

# The Ideas and Practices of Graduate Course Construction from the Perspective of Ability Cultivation: Taking the Pilot Program of Graduate Course Construction at Sichuan Normal University as an Example

Li Zhang\*

School of Marxism, Sichuan Normal University, Chengdu 610066, China

\*Corresponding author: Li Zhang, cicelia119@163.com

**Copyright:** © 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** Curriculum teaching plays a fundamental role in cultivating graduate talents. The construction of graduate courses should fully respond to the theoretical innovation of new knowledge concepts and the transformation of knowledge production models while reflecting social development needs and conforming to the trend of smart education. The structure of graduate courses should be reconstructed from multiple perspectives, such as content systems, teaching implementation and process management. Sichuan Normal University has provided valuable experience for cultivating graduate abilities and curriculum construction by constructing graduate courses and exploring effective ways to enhance their academic, practical, innovation and entrepreneurship abilities.

**Keywords:** Graduate student; Curriculum reform; Curriculum construction

**Online publication:** August 27, 2024

## 1. Introduction

Curriculum learning is an important component of China's degree and graduate education system, and is a necessary link to ensure the quality of graduate education. It plays a comprehensive, comprehensive, and fundamental role in the growth and development of graduate students. In 2020, the Office of the Academic Degrees Committee of the State Council issued the "Core Curriculum Guidelines for Academic Degree Graduate Students (Trial)," which clearly pointed out that graduate education should "focus on the growth and development of graduate students, combine the teaching and talent cultivation characteristics of various disciplines and focus on the cultivation of thinking methods and abilities," providing guiding opinions for the curriculum design and teaching of graduate students in various majors<sup>[1,2]</sup>. China's graduate education is in an important stage of transitioning from large-scale development to high-quality improvement. The diversification

and intelligent development of the social economy, as well as the evolution of educational concepts, have posed new challenges to the design of graduate courses. To meet the requirements of high-quality development of graduate education in the new era, it is necessary to explore the establishment of a graduate curriculum system with ability cultivation as the core.

## 2. New knowledge concept and reshaping of graduate curriculum objectives

The transformation of human knowledge has gone through the exploration of classical rationalism, experimentalism and positivism in epistemology and has now entered the era of postmodern epistemology<sup>[3]</sup>. Overall, the knowledge form in the traditional view of knowledge is a deductive, linear and stable system. However, with the advent of the information age, the relationship between people and things is constantly and dynamically changing and the original knowledge form is no longer suitable for complex and dynamic practices. Humanity increasingly realizes that knowledge is diverse, chaotic, nonlinear and open. In this context, knowledge production has shifted from traditional scientific research and speculation to a more complex one, emphasizing research results' performance and social role<sup>[4]</sup>. Canadian scholar Downes S (2005) proposed that in addition to qualitative and quantitative knowledge, there is a third type of knowledge, which is connectivity knowledge built on organizational and structural foundations<sup>[5]</sup>.

Chinese scholar Wang Z (2019), from the perspective of historical evolution, divides human knowledge into four stages: primitive knowledge, ancient knowledge, modern knowledge and postmodern knowledge<sup>[6]</sup>. He proposes that knowledge should be divided into soft and hard knowledge and emphasizes that the main indicator for distinguishing soft and hard knowledge is the stability of knowledge in the three levels of knowledge structure, knowledge content and knowledge value. He also emphasizes that in the era of intelligence, humans should focus on the construction and application of soft knowledge<sup>[7]</sup>. The regression theory knowledge view proposed by Chen L *et al.* (2023) emphasizes that the new knowledge view reflects the characteristics of the entire spectrum of knowledge, providing new ideas for solving the contradiction between standardized resource supply and personalized learning needs in adult lifelong learning<sup>[8]</sup>. Li Z (2020) believes that in the reform of graduate education, the first step is to return the teaching objectives to people themselves and, through uncertain knowledge, make graduate students become coordinated, personalized, innovative, and capable individuals<sup>[9]</sup>.

The evolution of this knowledge perspective not only provides a new theoretical analysis framework for graduate curriculum construction but also points out specific directions for graduate curriculum reform. In the context of this epistemological transformation, almost all changes in teaching models in various countries are developing towards cultivating students' innovative spirit and ability through exploratory, practical, and cooperative learning. In the design of graduate courses, students must be regarded as active learning subjects, and classrooms should be seen as helpers for student learning. Students should develop their learning abilities through relevant experiences and experiences and combine them with course content and practice.

