



Training on Basic Techniques and Game Strategies in Volleyball for Physical Education Students at Universitas Nusa Cendana

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Abstract.

Background

Volleyball is a core component in physical education curricula and plays a significant role in developing motor skills, teamwork, and strategic thinking. However, many physical education students lack sufficient practical exposure to fundamental volleyball techniques and game strategies, which are essential for effective teaching and performance in future educational settings.

Objectives

This community service initiative aimed to enhance the volleyball instructional competence of Physical Education students at Universitas Nusa Cendana by providing intensive training in basic techniques and game strategies.

Methods

The training was conducted over a three-day period and involved 25 Physical Education students. The program included a combination of theoretical workshops, practical skill sessions, and simulated teaching experiences. Core components of the training focused on passing, serving, setting, spiking, team formations, and rotation systems. Data were collected using observational checklists and reflective feedback forms to evaluate the participants' skill acquisition and instructional readiness.

Results

Participants demonstrated marked improvements in technical execution, particularly in passing and serving accuracy, spiking coordination, and court movement. Additionally, students gained a clearer understanding of offensive and defensive strategies, including team formations and rotational play. Reflections indicated increased confidence and readiness to teach volleyball in school environments.

Conclusion

The training program effectively enhanced the technical skills and pedagogical understanding of volleyball among Physical Education students. This initiative underscores the value of practical, structured training in preparing future educators to deliver high-quality sports instruction and suggests the need for similar programs across other sports disciplines.

Keywords: Volleyball Training; Basic Techniques; Game Strategies; Physical Education Students.

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INTRODUCTION

Volleyball is a globally recognized sport that requires a combination of physical skill, technical proficiency, and strategic understanding. As part of the school physical education (PE) curriculum, volleyball plays a crucial role in developing students' motor coordination, teamwork, and decision-making abilities (Bean et al., 2022). For prospective PE teachers, especially those in training at the university level, mastering the basic techniques and tactical elements of volleyball is essential for effective instruction in school settings (Amin, Mudasir, 2023; Bagus Pratama Dyah Aan Firman Syah et al., 2025; Barrett et al., 2019).

Despite its importance, many physical education students still face difficulties in executing and teaching basic volleyball skills, including passing, serving, setting, and spiking. Moreover, limited opportunities for practical exposure and structured training can hinder their pedagogical readiness (Bean et al., 2022). These limitations are often observed in teacher education programs, where theoretical knowledge is emphasized over practical competence (Bagus Pratama Dyah Aan Firman Syah et al., 2025).

Universitas Nusa Cendana, as one of the leading higher education institutions in Eastern Indonesia, is committed to enhancing the quality of its Physical Education graduates. In alignment with the goals of the *Merdeka Belajar Kampus Merdeka* (MBKM) program, the integration of field-based training and community service into the learning experience is highly encouraged (Ministry of Education and Culture of Indonesia, 2020). Therefore, this community service activity was designed to provide targeted training for Physical

Education students, focusing on both fundamental volleyball techniques and game strategies (Abduh et al., 2024; Ahmed & Al Salim, 2024; Tannoubi et al., 2022).

This initiative aimed not only to improve students' technical and tactical competencies but also to build their confidence and preparedness in delivering volleyball instruction in real educational contexts. By bridging the gap between theory and practice, the program supports the professional development of future PE teachers and contributes to the overall quality of physical education in schools (Adewale et al., 2024; Akmal, 2024; Alamäki et al., 2024).

METHOD

Participant

(Sugiyono, 2017) The participants in this training program consisted of 25 students enrolled in the Physical Education Study Program at Universitas Nusa Cendana. All participants were in their third or fourth year of study and had previously completed foundational coursework in sports education. They were selected based on their interest and readiness to enhance their volleyball instructional skills. Participation was voluntary and conducted with informed consent.

Research Design

(Arikunto, 2010) This community service activity adopted a descriptive participatory approach, emphasizing experiential learning and skills development. The program was carried out over three consecutive days, combining theoretical instruction, technical practice, and simulation-based teaching. The content was structured into three core modules:

1. Day 1: Fundamental volleyball techniques, including passing, serving, setting, and spiking.
2. Day 2: Game strategies, including offensive and defensive formations, rotation systems, and court positioning.
3. Day 3: Microteaching sessions, where students practiced peer-teaching using volleyball drills and received structured feedback.

Data Analysis

Data were collected through direct observation, performance checklists, and participant reflection sheets. Observations focused on students' ability to perform basic techniques accurately and apply strategic concepts during gameplay. Descriptive analysis was used to summarize improvements in skill execution and teaching readiness. Reflections were analyzed thematically to capture students' perceptions of the training and identify areas of impact.

