

Implementing Differentiated Instruction In Physical Education: A Phenomenological Study On Teachers' Strategies And Students' Experiences

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Abstract

In practice, a homogeneous, one-size-fits-all instructional approach often fails to accommodate the diverse needs of all learners. This situation underscores the importance of implementing instructional strategies that are more flexible, adaptive, and student-centered. Through a differentiated instruction approach, this research aims to transition from these traditional methods to more inclusive practices. This study aims to describe teachers' strategies in implementing differentiated instruction in physical education and to explore students' experiences in engaging with the learning process.

A qualitative phenomenological approach was employed in this research. Participants consisted of three physical education teachers and fifteen junior high school students from SMPN 13, SMPN 20, and SMPN 9 in Pontianak, West Kalimantan, selected through purposive sampling. Data were collected through in-depth interviews and field observations, with the researcher serving as the primary instrument. Data analysis was conducted using Colaizzi's method to ensure systematic and comprehensive insights.

The findings reveal that teachers made efforts to identify student readiness, interests, and talents through observation and initial assessments. Teachers developed teaching plans and implemented instruction with varied content.

Assessment was carried out across affective, cognitive, and psychomotor domains, although with greater emphasis on psychomotor performance. Students acknowledged the variety of learning materials, but perceives that differentiation practices remained general and had not fully addressed individual needs. Major challenges included limited facilities and infrastructure, insufficient teacher understanding of differentiation, and instructional practices that remained predominantly teacher-centre.

To sum up, implementation of differentiated instruction in junior high school physical education is at an early stage, with teachers beginning to identify student learning profiles and apply varied content as well as multidomain assessments.

These practices, while not yet fully consistent or adaptive, indicate important initial steps toward more responsive and inclusive instruction.

Keywords: Differentiated Instruction, Physical Education, Teacher Strategy, Student Experience, Inclusive Learning

Introduction

Physical education is a distinctive and unique subject that has been implemented in schools from the elementary to the secondary level. However, in its instructional practices, physical education teachers are frequently confronted with student diversity, ranging from variations in physical abilities, motivation, and learning styles to socio-cultural backgrounds. Such diversity presents a challenge in designing a learning process that is effective, engaging, and meaningful for all students. Unfortunately, implementations service-learning in Physical Education lack a concrete frame of reference to guide (Chiva-Bartoll & Fernández-Rio, 2022).

In practice, a homogeneous, one-size-fits-all instructional approach often fails to accommodate the diverse needs of all learners. Students with advanced physical abilities may feel insufficiently challenged, whereas those with limited abilities may encounter difficulties and lose motivation. This situation underscores the importance of implementing instructional strategies that are more flexible, adaptive, and student-centered. The issues raised centre around the pedagogies utilized in Physical Education (PE) (Wintle, 2022), preliminary observations and interviews indicate that PE instruction in this region is still predominantly dominated by conventional, teacher-centered practices. Many educators rely on rigid, command-style teaching where all students are expected to perform the same drills at the same pace. This lack of differentiation often leads to disengagement, where low-skilled students feel intimidated while high-skilled students remain unchallenged. The urgent of this study is continuing with conventional methods risks marginalizing students' physical development and failing to meet the inclusive mandates of the current Indonesian curriculum. One relevant approach to answer this challenge is differentiated Instruction (DI). At its core, DI is a pedagogical framework that proactively adapts teaching methods, resources, and learning activities to meet the diverse readiness levels, interests, and learning profiles of students. In the context of Physical Education (PE), DI moves beyond a 'one-size-fits-all' approach, recognizing that physical motor skills and athletic predispositions vary significantly among learners. By focusing on three main pillars-content, process, and product-DI ensures that every student, regardless of their physical starting point, can engage meaningfully with the curriculum and achieve personalized learning goals.

