching under constraints without imposing preconceived frameworks.

Participants and Sampling

A total of 18 Physical Education teachers participated in this study, selected using purposive sampling. Purposive sampling is a non-probability technique in which participants are intentionally chosen based on their knowledge, experience, or specific characteristics relevant to the research objectives (Palinkas et al., 2015). This sampling strategy was appropriate because it ensured that participants possessed firsthand experience teaching Physical Education under resource and environmental constraints. The selected teachers represented various school settings, including urban and rural



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public schools, providing diverse and contextually rich perspectives on lesson pacing, space improvisation, and reflective practices.

Data were collected through individual semi-structured interviews conducted either face-to-face or through online platforms, depending on participant availability. Each interview lasted approximately 30 to 45 minutes and was audio-recorded with participants' consent. The recordings were transcribed verbatim to ensure accuracy and completeness of the data. Data collection continued until theoretical saturation was achieved, meaning that no new themes or significant insights emerged from subsequent interviews.

The coding and analysis process involved two researchers who independently reviewed and coded the interview transcripts. Initial codes were compared and discussed to resolve discrepancies and establish a shared interpretation of the data. Inter-coder agreement was assessed through iterative discussions and consensus-building procedures, resulting in a high level of consistency in theme identification and categorization. These measures enhanced the credibility, dependability, and trustworthiness of the study findings.

Research Instrument

Data were collected using a semi-structured interview guide consisting of open-ended questions, validated by experts in Physical Education and qualitative research methodology. The open-ended format allowed participants to share their experiences, reflections, and strategies in their own words, ensuring depth and authenticity of responses. The guide underwent content validation to confirm that the questions were clear, relevant, and capable of eliciting comprehensive responses aligned with the study's objectives. The instrument also included probes to encourage participants to elaborate on practical examples, decision-making processes, and contextual adaptations.

Data Analysis

The study employed Colaizzi's (1978) phenomenological framework to analyze the qualitative data. The process involved reading all transcripts to gain an overall sense, extracting significant statements, formulating meanings, clustering these meanings into themes, and integrating them into an exhaustive description of the phenomenon. Researchers returned to participants for verification of the findings to ensure accuracy



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and credibility. Colaizzi's method was particularly suitable for this study because it emphasizes both systematic rigor and the preservation of participants' lived experiences, aligning well with the goal of understanding how PE teachers manage lesson pacing, space improvisation, and reflective practice under constraints.

Trustworthiness of the Study

To ensure the trustworthiness of the findings, the study adhered to established qualitative rigor criteria. Credibility was enhanced through member checking, wherein participants reviewed and verified the accuracy of the interpreted findings. Dependability and confirmability were supported through the maintenance of an audit trail documenting research decisions, coding procedures, and theme development throughout the study. Additionally, researcher triangulation was employed during data analysis, with multiple researchers independently reviewing and discussing the data to minimize bias and strengthen the consistency of interpretations.

Ethical Consideration

The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki and applicable institutional research guidelines. All participants were informed of the purpose of the study, the voluntary nature of their participation, their right to withdraw at any stage without penalty, and the measures taken to ensure confidentiality and anonymity. Written informed consent was secured from all participants, and all collected data were stored securely and used solely for research purposes.



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Results

Table 1. Theme, Description, Representative Quotes, and Co-occurring Themes on the Responses of the Research Participants

