Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 27s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

A Study on the Present Situation and Development of Volleyball Teaching in Neijiang Normal University

Xunan Zhou[1], Pongsatorn Sukityarn[2]*, Wiradee Eakronnarongchai[3], Hao Chen[4]

[1]M.Ed., Physical Education and Health Education Program, Udon Thani Rajabhat University, Udon Thani Province, Thailand.

ORCID ID: https://orcid.org/0009-0003-9664-3034

Email ID: 1037952444@qq.com

*[2]Lecturer, Physical Education and Health Education Program, Udon Thani Rajabhat University, Udon Thani Province, Thailand.

[3]Lecturer, Physical Education and Health Education Program, Udon Thani Rajabhat University, Udon Thani Province, Thailand.

ORCID ID: https://orcid.org/0009-0003-1661-7494

Email ID: wiradeee@gmail.com

4Lecturer, Faculty of Education, Udon Thani Rajabhat University, Udon Thani Province, Thailand.

Email ID: hao@udru.ac.th

***Corresponding Author:**

Pongsatorn Sukityarn

ORCID ID: https://orcid.org/0009-0003-4039-4315

Email ID: pongsatorn.su@udru.ac.th

Cite this paper as: Xunan Zhou, Pongsatorn Sukityarn, Wiradee Eakronnarongchai, Hao Chen, (2025) Assessment Of Management Strategies In Alcoholic Liver Disease Patients With Hypertension Or Diabetes Mellitus. *Journal of Neonatal Surgery*, 14 (27s), 43-52.

ABSTRACT

University-level volleyball education fosters physical fitness, teamwork, and problem-solving skills among students. However, many programs rely on outdated methods, with limited equipment and minimal technology integration. This study aimed to (1) evaluate the current state and development of volleyball teaching at Neijiang Normal University, (2) compare teacher and student perceptions of that instruction, and (3) propose strategies to improve volleyball teaching effectiveness. This study employed a mix-research methodology. The sample comprised 100 students and 7 volleyball instructors at Neijiang Normal University. Quantitative data were collected via a validated questionnaire assessing teaching resources, instructional quality, student behavior, and development suggestions. Qualitative data came from in-depth interviews with all seven instructors and observations of ten volleyball classes. Instruments were pilot-tested and validated (Item-Objective Congruence ≥ 0.5). Quantitative analyses included descriptive statistics (means, standard deviations) and independent t-tests; qualitative data were analyzed by content analysis of interview and observation data. The research results showed that students rated teaching quality at a high level (M = 3.87), followed by classroom behavior (M = 3.85) and technology use (M = 3.32) respectively. Significant perception gaps emerged between instructors and students, especially in feedback, class size, and use of technology. Students emphasized the need for modern resources and individualized support. Five development strategies were proposed: (1) upgrade equipment, (2) provide ongoing teacher training, (3) reduce class sizes, (4) increase practice time, and (5) integrate digital tools. It can be concluded that although volleyball instruction at Neijiang Normal University has a solid base, improvements in teaching resources and digital integration are needed. Addressing student-teacher perception gaps and implementing strategic improvements can enhance instructional quality and student engagement.

Keywords: *Volleyball Teaching, Physical Education, Instructional Quality*

1. INTRODUCTION

Volleyball is a key part of physical education in Chinese universities, supporting student fitness, teamwork, and skill development. With higher education focusing increasingly on quality and student-centered learning, university volleyball programs must update teaching methods for greater effectiveness (Yang & Wang, 2019). However, many still use traditional, teacher-centered models and face challenges like limited equipment and crowded classes (Chen, Li, & Zhang, 2020; Dong & Wang, 2021b), which hinder student engagement and skill acquisition (Dong & Zhang, 2021).

Aligning volleyball teaching with modern pedagogy and technology is essential. Studies show that digital tools, such as video analysis and multimedia, improve skill acquisition and student engagement (Wang, 2019; Li, 2020). Game-based and active learning methods further boost motivation and address varying skill levels (Wang & Liu, 2019; García-González et al., 2020). But these innovations require proper resources and trained teachers. Equipment shortages and large classes are common in China (Zhou, Li, & Chen, 2022), and there are often mismatches between teachers and student perceptions of the learning environment (Yin, Huang, & Wang, 2021). Higher education institutions must adjust appropriate environments of the universities to respond to the needs of students in order to improve their physical and mental health. When these facilities are equipped and allocated appropriately, students will feel happy and joyful to learn and conduct the teaching activities (Channuwong et al., 2018).