Differentiated instruction provides teachers with the opportunity to adjust the content, process, and product of learning in accordance with students' needs, interests, and learning profiles. Through this strategy, students are expected to gain learning experiences that align

with their capacities and potential, thereby fostering a more inclusive, equitable, and meaningful learning environment. Although the concept of differentiation has been widely implemented in other subject areas, its application in physical education remains relatively underexplored.

A phenomenological study serves as an appropriate research approach to explore the actual practices and subjective experiences of physical education practitioners within the context of differentiated instruction. By examining teachers' strategies and students' learning experiences, this research is expected to provide valuable contributions to the development of physical education practices that are more responsive to learner diversity. Based on the foregoing discussion, this study focuses on the implementation of differentiated instruction in physical education, with the aim of describing the strategies employed by teachers and exploring students' experiences in the learning process. Addition, the study seeks to identify the challenges that arise in the application of differentiated instruction, thereby providing insights that may serve as a reference for teachers, researchers, and policymakers in enhancing the quality of physical education in schools.

Differentiation in learning essentially views students differently and dynamically. (García-Rico et al., 2021). Therefore, teachers must have a plan for differentiated learning (Van Munster et al., 2019), Among others, this includes examining lesson plans and their implementation both in classrooms and on the field, aligning them with students' strengths and weaknesses, designing plans and strategies in accordance with the curriculum and appropriate teaching methods to meet students' needs, and explaining the forms of teacher support provided to address those needs. The researcher can thus observe how differentiated instruction has been implemented in physical education classes, since in essence, differentiated learning must be developed within the instructional process to accommodate each student's physical development and ensure their comprehensive engagement in PE class.

Materials and Methods

Study Participants.

The participants in this study were selected using a purposive sampling technique to ensure the data captured rich, information-dense cases of differentiated instruction (DI) in practice. The sample consisted of three Physical Education (PE) teachers and fifteen students from Grades VII and VIII at SMPN 9, SMPN 13, and SMPN 20 in Pontianak, West Kalimantan. These schools were selected as they represent the diverse pedagogical landscape in the region where DI is currently being introduced.

Study organization.

This study employed a qualitative approach with a phenomenological design to capture the lived experiences of both teachers and students. In this qualitative inquiry, the researcher served as the primary instrument. To ensure data triangulation and terminal validity, the following supplementary instruments were utilized: semi-structured interview guide and observation checklist.

The study was conducted through a systematic four-stage procedure to ensure rigorous data collection; preparation phase, observation phase, interview phase, verification phase.

Data analysis.

Data analysis was performed using Colaizzi's descriptive phenomenological method, which is highly effective for extracting the fundamental structure of an experience. The analysis followed seven rigorous steps: (1) reading and re-reading the transcripts; (2) extracting significant statements; (3) formulating meanings; (4) clustering themes; (5) developing an exhaustive description; (6) producing the fundamental structure of the phenomenon; and (7) seeking participant verification for final validation.

Results

Based on the research objectives, several indicators were explored in depth through interviews. Each school was represented by one respondent, namely a physical education teacher, along with fifteen students. The following section presents the research findings derived from the interview data with the teachers.

Table 1. Results of interviews with teachers at SMPN 13, SMPN 20, and SMPN 9

Teacher strategy indicators in teaching	Significants statements	Formulation of Meaning	Essence
Identifying student differentiation	Teachers observe student behavior and student readiness to learn, and find out students' talents and interests.	Teachers try to understand students' behavior and readiness to learn, as well as explore students' talents and interests so that the learning process can	Teachers understand their role as needing to understand the behavior, readiness, talents and interests of students so that learning can take