Theme	Description / Essence	Representative Quotes (Translated into English)	Co-occurring Themes / Relationships
Improvising for Physical Spaces	PE teachers creatively adapt lessons to fit limited or non-standard spaces. Classrooms, corridors, covered courts, and open fields are repurposed to ensure students can still engage in physical activity.	“Even if the field is not standard, I adjust the lines and space so students can still play and learn the game.”	Closely linked with Resourcefulness and Improvisation and Adaptability and Flexibility, as space constraints require creative adjustments.
Time Management and Lesson Pacing	Teachers cope with short class periods by carefully pacing discussions, demonstrations, practice, and assessment. Lessons are broken into manageable phases to maximize learning within limited time.	“I divide the lesson into discussion, practice, and performance so students can learn step by step even with limited time.”	Strongly associated with Strategic and Reflective Planning and Maximizing Learning Despite Limitations, as pacing ensures curriculum alignment.
Encouraging Peer Teaching	Teachers empower skilled students to assist as peer leaders, referees, or demonstrators. Peer teaching supports learning, classroom management, and engagement when teacher demonstration is limited.	“I ask students who are good at the sport to help supervise or demonstrate so others can learn better.”	Intersects with Collaboration and Support Networks and Building Student Confidence, as peer roles enhance leadership and mastery.
Engaging Parents and Community	PE teachers involve parents and local organizations to gain support, resources, and shared responsibility for student learning. Community engagement strengthens program sustainability.	“I coordinate with parents and the community to support activities and help students appreciate the importance of PE.”	Closely related to Collaboration and Support Networks and Resourcefulness, as external support expands available resources.
Reflective Self-Assessment	Teachers engage in self-evaluation to identify gaps in teaching, reflect on daily lessons, and guide improvement. Reflection allows continuous refinement of strategies and instructional decisions.	“I reflect on what I was able to finish and use it as a guide to improve the next lesson.”	Linked with Strategic Planning and Embracing Challenges as Growth Opportunities, as reflection transforms experience into learning.

Discussion:

Improvising Physical Spaces. The participants emphasized that improvising for physical spaces is a central strategy in managing the constraints of limited or non-standard facilities. This means that PE teachers must continuously adapt the environment to



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maintain meaningful student engagement in physical activity, regardless of the size, layout, or condition of the space. This implies that the effectiveness of PE instruction is not solely dependent on formal infrastructure, but rather on the teacher's ability to creatively repurpose available areas to achieve learning objectives. To wit:

"Even if the field is not standard, I adjust the lines and space so students can still play and learn the game." – P1.

"I maximize every corner of our school, from the hallways to the covered court, so students have space to move and practice skills." – P2.

These findings align with previous research indicating that PE teachers' ability to creatively utilize available spaces enhances student engagement, skill development, and the overall quality of physical education programs (Ponsaran, 2024). Studies have shown that when educators modify or repurpose unconventional areas for activity, students demonstrate higher levels of participation and motivation (Baena-Morales & González-Víllora, 2023). Furthermore, improvising physical spaces has been identified as a critical component of teacher resourcefulness, allowing instruction to continue seamlessly despite infrastructural limitations (Etkin, 2024). These imply that spatial improvisation is both a practical necessity and a pedagogical tool that shapes how students experience, access, and benefit from physical education (Wee et al., 2021).

Time Management and Lesson Pacing. The participants highlighted that managing limited class time requires careful pacing of lessons, including discussions, demonstrations, practice, and assessment. This means that teachers strategically segment activities into manageable phases to ensure that learning objectives are achieved despite temporal constraints. This implies that thoughtful lesson pacing directly influences students' skill acquisition, engagement, and the overall efficiency of instruction. According to the research participants:

"I divide the lesson into discussion, practice, and performance so students can learn step by step even with limited time." – P1.

"I schedule short practice rounds and combine them with quick feedback to ensure everyone learns before the class ends." – P2.

The findings are consistent with previous studies emphasizing that well-paced lessons enhance student engagement and optimize learning outcomes in physical

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education (Mitchell & Walton-Fisette, 2021). Research shows that segmenting lessons into clear phases improves cognitive processing and retention of motor skills (Almusawi et al., 2021). Additionally, teachers who implement deliberate pacing strategies are better able to accommodate large classes, varying student abilities, and limited resources, thereby maintaining instructional quality (Goodwin et al., 2022).

