The Innovation of Teaching Model and Professional Development of Teachers in Vocational Nutrition and Health Courses.

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Abstract: *Under the context of the deepening health promotion strategy and the quality enhancement of vocational education, the teaching model of nutrition and health courses in vocational colleges urgently needs to shift from the traditional "knowledge transmission" to "competence building." As an interdisciplinary course integrating natural sciences, life sciences, and behavioral sciences, this course focuses on the collaborative development of students' health literacy and professional abilities. The traditional model is inadequate to meet the requirements of its complexity and practicality. Based on the theoretical framework of teaching model reconstruction, this paper, in combination with the characteristics of vocational education, proposes an innovative teaching path centered on modular design, multi-dimensional interactive teaching, and outcome-oriented assessment, aiming to achieve a deep alignment between course goals and students' career development. At the same time, it explores the professional development mechanism for teachers from three dimensions: restructuring teacher competencies, career development planning, and the construction of teaching communities. The paper emphasizes the coordinated advancement of teaching innovation and teacher growth, providing theoretical support and practical pathways for course optimization and institutional development.*

Keywords: *Vocational Education; Nutrition and Health Courses; Teaching Model Innovation; Modular Teaching; Teacher Professional Development.*

Introduction

Currently, vocational education in China is undergoing a critical transformation from scale expansion to quality improvement. How to construct a teaching model that aligns with professional demands and student characteristics has become an important issue in educational reform. As a highly interdisciplinary and application-oriented course, nutrition and health education not only relates to the cultivation of students' health literacy, but also affects their future professional competence in the health service field. However, the comprehensive, diverse, and timely nature of the course content presents challenges to the traditional teaching model, leading to a noticeable disconnect between knowledge transmission and competence development. Therefore, it is necessary to carry out systematic innovation in course reconstruction, teaching strategies, and assessment systems. At the same time, teachers, as key implementers of teaching reform, play a crucial role in shaping the development of teaching quality and reform effectiveness. In this context, this paper seeks to explore innovative pathways for the teaching model of vocational nutrition and health courses, and deeply analyze the new requirements for teachers' professional growth, in order to provide theoretical support and practical reference for related teaching practices.

1. Theoretical Foundation and Internal Logic of Teaching Model Reconstruction

1.1 Knowledge Structure and Competency Orientation of Nutrition and Health Courses

As a typical interdisciplinary subject, the knowledge structure of nutrition and health courses incorporates multidimensional attributes of natural sciences, life sciences, and behavioral sciences, reflecting high levels of integration and application orientation. This course not only covers core biomedical content such as basic nutrition, food and dietary structure, and physiological regulatory mechanisms, but also deeply connects with health behavior science, lifestyle intervention strategies, and community health promotion theories, forming a knowledge system that spans individual, group,

and societal levels.

In the vocational education system, this type of course not only fulfills the function of basic knowledge transfer, but also focuses on enhancing students' health literacy, cultivating life skills, strengthening professional ethics awareness, and fostering comprehensive abilities for social service. Its teaching goal has shifted from "knowledge acquisition" to "competence building" and "literacy improvement" [1].

From a competency-oriented perspective, the nutrition and health course emphasizes the integration and application of knowledge, skills, and attitudes in complex, real-world professional contexts. Students are required to develop the ability to identify and analyze health information, recognize and intervene in common nutritional problems, and possess practical skills for communication, assessment, and service delivery across diverse populations. The content of the course is highly relevant to students' future job roles, so the teaching process should focus on methods such as situational introduction, task-driven approaches, and feedback enhancement, constructing a teaching system based on the "professional competency chain." In the design and implementation of the course, it is necessary to reconstruct knowledge modules, clarify competency pathways, strengthen the integration of systematic knowledge and practical skills, and promote students' development of interdisciplinary professional literacy, including job competency, lifelong learning ability, and social adaptability.

1.2 Teaching Characteristics and Evolutionary Trends of Vocational Education

Vocational education is oriented toward serving regional economic and industrial development, aiming to cultivate high-quality talents with professional ethics, technical skills, and sustainable development capabilities. Its teaching characteristics highlight "learning by doing and doing by learning," emphasizing curriculum design based on job competency standards and a practice-oriented teaching implementation path. In terms of teaching organization, vocational education commonly adopts practical teaching strategies such as project-driven and task-oriented approaches to strengthen students' ability to adapt to professional scenarios and improve their technical operation skills. However, in the face of challenges such as accelerated knowledge iteration and the diversified evolution of the professional ecosystem, the traditional teaching model characterized by the separation of knowledge delivery and skill training is revealing structural problems such as fragmented course objectives, unclear competency-building paths, and insufficient internal motivation for learning. These issues hinder its ability to effectively support the cultivation of students' comprehensive literacy and the dynamic development of job competence.