Therefore, graduate courses should not only be a mechanical combination of subject knowledge transmission and professional skills training. On the contrary, they must pay attention to the interactive feedback effect between behavior and learning scenarios. They must consider the complex classroom, school culture, and social development embedded in teacher behavior, in response to the increasingly complex educational scenarios and the increasing demand for graduate ability development.

### 3. Digitalization of education and reform of graduate curriculum teaching

Currently, a new round of intelligent revolution is accelerating its evolution, and the development of artificial intelligence technology is profoundly affecting and changing the face of education. In September 2022, the United Nations Summit on Educational Change identified high-quality digital learning as one of the five major action areas, promoting educational change through the digital revolution<sup>[10]</sup>. China's Education Modernization 2035 explicitly states that "Accelerate the educational transformation in the information age. Build intelligent campuses, coordinate the construction of integrated intelligent teaching, management, and service platforms. Utilize modern technology to accelerate the reform of talent cultivation models"<sup>[11]</sup>. Promoting education digitization has become an important direction for the high-quality development of education in China<sup>[12]</sup>.

Zhang L *et al.* (2015) pointed out that smart education is a new form of education with characteristics of intelligence, personalization, diversification and ecology<sup>[13]</sup>. Although this educational model has not yet been fully formed, it is in an important stage of development from an idealized vision to a realistic and universal teaching scenario. Yuan Z (2023) pointed out that educational digitization is not simply about applying digital technology to existing educational scenarios but about innovating application scenarios, achieving breakthroughs in effective human-machine integration and coordinating the digitization process of the four major application scenarios of teaching, learning, management and evaluation<sup>[14]</sup>.

Overall, the characteristics of digital teaching mainly include deep integration of information technology and teaching methods, platform integration and sharing of educational resources, open and free on-demand learning, and scientific analysis and evaluation based on big data. This type of education is not only an update in means but also a comprehensive innovation in educational concepts. Its purpose is to achieve self-learning, self-development and personalized knowledge construction for learners through the two-way integration of technology and education.

In the design of the curriculum system in universities, this development trend, consciously exploring and simulating in-depth teaching, should be complied with in a fully informationized environment and fully leverage the core role of curriculum teaching in the reform of graduate ability cultivation mechanism through the deep integration of digital technology and educational elements.

- (1) To promote the deep integration of digital technology and education, give birth to new forms of education, and innovate the relationship between teaching and learning. For example, China has implemented the "MOOC Western Tour Plan 2.0," providing 198,000 MOOCs and customized courses, serving 540 million students in Western universities. The cumulative registered users of the National Smart Education Platform have exceeded 100 million, achieving a leapfrog development in the large-scale application of public digital education resources<sup>[15]</sup>.
- (2) To empower curriculum governance with digital technology, optimize the management mechanism of graduate education, and focus on standards, data services, management processes, and other aspects to achieve a comprehensive transformation from experiential governance to data-driven digital governance.
- (3) To properly address the potential ethical risks of artificial intelligence, measures should be taken to manage and regulate its application in graduate education and enhance the safety of intelligent education for graduate students.

### 4. Practice of graduate curriculum reform at Sichuan Normal University from the perspective of ability cultivation

Since 2018, Sichuan Normal University has aimed to cultivate graduate students' research, innovation, and

practical abilities. Based on the internal requirements of the discipline and guided by social needs, it has formulated a reasonable graduate curriculum system to enhance the systematic, scientific, cutting-edge, international and interdisciplinary nature of graduate courses.

#### **4.1. Focusing on the development of connotation and creating a benchmark course for graduate students**

Sichuan Normal University explores the self-regulation and self-development path of graduate courses through two leading projects:

(1) The construction of high-quality graduate courses

The construction project of high-quality graduate courses focuses on the connotation construction and deepening development of graduate courses, requiring the selection of course content to be fundamental, research-oriented, and cutting-edge, fully reflecting the new concepts and achievements of the discipline. At the same time, it is required to exert importance to the construction of textbooks and course-assisted learning systems, integrate course content and learning resources, set up comprehensive learning practice activities and auxiliary learning resource systems, and provide rich learning materials and systems for students' research-based and self-directed learning on the basis of fully meeting teaching needs.

(2) The construction of key demonstration graduate courses

The key demonstration courses for graduate students focus on the standardized construction of curriculum design and assessment, requiring teachers to pay attention to the systematic design and overall optimization of the curriculum system, adhere to the core of ability cultivation, focus on developing ability cultivation, focus on learning in complex and meaningful problem situations, and set reflective questions and learning goals for each learning stage based on references. The setting of stage questions and goals should be relevant and scalable and cultivate students' self-learning and innovation abilities.

