

Interdisciplinary Integration of University Physical Education Courses and Mental Health Education from an International Perspective

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Abstract: As global educational reforms gain momentum, the international education landscape is undergoing a profound transformation, shifting from traditional subject-based instruction to interdisciplinary integration. Physical education (PE) and mental health education, as vital components of higher education aimed at promoting the holistic development of students, are emerging as focal points in this transformative process. Interdisciplinary integration between these two domains has increasingly become a frontier issue in international education research and practice. In many developed countries, such as the United States, the United Kingdom, and Australia, mature theoretical models and practical systems have already been established, yielding notable achievements in talent development. In contrast, Chinese universities remain in the exploratory stage, facing various challenges related to theoretical construction, curriculum design, and implementation pathways. Under these circumstances, it is of great practical and theoretical importance to investigate the integration of PE and mental health education in universities through a global lens. Such inquiry aligns with the global trend of educational modernization and responds to the urgent need for improving the quality and relevance of China's higher education. Through a comprehensive analysis of the necessity of integration, as well as an exploration of international practices, this study offers a set of feasible strategies aimed at promoting collaborative development between the two domains. The goal is to provide theoretical support and practical guidance for cultivating physically and psychologically healthy university graduates equipped for the challenges of the 21st century.

Keywords: University physical education; mental health education; interdisciplinary integration; global experiences; higher education reform.

1. Introduction

In the age of globalization and the knowledge economy, higher education is expected to cultivate well-rounded individuals capable of navigating complex social, cultural, and professional landscapes. This has led to a growing emphasis on interdisciplinary education as a core strategy for enhancing the quality of talent development. Universities across the globe are actively exploring innovative models of curriculum integration to bridge the gaps between traditionally siloed disciplines. Among the many forms of integration, the fusion of physical education and mental health education has gained significant traction as an effective means to foster students' holistic growth^[1-3].

While many Western institutions have already developed institutionalized programs and interdisciplinary curricula that combine sports science, psychology, and education, Chinese universities are still at a nascent stage in this area. Most existing efforts are limited to superficial cooperation between departments or isolated pilot projects lacking scalability and theoretical grounding. There is an urgent need to systematically examine successful international practices and extract valuable lessons that can inform China's own integration efforts. This paper argues that interdisciplinary collaboration between PE and mental health education is not only a pedagogical innovation but also a strategic response to the evolving demands of students, the labor market, and society at large.

2. The Importance of Interdisciplinary Integration between Physical Education and Mental Health Education

Physical and mental well-being are inseparable aspects of human health. The World Health Organization defines health not merely as the absence of disease but as a state of complete physical, mental, and social well-being. In this context, higher education institutions bear the responsibility of nurturing students not just intellectually, but also physically and emotionally. As academic stress, career uncertainty, and social anxiety become increasingly prevalent among university students, the need for integrated approaches to education that address both physical and psychological needs has become more urgent than ever.

Traditional physical education primarily focuses on improving students' fitness, motor skills, and sportsmanship through structured physical activities. Meanwhile, mental health education aims to cultivate emotional resilience, self-awareness, and interpersonal competence. While both domains contribute to student development, their impact is significantly amplified when implemented in a coordinated and mutually reinforcing manner^[4-5]. For instance, regular physical activity has been shown to reduce symptoms of depression and anxiety, while psychological interventions can enhance students' motivation, perseverance, and social interaction in sports contexts.

The integration of PE and mental health education offers a synergistic approach that transcends disciplinary boundaries.

It fosters the development of students' adaptive capacities, self-regulation skills, and cooperative spirit—competencies that are crucial for success in both personal and professional domains. Moreover, in an era of increasing demand for versatile talent, graduates with strong physical and mental attributes are better positioned to thrive in dynamic, high-pressure environments. Thus, interdisciplinary integration is not only an educational imperative but also a national strategic priority aligned with talent development and societal well-being.

3. International Practices and Their Implications for China

3.1. Curriculum Design

Globally, leading universities have adopted interdisciplinary curriculum models that integrate physical and psychological training. In the United States, institutions like Stanford University and the University of Michigan offer “sports psychology” and “exercise and mental health” tracks within their kinesiology or psychology departments. These programs feature modular courses such as “Athletic Mental Preparation,” “Stress Management through Physical Activity,” and “Emotional Intelligence in Sports.” Curricula are vertically aligned to progress from theoretical foundations to hands-on application, ensuring that students develop a comprehensive understanding of how physical activity impacts emotional and cognitive functioning^[6-8].