Neijiang Normal University has invested in volleyball programs and facilities but aims to enhance teaching quality further. This study was conducted to (1) assess volleyball teaching at Neijiang Normal University, including resources and instructional quality; (2) compare instructor and student perspectives; and (3) suggest improvements. A mixed-methods approach was used to generate actionable recommendations.

Objectives

1. To assess on the present situation and development of volleyball teaching in Neijiang Normal University.
2. To compare differences in opinions on the present situation and development of volleyball teaching at Neijiang Normal University between teachers and students.
3. To propose strategies for developing volleyball teaching in Neijiang Normal University.

2. LITERATURE REVIEW

1. Teaching Strategies and Pedagogical Models in Volleyball

Traditional directive teaching approaches in volleyball emphasize repetition and teacher-led instruction. However, Ruksat et al. (2025) and Silva et al. (2020) found that indirective methods such as problem-solving and student-led discovery enhanced student engagement and decision-making, prompting reconsideration of overly rigid, technical instruction models. Similarly, Moa et al. (2024) demonstrated that integrating small-sided games (SSG) and Teaching Games for Understanding (TGfU) principles significantly improved student learning outcomes in university-level volleyball courses, especially when accompanied by a motivational teaching climate.

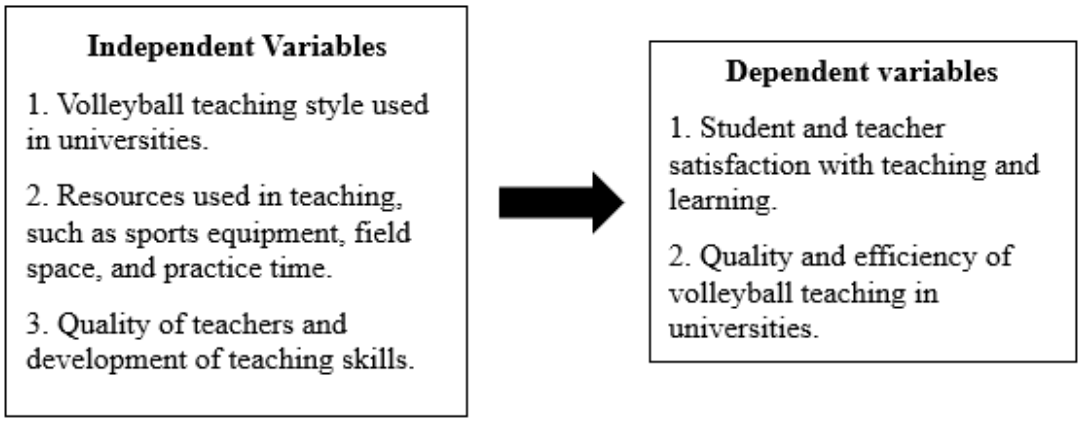
2. Technology Integration and E-Module-Based Learning

Technological innovation plays a growing role in improving volleyball instruction. Kasih et al. (2023) developed an E-module-based system designed to enhance volleyball competence, showing its effectiveness in facilitating interactive, autonomous skill development. Complementing this, Lionel et al. (2023) and Wang (2020) highlighted how the "Internet Plus" teaching model integrating mobile apps, video, and digital scheduling can enrich physical education by offering flexible, multimedia-rich learning environments aligned with student needs.

3. Practical Implications and Learning Outcomes

Although theoretical advances have emerged, university volleyball programs still face challenges such as outdated facilities, limited instructional variety, and large class sizes. Souza et al. (2021) emphasized that hands-on teaching experiences, like university extension programs, required adaptable, reflective teaching strategies to meet students' diverse needs. These findings align with Moa et al. (2024) who underscored that student feedback, instructional alignment, and teacher responsiveness are essential for sustained improvements in volleyball education.

Conceptual Framework



3. METHODOLOGY

Design: A descriptive mixed-methods approach was used, combining surveys, interviews, and classroom observations to gather both quantitative trends and qualitative insights (Creswell, 2012).

Participants: The study involved all 7 volleyball instructors (5 male, 2 female) in the physical education department at Neijiang Normal University, each with at least one semester of experience. From around 380 enrolled students, 100 were randomly selected (54% male, 46% female) across all year levels. Most had 1–5 years of volleyball experience.