Encouraging Peer Teaching. Participants emphasized that peer teaching serves as a valuable strategy in Physical Education classes, particularly when teachers face large groups or limited resources. This means that skilled students are empowered to assist their peers by demonstrating techniques, supervising activities, or acting as referees, thereby extending the teacher's instructional capacity. This implies that student-led support not only facilitates learning but also promotes leadership, responsibility, and confidence among learners. To wit:

"I ask students who are good at the sport to help supervise or demonstrate so others can learn better." – P1.

"Students who assist in teaching often feel proud and more confident, and it helps the class run smoothly." – P2.

The findings are corroborated by studies showing that peer-assisted learning enhances skill acquisition, motivation, and social development in physical education settings (R. J. L. Tagare & Villaluz, 2021). Research also indicates that involving students in teaching roles encourages autonomy and reinforces classroom management, while simultaneously fostering leadership skills (Martín-Rodríguez & Madrigal-Cerezo, 2025). Moreover, peer teaching has been linked to increased engagement and understanding among learners, especially when resources or teacher time are limited (Estevan et al., 2021). Together, these insights suggest that integrating peer teaching strategies can significantly improve both instructional efficiency and student outcomes in constrained learning environments.

Engaging Parents and Community.

Participants highlighted that involving parents and the broader community is an essential strategy to support Physical Education programs, particularly in schools facing resource constraints or limited facilities. This means that PE teachers actively seek to



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cultivate partnerships with parents, local organizations, and sports clubs to secure additional resources, enhance student engagement, and strengthen the sustainability of activities. This implies that community involvement expands the educational ecosystem beyond the classroom, providing students with broader opportunities for learning, mentorship, and physical development. According to the research participants:

“I coordinate with parents and the community to support activities and help students appreciate the importance of PE.” – P1.

“Sometimes local sports clubs provide equipment or training sessions, which makes our PE classes more meaningful and engaging.” – P2.

These findings are supported by research emphasizing the importance of family and community engagement in promoting effective physical education outcomes (Nioda & Tagare, 2024). Studies indicate that students demonstrate higher motivation, skill development, and adherence to healthy behaviors when external stakeholders are actively involved in PE programs (Poblador, 2024). Furthermore, research shows that community partnerships enhance program sustainability and offer teachers practical support in environments with limited infrastructure or funding (Peromingan et al., 2026). Together, these studies corroborate the participants’ insights, highlighting that engaging parents and communities is both a practical strategy and a pedagogical mechanism for enhancing the reach, quality, and impact of Physical Education.

Reflective Self-Assessment.

Participants emphasized that reflective self-assessment is a core strategy in navigating the complexities of teaching Physical Education, particularly under resource or time constraints. This means that teachers consciously evaluate their own performance, identify gaps in lesson delivery, and critically analyze the effectiveness of instructional strategies. Moreover, reflective self-assessment implies that teachers cultivate metacognitive awareness about their instructional decisions, enhancing both adaptability and strategic planning. By consistently analyzing the outcomes of their lessons, educators can anticipate challenges, anticipate diverse student responses, and make real-time adjustments that optimize learning. This practice also strengthens professional resilience, as teachers learn to embrace setbacks as opportunities for growth rather than obstacles.

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This implies that self-reflection transforms teaching into a continuous learning process, allowing educators to refine pacing, adjust activities, and enhance student engagement based on prior experiences. To wit:

“I reflect on what I was able to finish and use it as a guide to improve the next lesson.” – P1.

“After each class, I consider what worked, what didn’t, and how I can better manage time and resources for the next session.” – P2.

These findings are supported by studies demonstrating that reflective practices in education enhance teacher effectiveness, lesson quality, and student outcomes (R. L. Tagare et al., 2025). Research indicates that teachers who engage in structured self-assessment develop stronger problem-solving skills, improved classroom management, and higher adaptability in dynamic learning environments (Nazarudin & Noordin, 2024). Additionally, reflective practices have been shown to cultivate professional identity and self-efficacy, enabling teachers to navigate constraints while maintaining instructional integrity (Baena-Morales & Ferriz-Valero, 2025). These confirm that reflective self-assessment is a critical component of professional practice, allowing PE teachers to continuously refine strategies and respond effectively to the unique demands of their classrooms (Cañabate et al., 2020).

