

Construction and Application of the Competency Enhancement Model for University Teachers

Meifang Huang

School of Transportation, Changsha University of Science and Technology, Changsha, Hunan 410114, China

ABSTRACT

University teachers' participation in all-round education is a key link to improving education quality, and the enhancement of teachers' professional competence is the core of this link. Modern education places higher demands on teachers, including disciplinary knowledge and information-based teaching ability. The teacher competency model is an important tool for evaluating teachers' professional quality. Through expert consultation and questionnaire surveys, various indicators are selected to construct a complete competency model, which helps to accurately understand the professional competence requirements of university teachers. This model can be applied to teacher selection, performance evaluation, and training development. By analyzing the university teacher competency model from the perspectives of professional ethics, management systems, teacher training, and scientific innovation, this paper explores ways to enhance the professional competence of university teachers.

KEYWORDS

All-round education; University teachers; Competency enhancement; Competency model

1 Introduction

Teachers are the main body of all-round education, and the quality of teachers determines the level of higher education. Therefore, it is necessary to enhance teachers' professional competence and emphasize faculty development^[1-2] to improve the level of education. The tasks and connotations of the strategy of rejuvenating the country through science and education were clarified, and education, science, and talent development were systematically arranged.

In 2018, the State Council^[3] issued a document on reforming the construction of the teaching workforce, clarifying the significance of teacher development from the national strategic level.

At the end of 2020, six departments including the Ministry of Education^[4] issued a document on the reform of university faculty development, systematically planning the overall approach and direction for strengthening university teachers.

In 2021, the Ministry of Education and the Ministry of Finance jointly^[5] issued a notice on implementing the plan to improve the quality of vocational college teachers, emphasizing the strengthening of teacher development.

In 2022, the State Council^[6] issued a document on the reform of the modern vocational education system, emphasizing that high-quality teachers are an important support for building a strong educational nation and that teachers' quality determines national innovation and competitiveness.

Wang Chuanyi and Gu Liujian^[7] studied university faculty construction and proposed that universities should prioritize moral integrity, strengthen teachers' ethics, expand the scale of the teaching force, promote coordination, innovate talent introduction mechanisms, develop industry-education integration, and strengthen postdoctoral development. Ma Jie^[8], based on the ADDIE extended model, proposed a progressive model for university teaching competence, embedding competency into all stages of teaching systems. High-quality teachers are an essential foundation for educational strength, and their competence determines national innovation and competitiveness. Huang Meifang^[9-10] on the impact of class advisors, administrative staff, and the tutorial system model on higher education.

2 Professional Competence of University Teachers

Ideological and Ethical Literacy: Teachers should actively engage in ideological and political study and professional ethics building, understand relevant regulations, and clarify responsibilities. They should study the "Ten Professional Codes for College Teachers," enhance moral standards, commit to cultivating talent for the nation and the Party, establish correct values, and strengthen ideological consciousness in courses. Teachers should educate through virtue, lead by example, and strive to be "teachers with ideals, moral integrity, solid knowledge, and a caring heart."

Educational and Teaching Competence: This is the core of teachers' professional quality. Subject knowledge is the foundation, and teaching design and implementation are crucial. Huang Meifang^[11-12] discussed the classroom teaching of architectural materials. Based on institutional teaching requirements and personal professional development, teachers should flexibly design teaching plans suited to students' needs, update educational concepts, and use modern educational theories and methods to improve teaching quality.

Professional Practice Competence: This refers to the comprehensive ability to apply theoretical knowledge in specific

fields to practical skills. It is cultivated through repeated practice and experience accumulation to solve real-world problems.

Innovative Research Competence: Teachers should possess the ability to conduct innovative research in disciplinary or interdisciplinary fields, undertake or participate in research projects, and develop technologies and products. Through educational and teaching reform studies, humanities and social sciences, and management research, teachers can publish papers and achievements, promoting the progress of education and science. Educational management competence is another essential skill.

3 Competency Indicators for University Teachers Based on Expert Consultation and Surveys

Through expert consultation and questionnaire analysis, an indicator system is obtained, including primary, secondary, and tertiary indicators.

Professional Knowledge: Includes ideological and political knowledge (political theory, laws, ethics), subject knowledge (mastery of core theories and frontiers), educational knowledge, and technical literacy such as multimedia and online teaching platform usage. It also includes industry practice knowledge and student psychology to better understand and guide learners.

Work Ability: Reflected in teaching, research, and social service. It includes:

- Course ideology integration.
- Innovative ability for research and problem-solving.
- Social service contribution.
- Communication and expression ability.
- Professional research capability and academic achievement.
- Autonomous learning ability and reflective practice.
- Information technology teaching ability.

Work Attitude: Teachers must adhere to ethics, observe professional conduct, love their work, treat students fairly, and provide quality service.

