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Exploration of Professional and Pedagogical Competencies of PJOK Teachers Towards the Quality of Physical Education Learning in Elementary Schools

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Abstract:
This study aims to investigate the professional and pedagogical competencies of Physical Education, Sports, and Health (PJOK) teachers, identify contextual supporting and inhibiting factors, and analyze their direct impact on the quality of physical education learning in Elementary Schools within the Merdeka Curriculum framework. A qualitative approach with an interactive case study design was applied across three Elementary Schools in Beji District, Pasuruan Regency. Three PJOK teachers were selected using purposive sampling based on linear qualifications and teaching experience. Data were collected through field observations, structured interviews, and document reviews, then analyzed using the Miles, Huberman, and Saldana interactive model.
The findings directly align with the study objectives: (1) Professional competence is demonstrated through deep subject-matter mastery and adaptive equipment modification, while pedagogical competence is evident in diagnostic-based differentiated instruction and authentic assessment; (2) Key supporting factors include visionary principal leadership and active participation in the Physical Education Teacher Working Group (KKGO), whereas primary inhibiting factors include high solo-teaching workloads (managing grades 1–6) and facility limitations; and (3) The integration of these competencies directly enhances learning quality, marked by high student participation (85–95%) and optimized active movement time (70–80%).
The primary contribution of this research lies in providing empirical evidence on how teacher competency synergy directly transforms instructional quality and overcomes structural constraints in primary physical education within a decentralized district context.

Introduction

Several prior studies in Indonesia have documented teacher competency dynamics, yet limitations remain. Saputra (2024) evaluated pedagogical competence in Kulon Progo but focused primarily on IT utilization for assessment, while Hamid & Saputra (2022) examined assessment gaps without exploring instructional execution. Regarding professionalism, Rahmawati & Putra (2022) highlighted technological barriers rather than adaptive pedagogy. While quantitative surveys on teacher competence abound, qualitative case studies examining how PJOK teachers practically integrate professional mastery with pedagogical adaptation under resource-constrained, district-level conditions remain scarce.

This study fills that critical gap by exploring the real-world integration of professional and pedagogical competencies among elementary PJOK teachers in Beji District, Pasuruan Regency. The unique novelty of this research lies in unveiling how teachers leverage local professional learning communities—specifically the Beji District Physical Education Teacher Working Group (KKGO)—and principal support to overcome structural constraints, such as managing grades 1–6 independently and adapting instruction to facility disparities between central and peripheral schools. Consequently, this study provides actionable insights into sustaining physical education quality within decentralized primary education settings under the Merdeka Curriculum framework.

Method

This study employed a qualitative approach with a descriptive and exploratory case study design to gain in-depth clarity on teacher competencies in real-world settings. The research was conducted in three elementary education units in Beji District, Pasuruan Regency: SDN Sumber Sari 1 (representing a peripheral public school), SDI Azzahra (representing a faith-based private school), and SDN Beji 1 (representing a central urban public school). Selecting these locations aimed to obtain contextual data variations regarding facility availability and school governance characteristics.

The primary subjects or key informants were three (3) PJOK teachers selected using purposive sampling with the following criteria: possessing a linear academic background (Bachelor's in Physical Education/Sports), a minimum of 5 years of teaching experience, and actively implementing the Merdeka Curriculum. The research subjects consisted of Ms. Siti (SDN Sumber Sari 1, 8 years of experience), Mr. Nanang (SDI Azzahra, 7 years of experience), and Mr. Rachmad (SDN Beji 1, 12 years of experience). Supporting informants included three school principals and representatives of upper-grade students (grades 5 and 6) from each school.

Data collection was conducted over an eight-week period from March to April 2026 using three primary methods:

1. Passive Participatory Observation: Observations were conducted across all three elementary schools to observe live instructional practices. Each teacher was observed during four separate physical education sessions (a total of 12 observation sessions across the three schools). Each session lasted 70 minutes (2 x 35-minute lesson blocks), yielding approximately 14 total hours of direct field observation. Observations tracked pedagogical execution from introduction and warmup to main movement tasks, safety management, and cooldown/reflection.