Japan adopts a thematic approach to curriculum design, using “stress relief,” “team building,” and “emotional balance” as central themes. Courses incorporate activities like yoga, jogging, dance, and martial arts, along with mindfulness and emotional regulation exercises. This model emphasizes flexibility and personalization, allowing students to choose physical-psychological combinations suited to their interests and stress levels.

These examples suggest that Chinese universities need to overcome rigid departmental divisions and develop three-tiered curricula: (1) foundational general education courses that instill basic knowledge of physical and psychological

well-being, (2) integrated professional courses that explore the interplay between sports and mental health, and (3) elective extension courses tailored to students' individual growth trajectories. Such a framework ensures coherence, relevance, and depth across diverse learning pathways.

3.2. Pedagogical Approaches

A significant trend in global education is the shift from teacher-centered instruction to student-centered learning. According to the *2023 Global Higher Education Innovation Report*, institutions that adopt interactive, experiential, and inquiry-based teaching methods report significantly higher student engagement and competency development (see Table 1).

In Australia, universities incorporate “experiential-situational learning” into PE-psychology integration. Activities such as rock climbing, hiking, and group camping are framed as learning experiences that challenge students both physically and mentally. Students learn to manage fear, build trust, and practice emotional resilience in real-life settings.

British universities, including the University of Leeds and King’s College London, use a “case-based seminar” model. Students analyze real-world cases involving athlete mental breakdowns, team conflicts, and performance anxiety. Through structured discussions and solution mapping, they hone their analytical and collaborative skills^[9].

Finland has pioneered the use of virtual reality (VR) to simulate high-pressure sports competitions, social interactions, and psychological crisis scenarios. This enables students to receive immediate feedback on emotional and cognitive responses and practice coping strategies in immersive environments.

These practices highlight the need for Chinese universities to adopt a diversified pedagogical toolkit combining experiential learning, case analysis, digital simulations, and reflective assessment. Technology-enabled blended learning—online theory modules paired with offline physical activities—can enhance flexibility and accessibility while ensuring pedagogical depth.

Table 1. Comparative Outcomes of Traditional vs. Innovative Teaching Models in PE-Mental Health Education

Teaching mode	Attainment rate of psychological adjustment ability (%)	Percentage points higher than the traditional model	Excellent Rate of motor/Problem solving ability (%)	Percentage points higher than the traditional model
The Australian Context-Experience Model	82	37	78	32
British case study model	79	35	75	29
Finnish virtual reality model	85	41	81	36

3.3. Faculty Development

Interdisciplinary teaching demands faculty with expertise across multiple knowledge domains. Traditional staffing models, where PE teachers lack training in psychology and vice versa, are inadequate for delivering integrated curricula. Internationally, universities have responded by reforming teacher preparation and development.

In Canada, cross-disciplinary faculty development programs are funded through national teaching innovation grants. Annual training camps bring together exercise scientists, sports psychologists, and pedagogical experts to

conduct joint workshops. Participants receive mentorship, engage in collaborative curriculum development, and co-teach pilot courses.

Germany has built an inter-university faculty exchange platform, enabling teachers to conduct joint research, co-publish papers, and share digital teaching resources. Performance in interdisciplinary collaboration is now considered in promotion and tenure evaluations, incentivizing long-term commitment to integration.

Chinese universities can draw on these examples to design localized professional development models. These should include modular training in sport psychology, educational

theory, and interdisciplinary pedagogy. Faculty should be encouraged to form collaborative teams, conduct action research, and participate in international exchange programs. An integrated teacher evaluation system that includes criteria such as interdisciplinary teaching innovation, student guidance, and curriculum development is essential for motivating and rewarding excellence.

4. Strategies for Promoting Integration in Chinese Universities

4.1. Constructing Integrated Curricula

The first step in promoting interdisciplinary integration is to redefine the overarching educational goals. Rather than limiting the curriculum to isolated physical skills training or abstract psychological theories, the aim should be to cultivate students' holistic mind-body development. This can be articulated through objectives that include cognitive insight, emotional regulation, volitional strengthening, stress tolerance, and interpersonal harmony. A modular and thematic curriculum structure is highly recommended—examples of potential course titles include “Stress Management through Sport,” “Mindful Movement Practices,” and “Team Dynamics and Emotional Intelligence.”

Physical education courses can be redesigned to include not only motor skill instruction but also reflective journaling, peer coaching, body-mind awareness exercises, and group therapy-based discussion formats. In parallel, psychology courses should incorporate somatic learning methods such as guided movement activities, breath control training, and cooperative physical tasks. These forms of crossover promote internalization of theoretical knowledge through physical experience. Furthermore, universities should offer elective courses such as “Applied Sport Psychology,” “Emotional Intelligence in Movement,” and “Resilience Training for Athletes,” which allow students to build individualized

learning paths based on their interests, career goals, or psychological needs. Such a comprehensive system ensures vertical integration (from foundational to advanced courses) and horizontal integration (across departments), thereby improving curriculum coherence and relevance.