		be adapted to the needs and potential of each student.	place according to the needs and potential of each student
Mapping learning needs	Carrying out initial assessments of students, identifying their learning profiles, and evaluating affective, cognitive, and psychomotor domains; followed by systematic evaluation, reflection, and the development of follow-up plans, as well as mapping students' conditions through structured observation. to align instructional strategies with learners actual needs.	Teachers strive to Teachers who conduct a comprehensive assessment that encompasses students' baseline conditions, learning profiles, as well as affective, cognitive, and psychomotor domains. In addition, teachers carry out evaluation and reflection, develop follow-up plans, and map students" conditions through observation in order to align instructional strategies with learners actual needs	Teachers who conduct comprehensive, reflective, and continuous assessments are better able to understand students" learning profiles, thereby enabling the design of instruction that is more accurate, focused, and aligned with learners potential and needs
Preparation of lesson plan	I designed the learning process by preparing instructional tools, student worksheets, assessments, instructional media, and teaching materials as usual. Subsequently, I implemented the teaching and assessment process, followed by conducting evaluation, reflection, and follow-up actions.	Teachers perceive their role as a systematic process, beginning with the development of comprehensive lesson plans (including instructional tools, worksheets, assessments, media, and teaching materials), followed by the implementation of teaching and assessment, and concluded with evaluation, reflection, and follow-up actions aimed at continuous	The teacher's role in the learning process is conceptualized as a continuous cycle that emphasizes planning, implementation, and reflection, thereby ensuring that instruction is conducted in a structured manner while remaining adaptive to students' needs and learning outcomes.

		improvement.	
Learning process	<p>Content differentiation in meeting students learning needs refers to the provision of a sequence of knowledge, concepts, and skills that students are required to acquire based on the prescribed curriculum. In the context of physical education, examples of differentiated content include materials aligned with the core competencies (KD) of the curriculum, such as major and minor games, athletics, fitness, martial arts, aquatics, and the concepts and implementation of healthy living. Within the learning objectives, teachers are expected to exemplify the specific content that students should master, such as dribbling a ball using various techniques.</p>	<p>Teachers understand content differentiation as the fulfillment of students' learning needs through the provision of knowledge, concepts, and skills grounded in the curriculum. In physical education, the content is aligned with the Core Competencies, encompassing major and minor games, athletics, fitness, martial arts, aquatics, and concepts of healthy living, with an emphasis on mastering practical skills such as dribbling a ball in various forms.</p>	<p>Content differentiation is understood as a strategy for delivering physical education materials in an adaptive manner to meet students' needs while remaining grounded in the curriculum. This approach enables students to acquire knowledge, concepts, and physical skills in a more meaningful way and in accordance with their individual potential</p>
Assesment	<p>The assessment was carried out with reference to three domain-affective, cognitive, and psychomotor-with a predominant emphasis on the</p>	<p>Teachers perceive assessment in physical education as a comprehensive process encompassing the affective, cognitive, and psychomotor domains, with</p>	<p>Assessment in physical education is understood as a holistic endeavor that focuses on psychomotor skills while not neglecting the affective and cognitive aspects,</p>

	psychomotor aspect.	primary emphasis placed on the psychomotor aspect, which is regarded as the core of students' physical skill attainment.	thereby providing a comprehensive picture of students' development.
Challenges in the Implementation of Differentiated Instruction	The barriers include the limitations of infrastructure and facilities, an unsupportive learning environment, teachers' limited understanding of process, content, and product differentiation, the lack of teacher innovation, and the persistence of teacher-centered instruction	The implementation of differentiated instruction faces several barriers, including limited infrastructure and facilities, an unsupportive learning environment, and teachers' insufficient understanding of process, content, and product differentiation. In addition, the lack of teacher innovation and the tendency to rely on teacher-centered instruction further hinder the optimization of instructional practices	The main barriers to differentiated instruction lie in the limitations of facilities and teacher competencies, as well as the dominance of teacher-centered methods, which reduce opportunities for innovative and student-centered learning.

In addition to obtaining information from subject teachers, data and insights from students are also essential to provide a more comprehensive picture of the phenomenon. The following section presents the data reduction and summary of interviews conducted with 15 students across three schools.