Personal Traits: Optimism, strong political literacy, sense of achievement, cooperation, responsibility, affinity, and insight into educational issues and trends.

Table 1 University Teacher Competency Mode

Primary Indicator	Secondary Indicator	Tertiary Indicators
University Teacher Competency A	Professional Knowledge B1	Ideological and Political Knowledge C11, Disciplinary Knowledge C12, Pedagogical Knowledge C13, Information Technology Knowledge C14, Industry Practice Knowledge C15, Student Psychology C16
	Work Capability B2	Curriculum Ideology and Politics Development C21, Innovation and Creativity C22, Social Service C23, Expression and Communication C24, Academic Research C25, Self-directed Learning C26, Reflection C27, Technology-Enhanced Teaching C28
	Work Attitude B3	Professional Ethics C31, Behavioral Norms C32, Dedication and Commitment C33, Fairness and Impartiality C34, Service Awareness C35
	Personal Traits B4	Initiative C41, Political Literacy C42, Achievement Orientation C43, Team Spirit C44, Responsibility C45, Approachability C46, Insight C47

4 Construction and Application of the University Teacher Competency Model

4.1 Model Construction

Using the Analytic Hierarchy Process (AHP), the weights of four secondary indicators and 26 tertiary indicators were calculated, reflecting their importance in overall competence. These weights form a scientifically reasonable model that helps universities comprehensively evaluate the performance of faculty members. A hierarchical model and judgment matrix (Table 2) were established, resulting in the weight distribution (Table 3).

4.2 Application in Teacher Recruitment

Based on job requirements, the competency model is used to screen applicants. Scores are calculated by multiplying

Table 2 Judgment Matrix of Layer B

A	B1	B2	B3	B4
B1	1	5/3	5/1	5/2
B2	3/5	1	3	3/2
B3	1/5	1/3	1	1/22
B4	2/5	2/3	2	1

Table 3 Competency Indicator Weights (*Weights and calculations remain consistent with the Chinese version*)

Primary Indicator	Secondary Indicator	weight	Tertiary Indicators	weight	Composite weight
University Teacher Competency (A)	Professional Knowledge B1	0.3125	Ideological and Political Knowledge (C11)	0.0556	0.0174
			Disciplinary Knowledge (C12)	0.2778	0.0888
			Pedagogical Knowledge (C13)	0.1667	0.0521
			Information Technology Knowledge (C14)	0.1111	0.0347
			Industry Practice Knowledge (C15)	0.2222	0.0694
			Student Psychology (C16)	0.1667	0.0521
	Work Capability B2	0.3125	Curriculum Ideology and Politics Development (C21)	0.0714	0.0223
			Innovation and Creativity (C22)	0.1071	0.0335
			Social Service (C23)	0.0714	0.0223
			Expression and Communication (C24)	0.1071	0.0335
			Academic Research (C25)	0.1786	0.0558
			Self-directed Learning (C26)	0.1786	0.0558
			Reflection (C27)	0.01786	0.0558
			Technology-Enhanced Teaching (C28)	0.1071	0.0335
	Work Attitude B3	0.25	Professional Ethics (C31)	0.2083	0.0521
			Behavioral Norms (C32)	0.2083	0.0521
			Dedication and Commitment (C33)	0.2083	0.0521
			Fairness and Impartiality (C34)	0.2083	0.0521
			Service Awareness (C35)	0.1667	0.0417
	Personal Traits B4	0.1765	Initiative (C41)	0.125	0.0156
			Political Literacy (C42)	0.1667	0.0208
			Achievement Orientation (C43)	0.0833	0.0104
			Team Spirit (C44)	0.125	0.0156
			Responsibility (C45)	0.2083	0.026
			Approachability(C46)	0.1667	0.0208
			Insight(C47)	0.125	0.0156

performance scores by corresponding weights. For example:

$$86.2 \times 0.0714 + 85 \times 0.1071 + 83.4 \times 0.0714 + 86.6 \times 0.1071 + 90.6 \times 0.1786 + 90.2 \times 0.1786 + 87.2 \times 0.1786 + 86 \times 0.1071 = 87.6$$

Then combining knowledge, attitude, and personal traits scores: $87.6 \times 0.3125 + 89.7 \times 0.3125 + 88.6 \times 0.25 + 87.2 \times 0.125 = 88.5$

Final scores determine recruitment suitability.