4.2. Innovating Teaching Methods

As interdisciplinary integration deepens, teaching methods must be adapted to support active, embodied, and reflective learning processes. A purely lecture-based or transmission-oriented model is no longer sufficient. Instead, educators should implement student-centered, participatory methods. Project-Based Learning (PBL) is one of the most effective formats^[10]. For instance, students can be tasked with designing a university-wide “Mind-Body Wellness Week” that includes physical competitions, yoga sessions, emotion-regulation workshops, and peer-led support groups. This hands-on approach enables students to synthesize theoretical knowledge and practical experience, cultivating transferable skills in planning, collaboration, and self-regulation (see Figure 1).

Scenario-based learning is another valuable strategy. Instructors can simulate high-stress contexts—such as sports trials, conflict-resolution scenarios, or emotionally charged team environments—and guide students in applying psychological techniques such as cognitive reframing, diaphragmatic breathing, and role-play communication strategies. In addition, the integration of educational technology offers numerous possibilities. Virtual Reality (VR) can create immersive simulations of athletic pressure or social stress; Artificial Intelligence (AI) tutors can deliver personalized feedback on emotion regulation strategies; and mobile fitness apps can help students track both physical and mental progress. Through the combination of embodied experience, critical reflection, and digital augmentation, these pedagogies enhance both the depth and sustainability of learning outcomes.

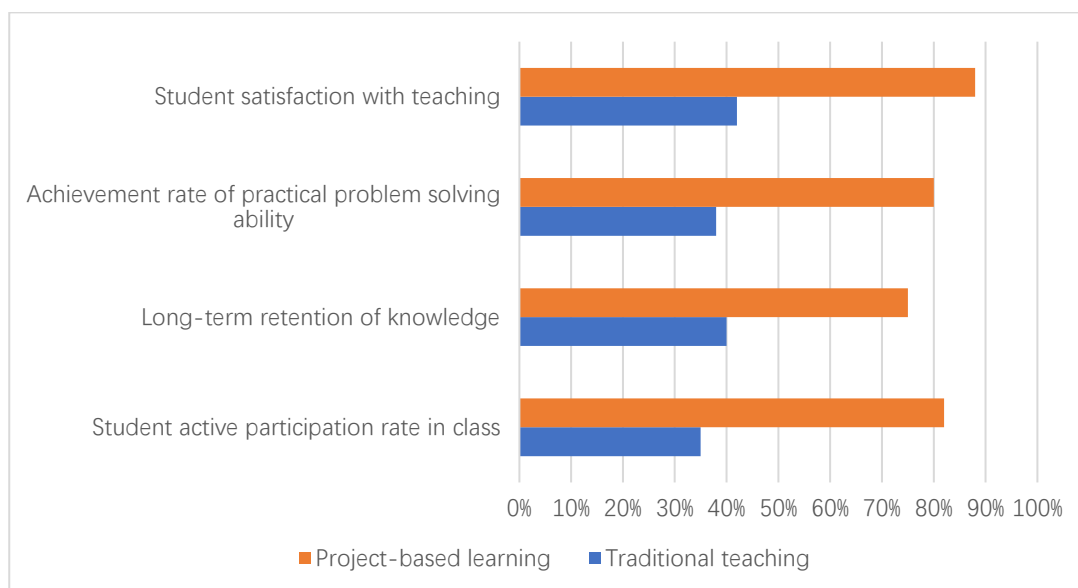


Figure 1. Effectiveness Comparison of Traditional Teaching vs. Project-Based Learning

4.3. Strengthening Faculty Teams

Interdisciplinary education is only as strong as the faculty who deliver it. Therefore, it is essential to cultivate teams of educators who possess both disciplinary expertise and the

ability to engage in cross-disciplinary dialogue and collaboration. Universities should establish formal interdisciplinary teaching committees or working groups composed of scholars in kinesiology, psychology, health sciences, and pedagogy. These teams should not only

collaborate on syllabus design and course delivery but also co-mentor student projects, engage in team-teaching models, and participate in reflective teaching practice sessions.