Tabel 2. Findings from Student Interviews at SMPN 13, SMPN 20, and SMPN 9

Significants Statements	Formulation of Meaning	Essence
Students perceived that teachers attempted to identify their learning readiness, talents, and interests through observation and initial assessments. This created the impression that	The initial mapping provided a sense of appreciation; however, a more individualized approach is still required to uncover students' potential more thoroughly.	Students felt valued through the observation process; however, the mapping had not yet fully aligned with their individual needs.

each student was considered unique. However, some students noted that the process remained general and did not fully reflect their individual learning needs.

Students perceived that the materials provided were in accordance with the curriculum, such as major and minor ball games, athletics, fitness, martial arts, and concepts of healthy living. For the students, this variety of materials enriched their learning experiences; however, the implementation often did not fully correspond to their individual needs and levels of ability.

Assessment was conducted in the affective, cognitive, and psychomotor domains, with a predominant emphasis on psychomotor evaluation. Students perceived psychomotor assessment as both challenging and relevant, as it measured practical skills. However, they felt that affective and cognitive assessments were sometimes given less attention.

Students recognized several obstacles that hindered learning activities, such as limited infrastructure, inadequate facilities, an unsupportive environment, and the dominance of teacher-centered instruction. These factors created a sense of restriction for students in exploring

Content differentiation has been introduced; however, its implementation has not been consistent in accommodating the full range of student differences

The assessment of physical skills was considered important; however, a balance with affective and cognitive aspects is necessary to ensure a more comprehensive evaluation, complemented by process-oriented assessment.

Both external and internal barriers have slowed the realization of an ideal differentiated instruction

The materials were diverse and engaging; however, they had not yet been fully adapted to accommodate students' varying abilities

Psychomotor assessment was considered relevant; however, the affective and cognitive aspects were still insufficiently addressed.

The limitations of facilities and infrastructure, along with teachers' continued reliance on teacher-centered approaches, have hindered the learning process.

their abilities.

The information obtained from teachers' and students' statements was subsequently reduced and interpreted, providing a clear picture that, on the one hand, teachers have made efforts to introduce innovations and gradually implement differentiated instruction in their teaching. However, various challenges have emerged in its practice. Conversely, on the other hand, students have not yet experienced significant changes in teaching methods or noticeable differences in the way physical education is delivered at school.

Discussion

The findings indicate that the implementation of differentiated instruction in physical education has begun to be initiated by teachers, although it has not yet reached its full potential. Teachers have attempted to identify students' learning readiness, talents, and interests through observation and initial assessments. These efforts reflect teachers' awareness of the need to accommodate individual diversity. Nevertheless, the identification process remains general and superficial, and therefore has not fully captured students' individual learning profiles. These findings are consistent with (Colquitt et al., 2017), who emphasized the importance of varied initial assessments in gaining a comprehensive understanding of students' learning readiness. In terms of lesson planning, teachers prepared instructional tools in accordance with the applicable curriculum; however, teaching modules that take into account learning modalities (visual, auditory, kinesthetic) have not been fully developed and actions in how to teach about planning may be ripe for disruption and redesign (Fletcher & Beckey, 2023). In fact, differentiated instruction requires teachers not only to adapt the content but also to adjust the learning process in alignment with students' learning styles (Umayrah & Wahyudin, 2024). (Nesbitt et al., 2019) It is stated that teachers require support in the form of training and resources to effectively integrate teaching strategies based on learning modalities. This is also reflected in the present study, in which teachers still tend to implement instruction in a homogeneous manner. As a result, students perceived that while the learning materials were varied, their implementation was not yet consistent with their individual needs.

The implementation of instruction indicates that content differentiation has begun to be practiced through the presentation of varied materials (Lucius & Daryanto, 2024), such as major ball games, athletics, fitness, and martial arts. Students acknowledged that this variety provided new learning experiences; however, they also perceived that instruction had not yet been fully adapted to their individual ability levels. This condition suggests that teachers continue to face challenges in applying contextual differentiation strategies. (Dixon et al., 2014) It emphasizes that the implementation of differentiation in physical education requires teachers ability to adapt the content in accordance with students" potentials and limitations. In the assessment component, teachers have incorporated the affective, cognitive, and psychomotor domains, with a predominant focus on psychomotor aspects. Students considered psychomotor assessment relevant as it measured real skills; however, they also perceived that the affective and cognitive aspects had not received balanced attention. (Flournoy & Bauman, 2021) The project-based assessment approach adopted by some teachers represents a progressive step, as it provides students with the opportunity to express their understanding in accordance with their learning modalities.