Instruments:

1.Questionnaire: A 25-item Likert-scale questionnaire (1 = very low to 5 = very high) covered four areas: (a) teaching resources and equipment, (b) teaching quality, (c) student engagement, and (d) suggestions for improvement. Example items included: “The availability of equipment meets teaching needs” and “Students show enthusiasm during practice.” The questionnaire underwent expert review for validity, followed by a pilot test (Cronbach’s alpha > 0.80).

2.In-depth Interviews: A semi-structured guide focused on teaching experience, challenges, use of resources, student behavior, and improvement ideas. Each instructor participated in a 30–45-minute one-on-one interview, conducted in Chinese and later transcribed and translated as needed.

3.Classroom Observations: Ten class sessions (across different instructors and class levels) were observed using a structured checklist. Observers noted equipment availability, instructional strategies, student engagement, and class management. Two observers independently recorded behaviors and consolidated findings.

Procedure: After securing ethical approval, questionnaires were distributed in class or online, achieving near-complete student participation. Instructors completed the same survey before their interviews. Interviews were scheduled conveniently on campus. Classroom observations were spaced throughout the term to capture diverse class contexts.

Data Analysis: Quantitative survey data were analyzed with descriptive statistics (mean, SD, percentage). To compare instructor and student perceptions, independent-samples t-tests were performed for each item. Levene’s test ensured equal variances, with Welch’s correction applied as needed (significance level $p < 0.05$).

Qualitative interview and observation data were analyzed using thematic analysis. Two coders read transcripts and notes, identified codes (e.g., “equipment shortage,” “effective strategies”), and grouped them into themes aligned with the research questions. Key themes included: (1) resource sufficiency, (2) teaching method effectiveness, (3) student engagement issues, and (4) improvement suggestions. Observational data were summarized by percentage of sessions where certain criteria were met (e.g., instructor preparedness, student engagement >75%).

This triangulated, mixed-methods design provided a multidimensional picture of volleyball teaching at Neijiang Normal University, highlighting general trends, differences in perceptions, and specific areas for improvement.

4. RESULTS

Present Situation of Volleyball Teaching at Neijiang Normal University

Overall, the survey results indicate a positive evaluation of the current volleyball teaching at Neijiang Normal University by both students and instructors. Table 1 summarizes the average ratings for each of the four evaluated aspects (domains), combining responses from all 107 participants. All mean scores were above 4.0 on the 5-point scale, corresponding to a “High” level of agreement with positive statements about the program. This suggests that, in general, the essential elements for effective volleyball instruction – including resources, teaching quality, and student engagement – are largely in place.

Table 1. Overall Mean Ratings of Key Aspects of Volleyball Teaching (n = 107)

Aspect Evaluated	Mean Score ± SD	Interpretation
Teaching Resources & Equipment	4.02 ± 0.85	High
Quality of Teaching	4.12 ± 0.71	High
Student Behavior & Learning Outcomes	4.22 ± 0.73	High
Suggested Development Areas	4.26 ± 0.73	High

Note: Scale 1–5 (1 = very low, 5 = very high). "Suggested Development Areas" refers to the perceived importance of various improvement strategies.

In more detail, participants agreed that teaching resources and facilities were generally adequate. Sports equipment (balls, nets, etc.) was considered mostly sufficient for class needs, and the volleyball court facilities were viewed as acceptable and safe. One student noted in an open-ended comment that "we usually have enough balls for drills, though sometimes we need to share during peak usage," reflecting minor constraints but overall adequacy. The highest-rated item in this category was "The resources provided allow students to practice and develop their skills optimally," with a combine mean of 4.27, indicating strong confidence that available resources support skill improvement. The lowest item, while still high, was related to modern technology usage (mean ≈ 3.9 combined); this suggests a slight perception that integration of technology (like video analysis tools) in teaching could be improved, even though basic equipment needs are met.

Regarding the quality of teaching, responses were likewise favorable. Students and instructors both felt that teachers explain volleyball techniques and rules clearly and perform demonstrations that are easy to follow. The teaching methods were seen as motivating – the item "The teacher's methods motivate students to engage and improve" scored particularly high (mean ≈ 4.33). This aligns with observations of classes: in 8 out of 10 observed sessions, instructors actively encouraged student participation through enthusiastic demonstrations and positive reinforcement. However, one aspect that received a slightly lower (though still "high") rating was the provision of constructive feedback. The statement "The teacher provides constructive feedback to improve performance" had a mean around 3.9. This suggests that while feedback is being given, there may be room to make it more impactful or individualized. Instructors, in interviews, acknowledged this as a challenge. For example, one instructor remarked, "With so many students, I sometimes can't give each one detailed feedback. I try to address common errors for the group." Thus, despite overall strong teaching quality, personalized feedback emerged as a minor area for improvement.