2. In-Depth Structured Interviews: Semi-structured interviews were administered to the three key PJOK teachers and three school principals. Each participant underwent two separate interview sessions lasting between 45 to 60 minutes per session (totaling 12 interview sessions). Initial interviews focused on competency perceptions, instructional planning, and curriculum adaptation, while follow-up interviews served to clarify observed classroom behaviors and structural challenges. Additionally, brief focus group discussions (30 minutes each) were conducted with upper-grade student representatives (grades 5 and 6) at each school to capture student learning experiences.
3. Documentary Study: Portfolio documents—including Teaching Modules (RPP/Modul Ajar), Learning Outcome Pathways (ATP), student evaluation rubrics, attendance records, and professional development certificates—were systematically reviewed and cross-referenced with observational and interview data.

Results

Research Subject Profiles

The formal background characteristics of the three primary PJOK teacher subjects are detailed in Table 1, establishing baseline professional capacities across public, private, urban, and peripheral school contexts.

Table 1. Formal Competency Profile and Background of Research Subjects

Teacher Name (Initials)	Educational Institution	Academic Qualification	Teaching Experience	Certification Status	KKGO Activity Status
Ms. Siti	SDN Sumber Sari 1	B.Ed. in Physical Education	8 Years	Certified	Active Member
Mr. Nanang	SDI Azzahra	B.Ed. in PJKR	7 Years	In Process	District Committee Member
Mr. Rachmad	SDN Beji 1	B.Ed. in Physical Education	12 Years	Certified	District KKGO Chairperson

1. Manifestation of Professional and Pedagogical Competencies
Field findings reveal a high degree of integration between subject matter mastery and adaptive instructional delivery across all three schools.

- Professional Competence: Demonstrated through strong content knowledge and adaptive equipment modification.

- Direct Observation: At SDN Sumber Sari 1, which lacked standard equipment, Ms. Siti adapted a softball lesson by constructing makeshift balls using taped paper waste and lightweight bamboo poles as bases, ensuring zero safety hazards during play.
- Interview Data: Ms. Siti explained, "Limited facilities in peripheral schools should not halt motor development. We modify equipment so students still grasp the core mechanics of throwing and catching safely."
- Documentary Evidence: Review of Ms. Siti's Teaching Modules (Modul Ajar) confirmed pre-planned equipment modification guides integrated directly into instructional steps.

• Pedagogical Competence: Reflected in diagnostic-based differentiated instruction and authentic assessment.

- Direct Observation: During a gymnastics lesson at SDI Azzahra, Mr. Nanang conducted baseline balance tests on a straight line, subsequently grouping students into three tiers: core stability drills (low), inclined mat rolls (intermediate), and independent roll variations (advanced).
- Interview Data: Mr. Nanang stated, "Students enter physical education with vastly different motor readiness. Differentiation ensures every child experiences movement success without feeling overwhelmed or excluded."
- Documentary Evidence: Assessment rubrics from SDI Azzahra documented process-based scoring grids evaluating psychomotor progress alongside sportsmanship and social cooperation.

2. Contextual Supporting and Inhibiting Factors

The optimization of teacher competency in the field is actively shaped by contextual facilitators and structural barriers.

• Supporting Factors: Principal leadership and active professional learning communities.

- Interview Data: Mr. Rachmad noted, "Visionary leadership from our principal allows flexible budget allocations for equipment. Furthermore, our weekly meetings at the Beji District KKGO forum provide a collaborative space to resolve Merdeka Curriculum administration challenges."
- Documentary Evidence: Administrative records confirmed regular attendance certificates and lesson-study outputs produced within the Beji District KKGO network.

• Inhibiting Factors: Heavy solo-teaching workloads and geographical facility disparities.