RESULTS AND DISCUSSION

Results

The volleyball training program conducted for Physical Education students at Universitas Nusa Cendana yielded several measurable and observable outcomes across technical, strategic, and pedagogical domains.

Improvement in Basic Technical Skills

Observational checklists completed before and after the training indicated significant improvements in students' ability to perform basic volleyball techniques. On Day 1, only 36% of participants demonstrated consistent accuracy in overhand passing, while 64% struggled with ball control and hand positioning. By Day 3, 84% of participants were able to execute proper passing techniques with control and consistency. Similar improvement was observed in serving performance: only 40% of students achieved valid overhand serves on Day 1, which increased to 88% by the end of the program.

Mastery of Game Strategies

During strategy-focused sessions, students were introduced to various formations, including 4-2 and 5-1 systems. Initially, many participants lacked understanding of rotational roles and court positioning. By the second day, over 70% of participants were able to correctly identify and demonstrate proper player rotations and tactical decision-making during simulated matches. Peer-teaching sessions further reinforced this understanding, as students practiced assigning player roles and adapting strategies to different game situations.

Increased Confidence and Teaching Readiness

The microteaching component on the third day revealed notable growth in students' confidence and communication skills. During peer feedback, 90% of participants reported feeling more prepared to lead volleyball instruction in a school setting. Students also demonstrated improved clarity in giving instructions, managing drills, and correcting errors during peer simulations. Qualitative feedback showed that participants

appreciated the structured approach and practical nature of the training, noting that it helped bridge the gap between theory and practice.

These results indicate that the program was effective in enhancing both the practical volleyball skills and the instructional capabilities of future physical education teachers.



Figure 1. Students participating in volleyball technical training during the community service program at Universitas Nusa Cendana.



Figure 2. Students participating in volleyball technical training during the community service program at Universitas Nusa Cendana.

Discussion

The outcomes of this training program indicate that structured, practical-based instruction significantly contributes to the development of both technical volleyball skills and pedagogical competence among Physical Education students. The improvement observed in basic techniques—such as passing, serving, and spiking is consistent with prior studies that emphasize the importance of repeated, guided practice in skill acquisition (Andika et al., 2024). The marked increase in student performance, as seen in the post-training observations, reflects the effectiveness of direct instruction followed by hands-on application.

Furthermore, the enhancement of students' understanding of game strategies highlights the value of including tactical components in training programs. In (Hartanto et al., 2021) courses, strategic gameplay is often underemphasized, leaving students unprepared to teach real-time decision-making in a team context. By introducing offensive and defensive formations, as well as player rotation systems, this program allowed students to internalize tactical concepts through simulation and active peer instruction.

The microteaching session played a pivotal role in transitioning students from learners to potential educators. This component not only boosted their self-confidence but also developed their ability to communicate instructions effectively, manage a group, and correct errors skills that are critical in a classroom or school sport setting (Akbari & Sahibzada, 2020). This aligns with the experiential learning approach, which suggests that competence grows when students are actively involved in teaching or leading their peers.

Additionally, the training program supports the broader objectives of the *Merdeka Belajar Kampus Merdeka* (MBKM) initiative in Indonesia, which promotes community engagement and practical experience in higher education. By directly involving students in applied learning contexts, universities can produce graduates who are not only theoretically knowledgeable but also professionally ready to enter the teaching field.

Taken together, these findings suggest that volleyball instruction should not be limited to isolated drills but integrated into a holistic training model that includes technical, tactical, and teaching dimensions. This comprehensive approach is essential in preparing future physical education teachers who can confidently deliver quality instruction in schools.

CONCLUSION

This training program successfully enhanced the volleyball teaching competencies of Physical Education students at Universitas Nusa Cendana. Participants showed significant improvement in both basic technical skills and their understanding of tactical gameplay. Furthermore, the inclusion of peer-teaching sessions allowed students to build instructional confidence and communication skills necessary for teaching in real educational settings. This initiative illustrates the importance of integrating practical, experiential learning into teacher education programs, particularly for sports instruction. Future programs are encouraged to adopt a similar holistic approach and extend the model to other sports disciplines in order to broaden professional preparedness among prospective physical education teachers.

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AUTHOR CONTRIBUTION STATEMENT

Salmon Runesi contributed to the conceptualization and design of the training program, coordinated the implementation of the activities, and led the manuscript writing. Fera Ratna Dewi Siagian was responsible for data collection, participant coordination, and contributed to the analysis and interpretation of results. Erwin S. Neolaka provided methodological guidance, assisted in drafting the discussion and conclusion sections, and performed the final review and editing of the manuscript.