Moreover, institutional support in the form of funding, policy incentives, and administrative backing is crucial for sustaining these interdisciplinary efforts. Faculty should be provided with regular professional development opportunities such as interdisciplinary teaching workshops, collaborative research grants, and international exchange programs. Peer observation and co-teaching evaluations should be implemented to foster mutual learning and pedagogical innovation. Importantly, the faculty evaluation system should be updated to include metrics such as contribution to interdisciplinary curriculum design, student mentorship in integrated courses, and participation in collaborative teaching and research. Recognition in promotion and tenure evaluations will incentivize faculty to engage deeply in fusion teaching, thereby creating a robust team of educators who are not only knowledgeable in their disciplines but also adept at building bridges across them.

4.4. Refining Assessment Mechanisms

An effective interdisciplinary curriculum requires an equally robust and nuanced assessment system. Traditional models of evaluation—such as standardized tests or isolated physical fitness measures—fail to capture the multifaceted nature of students' mind-body development. A comprehensive, multi-dimensional evaluation framework should therefore be adopted, combining both formative and summative elements. Formative assessments can include classroom observations, student learning logs, psychological self-reports, and peer evaluations to provide ongoing feedback throughout the learning process^[1].

Summative assessments should take the form of performance-based tasks, such as project presentations, wellness portfolios, or integrated practical exams where students demonstrate both physical proficiency and psychological insight. For example, a final assessment might involve leading a group fitness session with embedded emotional check-ins and team feedback activities. Evaluation rubrics should include indicators such as physical improvement, mental resilience, cooperative capacity, emotional literacy, and self-regulated learning behavior. Moreover, data analytics tools can be employed to track student progress over time and generate visual dashboards for instructors to adjust teaching strategies accordingly.

Finally, students themselves should be involved in the evaluation process through self-assessment and peer review. These reflective practices reinforce metacognitive awareness and promote a growth mindset. By fostering a cyclical model of “evaluation–feedback–adjustment,” universities can ensure that teaching and learning in interdisciplinary contexts remains dynamic, learner-centered, and improvement-oriented.

5. Conclusion

Driven by global educational reform and evolving societal needs, the interdisciplinary integration of university physical

education and mental health education is no longer optional—it is essential. While China's higher education system faces challenges in terms of theoretical development and practical implementation, it also holds immense potential for innovation by leveraging international experience. By constructing systematic curricula, employing diverse pedagogical strategies, building interdisciplinary faculty teams, and establishing robust assessment systems, universities can create an integrated educational environment that supports students' full development. As interdisciplinary research deepens and educational technologies advance, Chinese universities must continue to explore localized, scalable integration models that embed holistic growth into every aspect of teaching and learning. In doing so, they will contribute not only to student well-being but also to the broader mission of building a healthier, more resilient society.

References

- [1] Nguyen TTB, Truong TP. An integrated method for teaching history in high school. *J Sci Educ Sci*. 2019;64(2A):233–9.
- [2] Yuan J. Research on the application of information technology in physical education teaching in colleges and universities. In: *Application of Big Data, Blockchain, and Internet of Things for Education Informatization: First EAI International Conference, BigIoT-EDU 2021, Virtual Event, August 1–3, 2021, Proceedings, Part I 1*. Springer International Publishing; 2021. p. 181–5.
- [3] Luo J. The dilemma and ways out of Qiang ethnic minority's traditional physical education under the background of informatization in PR China. *Procedia Soc Behav Sci*. 2013; 83:1095–9.
- [4] Rowland A. Not just “gym” anymore: the role of journaling in physical education courses. *Clear House: J Educ Strateg Iss Ideas*. 2007;81(2):59–60.
- [5] Yang J, Wang L. A study on the effect of physical education in Chinese university on student satisfaction. *JEAT*. 2022; 4(2): 55–62.
- [6] Yue N. Medical health data-driven physical education scheme: public environment-oriented exercise health management. *J Environ Public Health*. 2022;2022:6399603.
- [7] Humphries CA, Bidner S, Edwards C. Integrated learning with physical education and music. *Clear House: J Educ Strateg Iss Ideas*. 2011;84(5):174–9.
- [8] Marttinen RHJ, McLoughlin G, Fredrick R, III, Novak D. Integration and physical education: a review of research. *Quest*. 2017;69(1):37–49.
- [9] Huang R, Wang L, Zhou G. Feasibility on the integrated teaching method of machine learning algorithm inside and outside physical education class. *Int Trans Electr Energy Syst*. 2022;2022:1–10.
- [10] Chao Y, Guo X, Wang R. Exploration of teaching and education: integration of sports and medicine in physical education in colleges and universities. *J Contemp Educ Res*. 2022;6(1):63–7.
- [11] Shi Q. Construction of physical education teaching system in colleges and universities based on the concept of lifelong physical education. *J Educ Educational Res*. 2023;2:75–8.