



## Capacity Building for Physical Education Teachers in Aceh Besar: Enhancing Competence through Innovation and Training

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### Abstract.

#### Background

The competence of Physical Education, Sports, and Health (PJOK) teachers plays a critical role in enhancing the quality of education and supporting the physical, mental, and character development of students. In Aceh Besar Regency, many PJOK teachers face challenges in applying innovative teaching strategies and integrating technology into their pedagogy.

#### Objectives

This study aimed to strengthen the professional competence of PJOK teachers in Aceh Besar through a structured capacity-building program focused on pedagogical innovation, curriculum flexibility, and health awareness.

#### Methods

A participatory and practical approach was employed, involving interactive training workshops, the introduction of educational technologies, peer observations, and collaborative curriculum development. Seventeen PJOK teachers from Kuta Baro subdistrict participated in the program, which was conducted at Universitas Abulyatama, Aceh. Evaluation was conducted using a mixed-methods approach, including classroom observations, teacher surveys, and assessments of student progress.

#### Results

The program significantly improved teachers' understanding and implementation of innovative teaching methods, especially those utilizing digital media. Teachers demonstrated increased ability to design flexible, student-centered curricula and apply strategies to promote both physical and mental well-being. Additionally, the training emphasized the role of PJOK teachers as positive role models in fostering healthy lifestyles among students.

#### Conclusion

This capacity-building initiative effectively enhanced the pedagogical and professional skills of PJOK teachers in Aceh Besar. The outcomes highlight the importance of continuous professional development in creating dynamic, health-oriented learning environments and improving the overall quality of physical education in schools.

**Keywords:** Teacher Competence, Physical Education, Innovative Learning, Curriculum Flexibility, Teacher Training

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## INTRODUCTION

Teacher competence is a central factor in ensuring the success of the educational process, particularly in subjects that involve both cognitive and physical development, such as Physical Education, Sports, and Health (PJOK) (Teachers Institute, 2023). The Indonesian government underscores this through Law No. 14 of 2005 concerning Teachers and Lecturers, which obliges educators to continuously improve their academic qualifications and professional competencies in line with the advancement of science, technology, and the arts (Abduh et al., 2024; Adegbija & Fakomogbon, 2013; Anghelo Josué et al., 2023).

(Ahad et al., 2023; Ca et al., 2015; Vealey, 2024) Learning is a dynamic process through which individuals acquire knowledge, skills, attitudes, and understanding, typically through structured interaction with instructional content or environments. In today's educational landscape, learning innovation plays a pivotal role in sustaining student engagement. Innovations in teaching such as the integration of new methods, technologies, and approaches are essential in making more effective and enjoyable (Andika et al., 2024; Bessa et al., 2021; Norris et al., 2020).

PJOK teachers are not only responsible for delivering physical skills but also serve as agents of health promotion, discipline, and character building. However, research shows that PJOK instruction in many regions still lacks the pedagogical depth required to meaningfully engage students in both physical and health education (Winarni & Lismadiana, 2020). Many teachers continue to rely on outdated or conventional methods that fail to leverage current pedagogical innovations.

Technological advancement presents a unique opportunity to enhance PJOK learning experiences. With the integration of educational technology, PJOK instruction can become more interactive, adaptive, and aligned with students' real-world needs (Akmal, 2024; Destriana et al., 2023). Teachers who utilize digital media, fitness tracking apps, and video-based instruction are better equipped to address students' varying abilities and interests, especially in an era marked by digital transformation (Osias Kit Tomarong Kilag, 2023; Ristika et al., 2020).

In Aceh Besar Regency, PJOK remains a crucial subject for shaping students' physical health, psychological well-being, and social behavior. Nevertheless, the quality of teaching in this field faces persistent challenges, particularly regarding teachers' pedagogical readiness, curriculum flexibility, and use of innovative instructional media. Many PJOK educators in the region require capacity building to enhance their skills in instructional design, technological integration, and adaptive curriculum implementation.

This study reports on a structured training program designed to develop the competencies of PJOK teachers in Aceh Besar. By focusing on innovation, curriculum adaptation, and holistic health education, the program aimed to equip teachers with practical skills and theoretical knowledge to improve the quality of physical education delivery in their respective schools (Griffo et al., 2020).

## METHOD

### Participant

This community engagement program involved a total of 17 Physical Education, Sports, and Health (PJOK) teachers from various schools in the Kuta Baro subdistrict, Aceh Besar Regency. All participants were actively teaching at the primary and secondary education levels and voluntarily joined the training program to improve their pedagogical and technological competencies (Sugiyono, 2017). Their diverse teaching backgrounds provided valuable perspectives for collaborative learning and peer mentoring during the workshops.