The domain of Student Behavior and Learning was rated highly by both groups, indicating that students are generally enthusiastic, cooperative, and gaining confidence through the volleyball course. Survey items in this area included statements about student enthusiasm, teamwork, game-play decision- making, and confidence in skills. The highest agreement was with "The course builds the confidence of students in their volleyball skills" (M = 4.31), highlighting that participants feel the program significantly improves student self-assurance on the court. Observational data supported this: in most classes, at least 80% of students were willing to demonstrate drills or volunteer in skill challenges, reflecting confidence and engagement. The interviews with instructors also painted a positive picture of student attitudes; instructors noted that many students were eager to learn and showed improvement over the semester. One instructor stated, "At the start, some students were shy or not very active, but by mid-semester you could see them communicating more during games and their skills had clearly improved." The item with the relatively lowest mean in this domain was about decision- making in game situations (M = 4.07). This may indicate that while technical skills and teamwork are strong, there is slightly less confidence in students' tactical or strategic abilities developed through the course – a possible point to address by incorporating more game-like scenarios in practice.

To triangulate these findings, the classroom observations provided additional context. They revealed that in 6 of the 10 observed sessions, the instructor was fully prepared with equipment and a lesson plan (in 4 sessions some minor preparations were lacking, such as setup taking longer). In terms of student engagement, on average about 50% of students were actively participating at any given time during general drills – this sometimes dropped when activities were not sufficiently challenging or when students waited for turns. Importantly, in scrimmage or game-like portions of class, engagement rose markedly, supporting the idea that students respond well to interactive, competitive elements. The observers also rated the overall teaching-learning environment of each class on a 5-point scale (using a rubric considering organization, engagement, and interaction quality). The average of these observation ratings was high (around 4.2/5), consistent with the participants' favorable survey responses about class quality. These observations underscore that the current volleyball teaching practices are largely effective, while also echoing specific areas of concern such as inconsistent individual feedback and moments of lower engagement in large-group settings.

In summary, the present situation of volleyball teaching at Neijiang Normal University can be characterized as satisfactory and effective at a broad level – instructors are generally doing well in delivering the curriculum, and students are responding

positively and developing skills. Key resources and facilities are mostly adequate, and teaching practices align with many recommended approaches (clear explanations, demonstrations, encouragement). Nonetheless, the findings hint at some ongoing challenges: ensuring every student remains engaged in large classes, maximizing the use of new technology, and providing more individualized feedback and instruction to cater to different skill levels. These points are further illuminated by comparing the perspectives of instructors and students directly, as discussed next.

Comparison of Instructors' and Students' Opinions

A central goal of the study was to determine whether there were any significant differences between how instructors and students perceive the volleyball teaching program. Using the questionnaire data, independent t-test analyses were conducted for each survey item. The results revealed several noteworthy differences in opinions, despite the overall high ratings from both groups. In general, instructors tended to have a more favorable view of the status quo and a stronger sense of the need for certain improvements than students did. Table 2 highlights a selection of key items where the differences between the two groups were statistically significant ($p < 0.05$).

Table 2. Selected Items Showing Significant Differences Between Students and Teachers

(Independent t-test results)

Item (Summarized)	Category	Student Mean	Teacher Mean	p-value (sig.)
Sufficiency of volleyball equipment	Resources	3.80	4.43	0.028 *
Effective use of technology in teaching	Resources	3.32	4.43	0.023 *
Resources effectively develop student skills	Resources	3.90[†]	4.70[†]	0.020 *
Adequacy of training facilities (court, space)	Resources	3.65	4.29	0.070 (n.s.)
Appropriateness of practice schedule	Resources	3.87	4.14	0.223 (n.s.)
Teacher's feedback motivates improvement	Teaching Quality	3.85	4.57	0.007 *
Teaching aligns with modern practices	Teaching Quality	3.97	4.29	0.320 (n.s.)
Students collaborate effectively in teams	Student Behavior	4.15	4.57	0.033 *
Training for teachers to enhance skills (needed)	Improvement Suggestion	3.80	4.71	**0.006 ***
Reducing number of students per group (needed)	Improvement Suggestion	3.81	4.86	**< 0.001 ***

 p* < 0.05 (statistically significant). "n.s." = not significant.
 [†] Student and teacher means for this item were inferred from combined data (approximate).