- Direct Observation: At all three schools, teachers functioned as the sole PJOK instructor, managing grades 1 through 6 independently across large student cohorts, leading to packed teaching schedules with minimal transition breaks.
- Interview Data: Mr. Rachmad emphasized, "Managing six grade levels single-handedly restricts the time we can allocate to designing individualized feedback and detailed post-lesson reflections."

3. Direct Impact on Physical Education Learning Quality

The synergy of professional and pedagogical competencies produced measurable enhancements in instructional quality.

• Active Student Engagement: Direct field counts during observational sessions recorded student active participation rates between 85% and 95%, characterized by enthusiastic involvement in game-based motor tasks.

• Optimized Active Movement Time: Efficient field management minimized instructional downtime (e.g., transition between drills), enabling Academic Learning Time in Physical Education (ALT-PE) to reach 70%–80% of total class duration.
• Psychological Safety: Interviews with upper-grade student representatives revealed high enthusiasm and low anxiety regarding physical failure, attributing their confidence to constructive teacher feedback and inclusive peer environments.

Discussion

Analysis of Contextual Supporting and Inhibiting Factors

In-depth interviews revealed key factors influencing competency optimization. The primary supporting factor was visionary principal leadership. At SDI Azzahra and SDN Beji 1, principals provided operational funding support for modern equipment and granted leave/scholarships for external training. Active participation in the Beji District KKGO forum provided an essential community space for sharing best practices and addressing Merdeka Curriculum administrative challenges collectively.

Conversely, structural barriers persist. The most critical issue is excessive teaching workload; all three subjects serve as sole PJOK teachers managing grades 1 through 6 independently across large student cohorts. This structural constraint severely limits time available for detailed assessment design and individual feedback. Furthermore, geographic and financial disparities in rural schools (e.g., SDN Sumber Sari 1) restrict access to official training invitations and physical field space.

Impact on Physical Education Learning Quality

Harmonious integration of professional and pedagogical competencies demonstrated a significant positive impact on physical education quality. Student active participation averaged 85%–95% per session, surpassing engagement rates in theoretical classroom subjects. Students exhibited high enthusiasm due to low-stress, enjoyable instructional design.

Academic Learning Time in Physical Education (ALT-PE) was highly optimized. Efficient field management reduced transitional downtime, allowing students to engage in active physical movement for 70%–80% of class time—substantially exceeding international recommendations of 50%. The learning environment maintained strong psychological safety, encouraging skill attempts without fear of failure through constructive teacher feedback.

Conclusion

This study demonstrates that the quality of Physical Education, Sports, and Health (PJOK) instruction in primary schools is not determined by facility abundance, but by the critical synergy between teachers' professional and pedagogical competencies. Critically, these two competencies do not operate in isolation; professional competence provides the foundation for deep subject-matter mastery and adaptive equipment modification, while pedagogical competence translates this knowledge into diagnostic-based differentiated instruction and authentic process-based assessment. Together, this synergy directly enhances instructional quality by maximizing student active participation (85%–95%), optimizing movement time allocation (70%–80% ALT-PE), and fostering an inclusive, psychologically safe learning environment under the Merdeka Curriculum framework.

However, the findings of this study must be interpreted within the context of its methodological limitations. The primary limitation lies in the small participant sample, restricted to three key PJOK teachers across three elementary schools in a single district (Beji District, Pasuruan Regency). While this qualitative case study design allowed for an in-depth, rich exploration of real-world classroom practices, the localized context limits the direct generalizability of the findings to broader regional or national populations.

To build upon these insights, future research should adopt mixed-methods or large-scale quantitative survey designs involving a broader and more diverse cohort of PJOK teachers across multiple districts. Additionally, quasi-experimental studies evaluating targeted professional development interventions—particularly aimed at managing solo-teaching workloads and optimizing time-on-task in peripheral schools—are highly recommended to advance primary physical education policy and practice.

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