In line with the new trends of technological empowerment and educational concept transformation, the vocational education teaching model is continuously evolving toward integration, intelligence, and personalization. On one hand, the fusion of multidisciplinary knowledge promotes the shift from "discipline-based separation" to an integrated design of "knowledge—competence—literacy," fostering the comprehensive solution of complex problems in real or simulated scenarios through situational simulations, project-based learning, and interdisciplinary collaborative teaching. On the other hand, the widespread use of information technology has given rise to the "smart teaching" ecosystem, supporting dynamic feedback regulation based on learning behavior data, personalized resource recommendations, and full-process visualized assessment. Teaching activities increasingly emphasize student participation and generative experiences, transforming the teacher's role from a "knowledge transmitter" to a "learning facilitator." The teaching process evolves from linear transmission to interactive co-construction, achieving a deeper integration of "teaching—learning—assessment," and injecting continuous momentum into the paradigm shift of vocational education [2].

1.3 The Necessity and Construction Path of Teaching Model Innovation

Driven by the dual transformation of course nature and educational objectives, the teaching model of vocational nutrition and health courses urgently requires innovation and reconstruction. The interdisciplinary integration of course content demands that teachers establish networks of connections between concepts in their teaching, while the diversification of student individual differences forces a shift in teaching methods from "standardization" to "adaptability." Moreover, knowledge in the health field is notably time-sensitive and context-dependent, requiring the teaching process to possess greater flexibility and openness to support students in mastering and transferring dynamic knowledge.

The innovation of the teaching model should be approached from three dimensions: first, the teaching content should be reorganized through modularization and thematic structuring to enhance

internal consistency and the scalability of the learning path, thereby improving the students' structured learning experience; second, teaching methods should introduce strategies such as problem-based learning, collaborative inquiry, and practical exercises to strengthen the intrinsic connection between knowledge and skills, promoting the simultaneous improvement of students' thinking abilities and execution capabilities; third, the teaching evaluation system should shift from a singular result-oriented approach to a process-oriented, multidimensional assessment, focusing on the breadth and depth of students' knowledge acquisition, the dynamic process of competency development, and the practical demonstration of learning transfer abilities.

The coordinated advancement of these three-dimensional paths contributes to the creation of a "student development-centered" teaching ecosystem, ensuring the systematic nature of course content while stimulating learning motivation, enhancing learning outcomes, and laying the foundation for continuous improvement in teachers' professional abilities through teaching practice.

2. Innovative Pathways for the Teaching Model of Vocational Nutrition and Health Courses

2.1 Design Logic and Implementation Mechanism of Modular Course Structure

In addressing the complexity of vocational course content and the differences in learners' abilities, a modular course structure becomes a key pathway for enhancing the systematization and flexibility of teaching. The knowledge system of nutrition and health courses features significant interdisciplinary characteristics, covering multiple knowledge areas such as basic nutrition, physiological metabolism, food safety, and health assessment. Structuring the course content based on knowledge dimensions, skill requirements, and professional tasks helps break traditional subject boundaries, forming a logically clear and progressively structured learning framework [3].

The core of modular design lies in redefining the functional positioning of learning units, so that each module serves not only as a knowledge delivery unit but also as a competency-building unit, enabling the organic transformation from knowledge input to skill output. In terms of implementation mechanisms, the design of teaching modules should be guided by learning objectives and should be clearly themed and problem-oriented. Each module must embed real-world task scenarios, skill operation steps, and reflection activities, forming an integrated structure of "knowledge—tasks—assessment." By establishing a multi-level structure with foundational, expansion, and comprehensive modules, the design not only caters to the varying learning paces and developmental directions of different students but also provides structural support for personalized teaching.

Moreover, there should be appropriate connections and openness between modules to support horizontal transfer and vertical expansion across different modules. The teaching platform and resource allocation should align with the modular logic, constructing a digital learning support system that enhances the visualization, adjustability, and autonomy of the learning process, thus forming a highly organized and personalized teaching system within the overall course framework.