As shown in Table 2, instructors rated several aspects higher than students did. In the Teaching Resources category, instructors were significantly more positive about the sufficiency of equipment and the use of technology. For instance, on the statement regarding whether sports equipment was enough to meet teaching needs, instructors' average rating ($M = 4.43$) was much higher than that of students ($M = 3.80$). This can be interpreted that teachers feel the equipment available is adequate from their perspective of running the class, whereas some students perhaps desire more or newer equipment. Similarly, for the use of technological tools in teaching (like video analysis software), instructors gave a higher rating (mean

4.43) compared to students (M = 3.32). This gap suggests that students might not be seeing technology being utilized as much as instructors believe they are using it, or students may not value the technology use that is currently implemented. Indeed, instructors in interviews expressed interest in using more technology but noted practical barriers. One said, "I occasionally show video replays to the class, but setting up the projector every time is cumbersome." This could explain why instructors think they are utilizing tech (when possible) yet students feel it's still limited – highlighting a potential area to improve by increasing and streamlining tech integration. Another resource-related item was the effectiveness of resources in developing skills, which also showed a significant gap ($p = 0.020$), again with instructors more convinced that current resources sufficiently support skill development.

In terms of Teaching Quality, one of the largest differences was in perceptions of feedback and motivation. Instructors strongly believed that they provide feedback that motivates students (rating on average 4.5+), whereas students gave a lower agreement (around 3.8–3.9). This difference ($p = 0.007$) aligns with the earlier finding that feedback was the lowest-rated aspect of teaching quality by students. It indicates a classic perception gap: instructors may feel they are giving ample feedback and encouragement, but students might be craving more individualized or constructive feedback than they currently receive. This finding is critical, as feedback is a key component of effective teaching and learning cycles (Bransford et al., 2000). No significant difference was found on items like clarity of instruction or modernity of teaching methods – both groups agreed those were high – suggesting that the divergence is specific to feedback and perhaps the personal connection aspects of teaching.

Looking at Student Behavior and Learning, most items were viewed similarly by teachers and students (enthusiasm, confidence gains, etc., had no significant differences, indicating consensus that students are generally doing well). However, the item "Students collaborate effectively in teams during training" showed a notable difference ($p = 0.033$), with instructors rating student teamwork more favorably ($M = 4.57$) than students rated themselves ($M = 4.15$). This implies that teachers perceive the class as more cohesively cooperative than the students do. One possible reason is that instructors, observing from the outside, see that students eventually work together and complete team tasks, whereas students might recall the initial challenges or occasional communication issues when working in teams. It might also reflect students' humility in self-assessing their teamwork; they might be more critical of their team dynamics, whereas teachers focus on the overall outcome that teamwork occurs. Regardless, this gap in perceiving teamwork suggests an area where instructors could facilitate more team-building exercises or discussions, to ensure students themselves feel the teamwork is strong.

Perhaps the most striking differences emerged in the section on Suggestions for Development (Improvement), which directly ties to objective three of the study. Both groups rated all suggested improvement ideas at a high level, but instructors consistently rated these needs even higher than students did. In particular, as Table 2 shows, instructors felt much more strongly about the need for additional teacher training and reducing class sizes. On the suggestion "Training for teachers to enhance their teaching skills is required," instructors almost unanimously agreed ($M = 4.71$), whereas students, while still agreeing, were less emphatic (mean 3.80; $p = 0.006$). This might indicate that instructors are very aware of their own need for professional development – they recognize that learning new teaching strategies or techniques (e.g., advanced coaching methods, technology use) would benefit the program. Students, on the other hand, may not instinctively think of teacher training as a priority; their slightly lower score might reflect that they are generally satisfied with their teachers now and less aware of the potential benefits of teacher upskilling.