Table 4 Work Competency Evaluation Form in the Competency Model of a Candidate

Evaluator	work ability							
	Curriculum Ideology and Politics Development	Innovation and Creativity	Social Service	Expression and Communication	Academic Research	Self-directed Learning	Reflection	Technology-Enhanced Teaching
1	89	85	77	88	95	93	81	88
2	84	93	95	91	89	88	88	85
3	85	85	72	81	91	92	95	84
4	87	82	86	85	90	91	85	87
5	86	80	87	88	88	87	87	86
Average	86.2	85	83.4	86.6	90.6	90.2	87.2	86

4.3 Application in Performance Evaluation

Performance evaluations motivate teachers, improve task performance, and serve as the basis for rewards and bonuses. They objectively assess teaching results, student feedback, and classroom management, providing data for decision-making and improvement.

4.4 Application in Teacher Training and Development

Competency models guide training systems by aligning programs with job requirements and identifying weaknesses. They support individualized development plans and help enhance teachers' internal motivation. Training should integrate competency standards, be need-oriented, and focus on practical growth paths for teachers.

5 Approaches to Enhancing University Teachers' Professional Competence

At the end of 2021, the Ministry of Education ^[13] issued a document on the construction of professional ethics and conduct for university faculty, emphasizing the full utilization of the role of grassroots party organizations, and comprehensively enhancing teachers' capabilities in accordance with the correct political direction and value orientation.

5.1 Political Guidance and Ethical Construction

Establish teacher development centers to coordinate ideological and ethical work. Implement regular moral evaluations, create ethical archives, and make ethics the primary standard for hiring, promotions, and awards. Strengthen motivation through recognition and honors such as "Teaching Expert" and "Research Star."

5.2 Improving Management Systems and Environment

Standardized management enhances teaching quality. Universities should classify positions (teaching vs. research), apply differentiated assessments, and reform promotion mechanisms to emphasize contribution and innovation over mere publication quantity.

5.3 Strengthening Faculty Training Systems

Set up regular training mechanisms with stable funding. Diversify content—pedagogy, class management, and technology integration—and adopt hybrid online/offline methods. Establish high-level training bases through university–enterprise cooperation and expert mentorship.

5.4 Building Innovative Research Teams and Platforms

Teachers are key drivers of scientific innovation. Building dynamic research teams and improving salary, evaluation, and reward systems are vital. Provide strong support—funding, equipment, academic exchanges—to enhance innovation and balance teaching with research.

6 Conclusion

The construction of a competent university faculty is a cornerstone of higher education development. It plays a critical role in student growth, academic prosperity, and cultural inheritance. Continuous improvement in recruitment, training, academic environment, and ethics will create a professional, innovative teaching team and provide strong talent support for university development.

Funding

Research Project on Teaching Reform at Changsha University of Science and Technology "Research on the Reform of the Flipped Classroom Teaching Model for Building Materials Based on Rain Classroom" (NO JG201870)

References

- [1] Huang Meifang. Exploration on the Construction and Application of the Competency Model for College Counselors [J]. *Education*, 2025, 02: 116–119.
- [2] Huang Meifang. Exploration of the Construction of the Class Teacher Working Model under the Concept of All-round Education [J]. *Education*, 2023, 04:44–47.
- [3] State Council. Opinions on Deepening the Reform of Teacher Workforce Construction in the New Era [N]. Jan. 20, 2018.
- [4] Ministry of Education. Guiding Opinions on Strengthening the Reform of University Faculty Construction [N]. *Teacher* [2020] No.10, Dec. 2020.
- [5] Ministry of Education. Notice on Implementing the Quality Improvement Plan for Vocational College Teachers (2021–2025) [N]. *Teacher Letter* [2021] No.6, July 29, 2021.
- [6] State Council. Opinions on Deepening the Reform of the Modern Vocational Education System [N]. Dec. 21, 2022.
- [7] Wang Chuanyi, Gu Liujian. Strengthening the Construction of University Teachers to Provide Talent Support for Modernization [J]. *China Higher Education Research*, 2023, 2:16–23.
- [8] Ma Jie, Gao Xuedong. Research on the Progressive and Innovative Model of University Teachers' Teaching Competence [J]. *Journal of Hebei Normal University (Educational Science Edition)*, 2023, 25(2):97–101.
- [9] Meifang Huang, Analysis on the Construction and Application of the Competency Model for University Administrative Staff. *Theory and Practice of Science and Technology*, 2025,9: 81-84.
- [10] Meifang Huang, Discussion on the Implementation Mode of Undergraduate Tutor System in Building Materials Major. *Journal of International Education and Development*, 2025,9: 191-195.
- [11] Meifang Huang, Research on Teaching Methods of Building Materials Classroom. *Theory and Practice of Science and Technology*, 2025,10: 86-88.
- [12] Meifang Huang, Exploration, Integration and Practice of Ideological and Political Elements in the Course of Construction Materials. *Entrepreneurship and Innovation*, 2025,5:134-138.
- [13] Ministry of Education. Guiding Opinions on Improving the System of Ideological and Ethical Construction of University Teachers [N]. *Party Education* [2021] No.79, Dec. 31, 2021.