2.2 Systematic Construction of Multidimensional Interactive Teaching Methods

In response to the shift in students' learning methods and the diversification of learning needs, traditional teaching methods centered on teacher lectures can no longer fully engage students in participation and cognitive investment. The teaching of nutrition and health courses should introduce multidimensional interactive strategies, constructing a teaching system centered on "cognition—context—collaboration," to encourage students to activate knowledge structures, generate understanding, and internalize abilities in real-life contexts.

The multidimensional interactive teaching method integrates various forms such as classroom interaction, digital platforms, simulated scenarios, and practical tasks, establishing a dynamic negotiation mechanism between "teaching" and "learning," and strengthening the parallelism of knowledge construction and social interaction. In teaching design, attention should be given to guiding students to engage in group discussions, role-playing, and case analysis around real nutrition problems, enabling them to construct meaning through the collision of viewpoints and reflection. At the same time, by utilizing blended learning platforms, tools such as video explanations, data analysis, and virtual experiments should be integrated into the course, achieving a fusion of virtual and real learning scenarios, enhancing the contextual understanding of knowledge and the ability to transfer operations.

The systematic construction should also emphasize the multidimensional transformation of the teacher's role, shifting from a knowledge transmitter to a learning facilitator and resource integrator. By building a teaching framework based on collaborative learning, task-driven approaches, and project-based inquiry, a learning ecosystem that supports exploration and stimulates thinking should be created, encouraging students to continuously generate problem awareness and improve their comprehensive expression and collaborative problem-solving abilities through multidimensional interaction. This teaching method not only fits the content characteristics of nutrition and health courses but also prepares students for cross-disciplinary communication and service abilities required in future job roles [4].

2.3 Optimization of the Assessment System Based on Learning Outcomes

In the context of teaching model transformation, the traditional assessment method centered around final exams can no longer fully reflect the development of students' abilities. The learning outcomes-oriented assessment system emphasizes a focus on learning effectiveness, paying attention to cognitive growth, skill formation, and behavioral changes throughout the learning process. This system needs to be closely aligned with course objectives, teaching activities, and competency standards, establishing a diverse, dynamic, and generative evaluation mechanism that reflects both the depth of knowledge mastery and the breadth of application abilities.

The learning outcomes of nutrition and health courses involve multiple dimensions, including theoretical understanding, operational norms, problem analysis, and individual communication. The assessment system must be able to comprehensively reflect knowledge, skills, and attitudes. In terms of evaluation dimensions, it should include three types of indicators: process-oriented evaluation, outcome-oriented evaluation, and reflective evaluation. By combining students' specific performance in task execution, collaborative interaction, and individual expression, a multi-point, multi-stage, and multi-method holistic assessment should be implemented. Assessment methods can integrate forms such as online quizzes, structured observation, skill demonstrations, and learning portfolios, achieving a deep integration of teaching stages and assessment mechanisms [5].

The assessment process should embody the functions of feedback and development, providing timely, specific, and constructive feedback to help students identify strengths and areas for improvement, forming a positive feedback loop that promotes learning and teaching. At the same time, the teacher's role in the evaluation process needs to be restructured, shifting from a dominant scorer to a guiding evaluator, helping students develop an awareness of self-assessment and metacognitive abilities, thus enhancing their learning initiative and regulation skills, and ultimately realizing a learning outcomes-oriented teaching cycle.

3. Collaborative Mechanism and Competency Advancement in Teacher Professional Development

3.1 Reshaping Teacher Competency Structure for Nutrition and Health Courses

With the interdisciplinary integration of course content and the systematic innovation of teaching models, vocational nutrition and health courses have introduced new requirements for the teacher competency structure. The nature of the course dictates that teachers must not only possess professional literacy in nutrition science, physiological health, and related basic medical knowledge, but also have strong abilities in course integration, problem design, and interdisciplinary teaching. Teachers with a traditional single-disciplinary background face certain limitations when dealing with complex knowledge systems and diverse student needs. The multidimensional construction of teaching content and the diverse combination of teaching methods have become the core driving factors for the transformation of teachers' roles.

The reshaping of competency structure is primarily reflected in three aspects: the complexity of knowledge structure, the synergy of teaching skills, and the generative nature of educational philosophy. Teachers need to integrate nutrition and health knowledge into real-life situations and professional practices, conducting effective content reconstruction and task design. Simultaneously, in terms of teaching organization, teachers should master interactive, collaborative, and contextual teaching strategies to enhance the adaptability of teaching and increase student engagement. On the level of educational philosophy, teachers must transition from knowledge transmitters to learning facilitators and builders of learning communities, forming a teaching cognitive model and professional identity

awareness based on learning outcomes orientation.