The suggestion "Reducing the number of students per group (or per class) to improve training efficiency" saw one of the largest gaps: instructors rated this extremely high (4.86, essentially "strongly agree"), compared to students' 3.81 ($p < 0.001$). This points to class size as a major concern for instructors. In interviews, several instructors indeed brought up large class sizes as a barrier to effective teaching. One commented, "We have to manage about 30 students on the court; if we could halve that, each student would get more turns and coaching." Students also see value in smaller groups (rating it high), but perhaps having always experienced larger classes, they may not realize how much it could improve their learning, or they might be considering the social aspect that larger classes have more peers. Nonetheless, the agreement from both sides (with instructors especially fervent) indicates reducing student–teacher ratios could significantly benefit the program. Other improvement suggestions (not fully shown in the table) included increasing the availability of equipment and resources (which both groups rated high; instructors slightly higher but difference was not significant, $p = 0.502$), providing additional practice time outside regular schedule (students and teachers both agreed, with no significant difference, $p = 0.138$), and integrating more technology in teaching (both agreed strongly; instructors a bit higher but not significantly different in this case, $p = 0.156$ since both were high). Figure 1 illustrates the general trend for the development suggestions, comparing mean ratings by students and teachers for each suggested strategy.

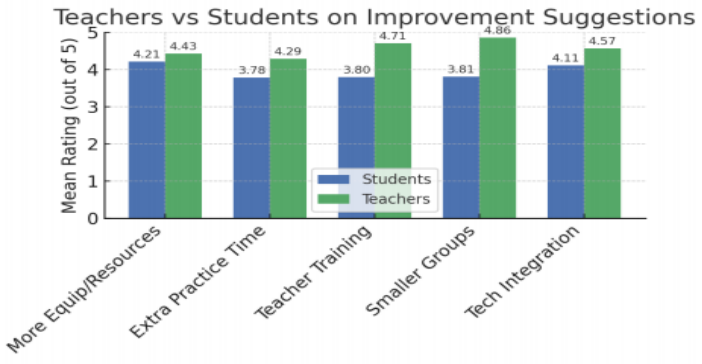


Figure 1. Comparison of Mean Ratings by Students and Teachers on Proposed Improvement Strategies.

Instructors placed greater emphasis than students on teacher training and smaller class sizes ($p < 0.05$ for these differences), while both groups strongly agreed on increasing resources, practice time, and technology integration (differences not statistically significant).

In summary, the comparative analysis demonstrates that while students and instructors both hold a positive view of the volleyball teaching at Neijiang Normal University, instructors tend to be even more positive about the current resources and teaching quality and also more adamant about the need for certain improvements. The significant differences, especially regarding feedback, technology use, and class size, highlight specific areas where misalignment exists between the two groups' perceptions. These perception gaps can have practical implications: for instance, if instructors overestimate student satisfaction with feedback, they might not realize students want more, or if students underestimate the importance of teacher training, they might not lobby for it as a needed change. Recognizing these differences allows the program to address them – for example, by improving communication and ensuring that improvement efforts (like introducing new tech or splitting classes) are clearly beneficial from both perspectives. The next section integrates these quantitative disparities with qualitative findings to formulate concrete development strategies.

Proposed Strategies for Improvement

Based on both quantitative and qualitative findings, the following strategies are proposed to enhance volleyball teaching at Neijiang Normal University (Neijiang Normal University):

1. Integrate Technology into Instruction Both instructors and students acknowledged the value of technology, though current usage was rated low. Suggestions include incorporating video analysis tools, playback software, and portable devices (e.g., projectors, tablets) to facilitate on-the-spot feedback. This aligns with modern sports education trends emphasizing multimedia for individualized and engaging instruction (Sun & Hu, 2022; Zhang & Li, 2020).

2. Strengthen Instructor Professional Development Instructors expressed a strong need for continuous training. Proposed methods include workshops, peer observation, and short courses on advanced coaching and feedback techniques. These initiatives aim to modernize pedagogy and enhance teaching confidence (Li, 2020).

3. Reduce Class Size or Student-to-Teacher Ratio Large classes hinder personalized instruction and skill development. While hiring more instructors may not be feasible, alternatives like rotating smaller practice groups or station-based learning can improve training efficiency and safety. Officially capping class sizes or assigning teaching assistants could further help.

4. Enhance Engagement through Differentiated Instruction While enthusiasm is generally high, instructors noted disparities in student skill levels. Grouping students by ability and assigning tiered tasks can ensure all learners are appropriately challenged. Game-based drills that promote decision-making and strategic thinking are recommended to improve cognitive aspects of gameplay (Liu et al., 2023).

5. Increase Practice and Feedback Opportunities Beyond Class Additional practice sessions during evenings or weekends can accommodate keen learners. Instructors could supervise informal practice and provide personalized feedback through consultations, written notes, or video commentary. These efforts help mitigate limited in-class feedback due to large group sizes.

These interrelated strategies aim to improve instructional quality, resource allocation, and student learning outcomes. Their success will depend on administrative support and instructor initiative.