Implications in Education

The findings from this study indicate that Physical Education teachers’ adaptive strategies, such as incorporating alternative activities, have far-reaching implications for educational practice. By creatively designing lessons that accommodate limited resources or varied student abilities, educators demonstrate that curriculum objectives can be met without reliance on ideal facilities or equipment. This implies that flexibility and innovation are critical competencies for teachers in under-resourced contexts, emphasizing the importance of teacher preparation programs that cultivate problem-solving, creativity, and responsiveness to dynamic classroom environments (Azarhazin et al., 2024). Furthermore, integrating alternative activities ensures that all students remain actively engaged, promoting inclusivity and equitable access to meaningful learning experiences (Limbo-Rivera, 2023).



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The management of student behavior and the emphasis on health and well-being reveal the interconnection between pedagogical strategies and psychosocial development. Teachers' ability to maintain discipline while fostering supportive and safe learning environments highlights the dual role of educators as instructors and mentors, shaping not only physical skills but also social-emotional competencies (Moral-Garcia et al., 2021). Additionally, focusing on students' health and well-being demonstrates the holistic nature of Physical Education, where fostering lifelong healthy habits is as critical as skill acquisition (Demchenko et al., 2021). These strategies suggest that PE programs contribute to broader educational goals by promoting physical literacy, resilience, and personal growth, reinforcing the importance of integrating socio-emotional learning frameworks within the curriculum (Opstoel et al., 2020).

Finally, the use of visual demonstrations and celebrating student progress underscores the significance of feedback, recognition, and multimodal learning in enhancing engagement and motivation. By employing demonstrations, teachers address diverse learning preferences and enhance comprehension, while recognition of student achievements strengthens confidence, intrinsic motivation, and commitment to learning (Guan et al., 2023). These practices imply that educators must prioritize both cognitive and affective dimensions of learning, creating environments where students feel competent, supported, and valued. Collectively, these implications suggest that effective Physical Education teaching extends beyond physical skill development, fostering inclusive, engaging, and psychologically supportive learning environments that prepare students for active, balanced, and socially responsible lives.

Conclusion

The study underscores that effective Physical Education teaching in resource-constrained environments extends beyond the mere delivery of skills or adherence to curricula; it is rooted in adaptability, creativity, and reflective practice. Teachers' ability to navigate spatial, temporal, and instructional limitations demonstrates that quality learning experiences are shaped more by pedagogical strategies and professional judgment than by material resources alone. This highlights the critical role of educators as designers of learning environments who foster student engagement, inclusivity, and



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holistic development, ensuring that every learner has the opportunity to participate meaningfully in physical activity. Moreover, the integration of collaborative and community-oriented approaches illustrates that teaching effectiveness is amplified when educators leverage social networks and peer support to enhance learning outcomes.

These insights carry significant implications for teacher preparation, curriculum design, and educational policy. Cultivating adaptability, problem-solving, and reflective capacities should be central to professional development programs, enabling teachers to respond strategically to dynamic classroom contexts. Additionally, promoting collaborative practices with students, parents, and the wider community can expand resources and reinforce the sustainability of physical education initiatives. By prioritizing flexibility, engagement, and continuous improvement, educational systems can foster inclusive, resilient, and developmentally rich learning environments that equip students with the skills, confidence, and motivation to lead active, balanced, and socially responsible lives.

Limitations

This study is limited by its focus on a specific group of Physical Education teachers within certain school contexts, which may not fully represent the experiences of educators in other regions or educational settings. The reliance on self-reported data through interviews introduces the possibility of subjective bias, as participants may emphasize certain strategies or omit challenges. Additionally, the qualitative descriptive design captures rich, contextual insights but does not allow for generalization of findings or measurement of the effectiveness of the identified strategies. Finally, external factors such as school policies, administrative support, or student characteristics were not systematically examined, which may influence how adaptive strategies are implemented in practice.



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