Learning reflection practices also varied. Some teachers conducted reflection through student presentations, while others relied solely on summative assessments. In fact, in-depth reflection is essential to provide a clearer picture of the effectiveness of differentiation strategies. (Smale-Jacobse et al., 2019) It highlights that although differentiation has the potential to generate positive impacts, its effects often remain limited if not supported by consistent reflective practices.

The main barriers faced by teachers include limited facilities and resources, factor the same cause has also been given by (Karamani et al., 2024) the most frequently mentioned barriers included inadequate professional learning, and limited resources and support, as well as insufficient understanding of the concept of differentiation. In addition, the heavy administrative workload reduces teachers' opportunities for classroom innovation. These challenges demonstrate that the implementation of differentiated instruction cannot be entrusted solely to teachers, but rather requires collaborative support among teachers, school leaders, and policymakers. (Sharp et al., 2020) It emphasizes the crucial role of school leaders in providing continuous professional learning and in fostering an inclusive school culture.

Overall, this study demonstrates that efforts to implement differentiated instruction in physical education at the junior high school level have begun to emerge, although they remain at an early stage. These findings are consistent with the results of research by (Razali et al., 2024), teachers made efforts to identify students' needs, design instructional materials, conduct assessments, and carry out reflection. However, various limitations continue to hinder the effectiveness of these practices. This indicates the need to strengthen teachers' capacity through training, the provision of contextual learning resources, and adequate facility support (Bourke et al., 2024). Thus, well-structured actions adapted to the possibilities of each individual are required (Baena-Morales et al., 2021; Van Maarseveen et al., 2025) so that differentiated instruction in physical education can be further optimized to provide an inclusive (Akbaruddin et al., 2024), enjoyable, and meaningful learning experience for all students (Iannucci et al., 2026; Mainsbridge et al., 2025).

The novelty of this study lies in its specific focus on the intersection of DI and the unique socio-educational landscape of Pontianak. While previous studies have extensively explored DI in theoretical or general classroom settings, there is a scarcity of research that captures the lived experiences of students alongside teacher strategies specifically within the PE domain in this region. Ultimately, this study offers significant contributions to the field of sports pedagogy. It provides a practical roadmap for PE teachers in similar regional contexts to transition from traditional to adaptive teaching models. By highlighting successful strategies and identifying common barriers, this study offers new knowledge on how to localize DI principles within limited-resource environments. This research serves not only as an academic inquiry but also as a transformative tool to foster a more inclusive and psychologically safe environment for PE practices in schools.

Conclusions

In conclusion, the implementation of differentiated instruction (DI) in physical education at the junior high school level in Pontianak remains at an embryonic stage. While teachers have demonstrated commendable initial efforts in identifying student readiness, interests, and learning profiles, the strategies employed remain largely generic. The instructional materials and multi-domain assessments, although varied, have not yet fully accommodated the complex diversity of students' learning modalities. Consequently, while students experienced a wider range of activities, the differentiation was not consistently adaptive to individual needs. These findings underscore that DI cannot be effectively realized without adequate structural support and a shift away from conventional pedagogical mindsets. Fostering a truly inclusive environment is, therefore, the most critical prerequisite for successful differentiation in physical education.

Despite the insights gained, this study has several limitations that should be acknowledged, such as small sample size and geographic restriction. Based on these findings and limitations, the following recommendations are proposed to upcoming studies should involve a larger, more diverse sample across multiple regions to enhance the generalizability of the findings.

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Conflict of interest

The authors declare do not have any conflicts of interest.

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