5. DISCUSSION

The outcomes of the study are discussed about in terms of the three research objectives. There are both quantitative and qualitative data. These are looked in light of relevant educational ideas and previous research. Both students and teachers

think that the resources, the quality of the teaching, and how pupils behaved while they were studying were all good. However, students did worse than teachers because they used digital technology, especially for video analysis. This shows that digital integration isn't going very well. This makes it easier to use TGFU. This suggests that students are the most important part of the game and that they learn best when they are in the right situation. Pan et al. (2025) discovered that individual physical education not only helped students improve, but it also made them joyful. Conejero Suárez et al. (2020) and Wongmajarapinya et al. 2024) also discovered that as people become older and learn more, the choices they make become harder. This highlights how crucial it is to use digital tools to help people of all skill levels learn new things.

There were statistically significant variations in things like the quality of feedback, the size of the class, and the usage of technology. Instructors rated these aspects more favorably than students, indicating a perception gap. According to Self-Determination Theory (SDT), student motivation is linked to autonomy, competence, and relatedness. When students perceive insufficient support especially in feedback and digital resources their motivation may decline. García-González et al. (2020) emphasized that Sport Education and TGfU models, when combined, boost engagement for less-motivated students. Yin et al. (2021) similarly noted that discrepancies in teacher-student perceptions are often rooted in unmet expectations, emphasizing the value of reflective teaching and open dialogue.

The suggested strategies are based on data execution and includes: 1) upgrading equipment and adding more digital tools; 2) improving teacher training, especially in giving feedback and using technology; 3) making groups smaller and using skill-based grouping; 4) giving students more time to train outside of class; and 5) incorporating game-based drills. These results were expressed as Mardiyanto et al. (2020), who showed that the integration of learning methods and motor skills significantly improves learning outcomes in volleyball, particularly when instructional resources match learners' developmental stages. These strategies are factual and are potential ways to improve your volleyball lessons over time.

6. CONCLUSION

This study used a mixed methods approach to look at volleyball education at Neijiang Normal University in great detail, both in terms of its current state and its growth. The researcher looked at data from 100 students and 7 teachers and found a lot of important things in four main areas: teaching resources, instructional quality, student behavior, and developmental suggestions.

Quantitative results revealed that while all aspects were rated at a high level, the greatest needs were identified in technological integration and class size management. Students expressed relatively lower satisfaction with the use of educational technology and the adequacy of feedback, while instructors tended to evaluate these aspects more positively. Independent t-test analyses confirmed significant perceptual gaps in areas such as equipment availability, use of digital tools, practice scheduling, and teacher training.

Qualitative findings from interviews supported these results, highlighting challenges such as limited resources, large class sizes, and insufficient technological support. Instructors provided valuable suggestions for improvement, including increased budget allocation, peer teaching methods, and more structured professional development. Observational data further validated the need for enhanced preparation and effective resource use in classroom settings.

In conclusion, the study identified clear areas for instructional enhancement. Five key guidelines were proposed: improving resource availability, expanding teacher training, adjusting instructional methods and group sizes, increasing practice opportunities, and refining assessment and feedback mechanisms. These evidence-based recommendations aim to support the continuous development of volleyball instruction at Neijiang Normal University and ensure a more engaging, equitable, and effective learning experience for all students.

7. RECOMMENDATION

Recommendations for Current Research

1. The report recommends that universities enable digital teaching tools such as video analytics and interactive platforms for volleyball lessons, so students develop personalized feedback quickly according to their requirements.

2. Educational design should allow for a variety of student skills by grouping learners after volleyball knowledge, especially in large classes.

Recommendations for Future Research

1. Future research should study how integration of technologies such mobile apps and video-based feedback affects tactical volleyball decision-making, performance of students, and motivations.

2. Future studies should broaden to many universities or areas to boost the generalizability of the findings and contrast educational strategies and views of student substructures in different institutional contexts.

REFERENCES

[1] Bonwell, C., & Eison, J. (1991). *Active learning: Creating excitement in the classroom* (ASHE-ERIC Higher Education Report).

[2] Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school*. National Academy Press.

[3] Channuwong, S., Ruksat, S., & Ploychum, S. (2018). An integration of Buddhist teachings in stress management. *Journal of Community Development Research (Humanities and Social Sciences), 11*(4), 148-158.