This transformation in competency structure not only influences individual teaching behaviors but also profoundly reshapes teachers' functional roles in course development, teaching evaluation, and team collaboration, driving them towards higher-level roles in teaching planning, course leadership, and academic dialogue.

3.2 Design of Teacher Growth Pathways in the Context of Teaching Model Innovation

In the context of continuous innovation in teaching models and ongoing optimization of course structures, teacher growth pathways need to evolve toward a more systematic, staged, and generative direction. The path of teacher professional development should not focus solely on skill updates or knowledge expansion, but should also address the dynamic and ongoing evolution of their teaching philosophy reconstruction, reflective teaching practices, and educational identity construction [6].

An effective growth pathway design should align with the individual development stage of teachers and their professional needs, creating a multi-level development framework of "initial training—on-the-job improvement—professional leadership." In the initial stage, teachers should enhance their understanding of course characteristics and teaching logic through specialized competency-building courses, simulated teaching workshops, and dual-mentor mechanisms. In the mid-development stage, teachers should strengthen their mastery of teaching innovation strategies by engaging in teaching workshops, course experiments, and peer evaluations, continually optimizing teaching plans and strategy execution abilities. In the advanced development stage, teachers should take on more responsibilities in course design, teaching guidance, and team collaboration, converting practical experience into teaching research outcomes, and participating in knowledge co-creation and educational model innovation.

The pathway design should also emphasize teachers' adaptability and creativity in complex teaching environments, guiding them to transform professional knowledge into teaching resources and course plans. Through continuous action research and reflective practices in teaching, teachers should achieve a progression from "teaching effectively" to "teaching excellently" and ultimately to "leading teaching," promoting their deep integration into the teaching ecosystem and expanding their multifaceted roles.

3.3 Integration of Teaching Communities and Professional Support Systems

In response to the dual needs of individual teacher professional growth and the collaborative optimization of the teaching system, the integration of teaching communities and professional support systems becomes a key mechanism for enhancing the quality of teacher development and the effectiveness of teaching innovation. The complexity and dynamism of nutrition and health courses make it difficult for teachers to independently update course content, optimize teaching strategies, and continuously improve learning outcomes based solely on individual experience. Teaching communities, through the sharing of practices, mutual learning from experiences, and resource co-construction, create a collaborative learning environment among teachers, providing both intrinsic motivation and external support for teacher development.

The construction of teaching communities should be based on professional interests, teaching themes, or course areas, forming a stable structure and clear functional mechanisms for collaboration. Within the community, teachers can engage in deep interaction and knowledge co-creation through regular teaching diagnosis meetings, classroom observation discussions, thematic seminars, and case deconstruction, thereby improving the systematization of teaching design and the precision of course implementation. At the same time, attention should be paid to the integration of resources across schools and disciplines. By incorporating external expert guidance, cross-disciplinary teaching forums, and interactive digital platforms, teachers' professional horizons and academic influence can be expanded.

The professional support system should include key elements such as research and teaching platforms, digital tools, evaluation feedback mechanisms, and incentive systems, ensuring the accessibility of resources and continuity of development for teachers along their growth paths in an institutionalized manner. By utilizing data-driven teaching feedback systems, open-access teaching case repositories, and flexibly configured competency enhancement modules, the clarity of teacher professional development goals and the operability of development pathways can be improved.

The collaborative integration of teaching communities and professional support systems can break

the isolation phenomenon in teacher professional development, achieving a transition from "individual enhancement" to "systemic evolution." This not only optimizes teachers' teaching practices and professional understanding but also enhances the overall teaching quality and educational effectiveness of nutrition and health courses.

Conclusion

The teaching reform of vocational nutrition and health courses must be based on the dual orientation of student development and professional demands. Through the optimization of modular course structures, the construction of multidimensional interactive teaching methods, and the improvement of outcome-oriented evaluation systems, teaching activities should shift from "knowledge transmission" to "competency generation." At the same time, teachers' professional growth must achieve a systematic leap through the updating of teaching philosophies, deepening of teaching practices, and construction of collaborative mechanisms. Teaching model innovation is not only a transformation and upgrade of the course itself but also the core driving force behind the high-quality development of vocational education. In the future, empirical research on course implementation should be further strengthened, and teaching diagnosis and feedback mechanisms based on intelligent technology and big data support should be explored. This will continuously improve teaching adaptability and teacher development quality, achieving the sustainable optimization and professional construction of nutrition and health courses within the vocational education system.

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