### Research Design

This study employed a participatory action research (PAR) approach, which is particularly effective in community-based educational interventions. The program was designed as a structured training and development initiative focused on enhancing the professional competence of PJOK teachers. The intervention combined multiple activities including interactive lectures, group discussions, technology-based learning sessions, curriculum planning workshops, and peer observations. The PAR framework allowed for continuous feedback, reflection, and improvement throughout the implementation process.

### Data Analysis

(Arikunto, 2010) The analysis used a mixed-methods approach, integrating both qualitative and quantitative techniques to evaluate program outcomes:

1. Qualitative data were collected through field notes, participant reflections, and group discussions. These data were analyzed using thematic analysis to identify key themes related to teaching innovation, curriculum flexibility, and teacher mindset transformation.
2. Quantitative data included pre- and post-program evaluations, classroom observation rubrics, and teacher self-assessment surveys. Descriptive statistics were used to measure changes in teacher performance and the extent of method implementation.

This combination of methods ensured a comprehensive understanding of the program's impact on teacher competence and instructional effectiveness.

## RESULTS AND DISCUSSION

### Results

The implementation of the capacity-building program for PJOK teachers in Aceh Besar resulted in several notable improvements in teaching competence and professional awareness. The findings are categorized into four key domains:

### Adoption of Innovative Teaching Methods

Participants demonstrated a significant shift from conventional teaching approaches to more dynamic and interactive methods. The use of digital media, such as educational videos, online fitness tracking applications, and visual aids, became more prominent in their lesson planning and delivery. Teachers reported an increase in student engagement and learning outcomes as a result of these methods. Furthermore, participants developed greater confidence in utilizing technology as a tool to facilitate physical education activities.

### Curriculum Flexibility and Adaptation

Teachers gained a deeper understanding of how to design and implement a curriculum tailored to the diverse physical capabilities and interests of their students. The training emphasized the importance of a flexible curriculum that can be adjusted based on the availability of facilities, student needs, and school environments. Teachers also began creating modular lesson plans that incorporated locally relevant content while maintaining alignment with national education standards.

### Awareness of Physical and Mental Health

The program reinforced the importance of holistic health education. Teachers acknowledged that physical fitness alone was insufficient and recognized the value of integrating mental health strategies into PJOK instruction. As a result, participants started to include stress-reducing exercises, mindfulness techniques, and peer support activities within their teaching practices. This shift was particularly valuable in improving students' overall well-being and classroom morale.

### Strengthening the Teacher's Role as a Role Model

Participants reported an increased awareness of their responsibilities not only as educators but also as lifestyle role models for students. They adopted healthier personal habits and demonstrated more consistent efforts in promoting active lifestyles, both within and outside the school setting. Students responded positively to teachers who actively modeled physical activity, discipline, and teamwork—reinforcing the learning objectives of PJOK.

Overall, the program succeeded in enhancing the participants' pedagogical and personal competencies. Feedback collected through surveys and reflective sessions indicated high levels of satisfaction and a willingness among participants to sustain and disseminate what they had learned to other educators in their networks.

**Table 1.** Summary of Improvements in Teacher Competency Areas After Training

Competency Area	Pre-Training Status	Post-Training Outcome	Indicator of Improvement
Use of Innovative Teaching Methods	Mostly traditional, limited digital integration	Regular use of videos, apps, and interactive media	Increased student engagement and lesson variation
Curriculum Flexibility	Rigid, textbook-based approach	Modular, adaptive planning aligned with student needs	Improved curriculum responsiveness
Physical and Mental Health Focus	Focus on physical fitness only	Integration of stress management and mindfulness techniques	Broader understanding of holistic student well-being
Teacher as Role Model	Limited engagement in healthy practices	Active demonstration of healthy lifestyles and sportsmanship	Enhanced student motivation and classroom dynamics

**Table 2.** Teacher Satisfaction Levels After Training Program

Category	Very Unsatisfied	Unsatisfied	Neutral	Satisfied	Very Satisfied
Teaching Method Innovation	0	0	2	9	6
Curriculum Adaptation	0	1	2	10	4
Health Awareness Integration	0	0	1	11	5
Role Model and Professionalism Role	0	0	2	8	7

### Discussion

The implementation of a structured capacity-building program for PJOK teachers in Aceh Besar has demonstrated significant and multidimensional benefits in improving instructional quality and teacher professionalism. This discussion elaborates on the key outcomes and their implications for future teaching practices and educational development.