[4] Chen, L., & Xu, K. (2019). Using digital media in modern physical education. *International Journal of Educational Technology, 5*(1), 55–63.

[5] Chen, L., & Xu, K. (2021). Technology integration in physical education: Impacts on volleyball skills development. *Journal of Physical Education and Sport Sciences, 32*(2), 67–78.

[6] Chen, L., Li, H., & Zhang, Y. (2020). The challenges of volleyball teaching in Chinese universities. *Advances in Physical Education, 12*(3), 123–134.

[7] Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson.

[8] Dong, X., & Wang, Z. (2021a). Research on the reform of volleyball teaching in colleges and universities. *Advances in Physical Education, 11*(3), 345–352.

[9] Dong, X., & Wang, Z. (2021b). The realistic dilemma and development path of volleyball teaching in colleges and universities. *Frontiers in Sport Research, 3*(4), 58–61.

[10] Dong, X., & Zhang, W. (2021). Innovative methods in volleyball teaching at university level. *Journal of Sports Education Research, 8*(2), 45–56.

[11] García-González, L., Abós, Á., Diloy-Peña, S., Gil-Arias, A., & Sevil-Serrano, J. (2020). Can a hybrid Sport Education/Teaching Games for Understanding volleyball unit be more effective in less motivated students? An examination of motivation-related variables. *Sustainability, 12*(15), 6170. https://doi.org/10.3390/su12156170

[12] Li, H. (2020). Application of multimedia technology in volleyball teaching in colleges. *Journal of Computational and Theoretical Nanoscience, 17*(2), 789–793.

[13] Lionel, L.K.G., Channuwong, S., & Wongmajarapinya, K. (2023). Human resource management and organizational performance. *International Journal of Advanced Research, 11*(5), 872-881.

[14] Liu, J., & Zhang, Y. (2020). Analyzing volleyball performance using sensor-based technology. *International Journal of Sports Technology Research, 12*(1), 89–101.

[15] Liu, Q., Yang, L., & Zhang, H. (2023). Effects of differentiated instruction on students' self-efficacy and performance in sports skills learning. *Journal of Teaching in Physical Education, 42*(2), 123–139.

[16] Moa, I. F., Sørensen, A., & Lagestad, P. A. (2024). Students' assessment of learning in a volleyball course at a university: A mixed methods study. *Education Sciences, 14*(3), 317.

[17] Ruksat, S., Channuwong, S., Changcharoen, C., Daengngam, S., Khethong, K. (2025).

[18] Buddhist principles for development of human behavior, morality, mind and wisdom.

[19] *Journal of Posthumanism, 5*(3), 815-827. https://doi.org/10.63332/joph.v5i3.791

[20] Sun, X., & Hu, L. (2022). Artificial intelligence in volleyball teaching and training. *Computers & Education, 16*(3), 104–125.

[21] Wang, Y. (2019). The integration of information technology and college volleyball teaching. *Advances in Social Science, Education and Humanities Research, 298*, 123–126.

[22] Wang, Y., & Liu, Z. (2019). Game-based learning in volleyball training. *International Journal of Sports Science and Physical Education, 15*(3), 145–157.

[23] Yang, Z., & Wang, H. (2019). Student-centered learning approaches in volleyball education. *Asian Journal of Physical Education Research, 18*(3), 78–90.

[24] Yin, H., Huang, S., & Wang, W. (2021). Student-teacher perception gaps and their impact on classroom climate: Evidence from physical education. *Teaching and Teacher Education, 103*, 103362. https://doi.org/10.1016/j.tate.2021.103362

[25] Zhang, Q., Liu, Y., & Xu, J. (2022). Enhancing sports education through teamwork and analytical skills development. *Asian Journal of Physical Education, 8*(3), 72–81.

[26] Zhang, X., & Li, H. (2020). Using technology to enhance volleyball education. *Advances in Social Sciences*

and Education Research, 22(4), 120–130.

[27] Zhou, J., Li, X., & Chen, Y. (2022). The impact of equipment shortages on student achievement in sports education. *Chinese Journal of Sports Studies, 19*(3), 33–42.

[28] Zhou, M., Li, H., & Wang, J. (2020). Integrating technology in physical education in China. *Chinese Journal of Sports Science, 15*(12), 141–149.

[29] Wongmajarapinya, K., Channuwong, S., & Pratoomsawat, T. (2024). The model of modern

[30] management influencing sustainable organization development of Thai Smile Bus Company Limited. *Migration Letters, 21*(S2), 385-399.