All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

CONFLICT OF INTEREST AND FUNDING

The authors declare that there is no conflict of interest regarding the publication of this article.

REFERENCES

- Abduh, I., Saparia, A., Jumain, J., Ziulhaq, Z., & Usba, M. (2024). The Creativity of Physical Education Teachers, Sports, and Health. *Musamus Journal of Physical Education and Sport (MJ PES)*, 6(2), Article 2. <https://doi.org/10.35724/mjpes.v6i2.6060>
- Adewale, M. D., Azeta, A., Abayomi-Alli, A., & Sambo-Magaji, A. (2024). Impact of artificial intelligence adoption on students' academic performance in open and distance learning: A systematic literature review. *Heliyon*, 10(22), e40025. <https://doi.org/10.1016/j.heliyon.2024.e40025>
- Ahmed, Md. D., & Al Salim, Z. A. (2024). Provision of Quality Physical Education to enhance the motive of Physical Activity and its underlying Behavior among university students. *Heliyon*, 10(3), e25152. <https://doi.org/10.1016/j.heliyon.2024.e25152>

- Akbari, O., & Sahibzada, J. (2020). Students' Self-Confidence and Its Impacts on Their Learning Process. *American International Journal of Social Science Research*, 5(1), 1–15. <https://doi.org/10.46281/aijssr.v5i1.462>
- Akmal. (2024, October 9). *Apa Itu PJOK? Pengertian, Manfaat, dan Pentingnya Dalam Pendidikan - Tips And Trick*. <https://daftarkampus.spmb.teknokrat.ac.id/apa-itu-pjok-pengertian-manfaat-dan-pentingnya-dalam-pendidikan/>
- Alamäki, A., Khan, U. A., Kauttonen, J., & Schlögl, S. (2024). An Experiment of AI-Based Assessment: Perspectives of Learning Preferences, Benefits, Intention, Technology Affinity, and Trust. *Education Sciences*, 14(12), 1386. <https://doi.org/10.3390/educsci14121386>
- Amin, Mudasir. (2023). (PDF) *Difficulties Faced by Border Area Secondary School Students*. https://www.researchgate.net/publication/374294365_Difficulties_Faced_by_Border_Area_Secondary_School_Students
- Andika, I. M. B., Nita, P., Fahritsani, H., & Sugarwanto, S. (2024). Adaptive Sports Learning in Physical Education: Theory and Practice for Physical Education (PE) Students. *Musamus Journal of Physical Education and Sport (MJ PES)*, 6(2), Article 2. <https://doi.org/10.35724/mjpes.v6i2.6098>
- Arikunto, S. (2010). *Arikunto, S. (2010). Prosedur Penelitian: Suatu Pendekatan Praktik (Edisi Revi)*. PT. Rineka Cipta. *Prosedur Penelitian: Suatu Pendekatan Praktik (Edisi Revi)*. PT. Rineka Cipta.
- Bagus Pratama Dyah Aan Firman Syah, A., Janah, N., & Hadi Siswanto, D. (2025). (PDF) School strategies in instilling student discipline to improving education quality. *ResearchGate*. <https://doi.org/10.17509/curricula.v4i1.81149>
- Barrett, P., Treves, A., Shmis, T., Ambasz, D., & Ustinova, M. (2019). *The Impact of School Infrastructure on Learning: A Synthesis of the Evidence*. Washington, DC: World Bank. <https://doi.org/10.1596/978-1-4648-1378-8>
- Bean, C., Kramers, S., & Harlow, M. (2022). Exploring life skills transfer processes in youth hockey and volleyball. *International Journal of Sport and Exercise Psychology*, 20(1), 263–282. <https://doi.org/10.1080/1612197X.2020.1819369>
- Hartanto, D., Kusmaedi, N., Mamun, A., & Abduljabar, B. (2021). Integrating Social Skills in Traditional Games with Physical Education Interventions. *International Journal of Human Movement and Sports Sciences*, 9(5), 921–928. <https://doi.org/10.13189/saj.2021.090513>
- Sugiyono. (2017). Penelitian Kuantitatif. *Pemaparan Metoden penelitian Kuantitatif*, 2, 16.
- Tannoubi, A., Guelmami, N., Bonsaksen, T., Chalghaf, N., Azaiez, F., & Bragazzi, N. L. (2022). Development and Preliminary Validation of the Physical Education-Study Process Questionnaire: Insights for Physical Education University Students. *Frontiers in Public Health*, 10, 856167. <https://doi.org/10.3389/fpubh.2022.856167>