### Integration of Technology and Teaching Innovation

One of the most notable outcomes was the increased ability of teachers to adopt innovative, technology-based teaching methods. Prior to the program, PJOK instruction was largely dominated by

conventional approaches that lacked engagement and did not leverage modern tools. Post-training, teachers actively incorporated digital media—such as fitness applications and instructional videos—into their lesson delivery. This aligns with findings by Adi et al. (2021), who emphasize that the integration of multimedia in physical education promotes greater student interest and learning retention. Such innovation also supports differentiated instruction, allowing teachers to tailor activities to various skill levels.

### **Curriculum Flexibility and Responsiveness**

The training emphasized the importance of adaptive curriculum design to address real-world challenges, such as limited school facilities and varying student fitness levels. Teachers became more confident in modifying learning modules without compromising educational standards. This supports the perspective of (Cents-Boonstra et al., 2021), who assert that flexible curricular models enhance learning outcomes by accommodating contextual diversity. The ability to modify lesson plans based on student needs is crucial in physical education, where practical application often varies due to environment, resources, and cultural relevance.

### **Promoting Holistic Health Education**

Another key achievement was the expansion of teacher understanding toward holistic health—encompassing both physical and mental well-being. Participants began to integrate mindfulness practices, stress-relief techniques, and mental health awareness into their routines. This reflects a growing body of literature that underscores the interdependence between mental wellness and (Nekar et al., 2022) in educational contexts. Teachers reported that students responded more positively to learning when activities included emotional support and stress-reducing components.

### **Teachers as Role Models and Change Agents**

The training highlighted the role of PJOK teachers not only as instructors but also as influential figures in modeling healthy behavior. Post-training, participants demonstrated greater commitment to practicing what they teach (Patfield et al., 2022) engaging in regular physical activity, healthy eating habits, and promoting discipline through example. Teachers who embody the values they promote tend to have a more lasting impact on students. This development can foster stronger student-teacher relationships and inspire lifestyle changes beyond the classroom.

### **Sustainability and Peer Learning**

Beyond individual improvement, the training fostered a collaborative spirit among participants, who expressed interest in sharing their new knowledge with colleagues in their respective schools. This peer-to-peer model of professional learning supports sustainable development and contributes to a broader culture of continuous improvement. It also reinforces the notion that effective capacity-building programs should encourage reflective practice and knowledge transfer (Zhang et al., 2020).

In conclusion, the program not only met its immediate objectives but also planted the seeds for long-term change in PJOK instruction across Aceh Besar. The experience confirmed the need for structured, relevant, and context-sensitive professional development initiatives, particularly in regions where access to training and educational technology is limited.

## **CONCLUSION**

The capacity-building initiative implemented in Aceh Besar successfully enhanced the professional competence of Physical Education, Sports, and Health (PJOK) teachers across multiple dimensions. By integrating innovative teaching methods, flexible curriculum planning, and holistic health education, the program equipped participants with the tools necessary to improve both instructional quality and student outcomes.

Teachers gained practical skills in utilizing digital tools for more engaging and responsive instruction, demonstrating adaptability to diverse school environments and student needs. Furthermore, the program fostered a deeper awareness of the importance of mental and physical health, encouraging educators to promote wellness not only through teaching but also through personal example.

The transformation of teachers into role models and community influencers marks a significant shift toward sustainable educational development in the region. The collaborative and participatory nature of the training also promoted a culture of peer learning, reflection, and ongoing improvement.

Overall, this study reaffirms the importance of structured, context-relevant professional development for educators particularly in physical education, where the impact extends beyond academics into students' lifelong habits and health. It is recommended that similar programs be replicated in other regions with appropriate adaptations to local conditions, ensuring broader and more equitable improvements in educational quality.

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### AUTHOR CONTRIBUTION STATEMENT

Boihaqi was primarily responsible for the conceptualization of the study, overseeing the project implementation, designing the methodology, and providing critical revisions to the final manuscript. Aldiansyah Akbar contributed to the data collection process, facilitated training workshops, and assisted in the literature review. Erizal Kurniawan handled the data analysis and interpretation of results, as well as drafting the discussion section. Syahrianursaifi played a key role in developing the training materials, coordinating with participants, and editing the manuscript for coherence and clarity. Irawan supported the administration of surveys, conducted follow-ups with participants, and prepared the tables and figures presented in the article. All authors reviewed and approved the final version of the manuscript and take full responsibility for the integrity and accuracy of the work.

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The authors declare no conflict of interest related to the conduct, authorship, or publication of this study.

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