#### **4.2. Emphasize the combination of points and areas, and strengthen the academic ability of graduate students**

(1) Set up a course on "Cultivating Academic Research Review Ability" in the academic training process and develop an academic review ability improvement plan that includes detailed information such as topic selection standards, topic selection examples, implementation plans, planning progress and responsible persons.

(2) Increase applied courses such as research methods, academic practice and case analysis, besides incorporating independent academic research into graduate courses to cultivate graduate students' knowledge acquisition, academic identification and independent research abilities.

(3) Host annual graduate academic conferences and forums to encourage graduate students to participate in academic research and achieve fruitful results.

#### **4.3. Innovate practical courses to enhance graduate students' practical abilities**

(1) Increase the proportion of practical courses for professional degree graduate students and provide full management and services for the internship and centralized practical activities of educational master's degree graduate students.

(2) Organize the construction of a platform for the common development of graduate students and fully leverage the role of graduate students in self-education, self-management and self-service in practical

education through practical activities such as graduate academic conferences and forums, summer social practice, educational master's development forums, and educational master's "simulation schools."

- (3) The system carries out social practice activities for graduate students, teaching in impoverished areas, on-the-job training, volunteer services, targeted poverty alleviation, social surveys, technological inventions and work-study assistance, guiding graduate students to pay attention to people's livelihoods and serve society.

#### **4.4. Building an entrepreneurial platform to enhance the innovation and entrepreneurship abilities of graduate students**

- (1) Add requirements for innovation and entrepreneurship training in the curriculum, and at the same time, various colleges offer elective courses on innovation and entrepreneurship. Integrate graduate students' professional innovation and entrepreneurship closely and strengthen innovation and entrepreneurship education in the process of imparting professional knowledge. We have achieved the integration of professional education and innovation and entrepreneurship education, effectively extending the curriculum design, exploring and enriching innovation and entrepreneurship education resources for various professional courses.
- (2) Carry out entrepreneurship salons, lectures and consultations to create an atmosphere of "mass entrepreneurship and innovation" for graduate students at Sichuan Normal University. Provide training for graduate students with entrepreneurial intentions. Through entrepreneurship training, graduate students have become aware of the precautions and related processes required to start a business, enhancing their entrepreneurial abilities.
- (3) Establish an entrepreneurship training camp to provide training for graduate students in the entrepreneurial team through various aspects such as analyzing the operation mode of entrepreneurial projects, enhancing the abilities of entrepreneurial teams and enhancing project roadshows.

### **5. Summary and reflection**

The construction of a graduate curriculum system is a long-term process. In the process of promoting the pilot program of graduate course construction at Sichuan Normal University, some achievements have been made and some problems have been identified. Next, Sichuan Normal University will continue to improve the curriculum pilot construction plan according to new ideas, strengthen the top-level design and medium- and long-term planning of graduate course informatization construction, fully utilize modern information technology, explore reasonable paths for teaching method informatization, establish auxiliary learning resource systems and interactive learning systems that comply with graduate teaching laws, build a graduate training network platform that integrates various resource libraries, learning systems and management systems, continuously brainstorm, overcome difficulties and deepen graduate course construction reform.

### **Disclosure statement**

The author declares no conflict of interest.

## References

- [1] The 7th Discipline Evaluation Group of the Academic Degrees Committee of the State Council, 2020, Core Curriculum Guidelines for Academic Degree Graduate Students. Higher Education Press, Beijing.
- [2] Tao X, Yu J, Wang Y, 2014, Curriculum System Construction Based on Student Core Literacy. *Journal of Beijing Normal University (Social Sciences Edition)*, 2014(1): 34–37.
- [3] Zhen H, 2021, The Historical Logic of the Evolution of Knowledge Forms. *Social Science Digest*, 2021(9): 76–78.
- [4] Zhu S, Xiong J, 2022, Thoughts and Discussion on the Construction of High-Quality Courses of Modern Acupuncture and Moxibustion and Experimental Research for Graduate Students. *University Education*, 2022(3): 136–138.
- [5] Downes S, 2005, An Introduction to Connective Knowledge, viewed January 21, 2024, <https://www.downes.ca/post/33034>.
- [6] Wang Z, 2019, New Outlook on Knowledge: Reshaping Teaching and Learning for the Intelligent Era. *Journal of East China Normal University (Education Science Edition)*, 37(5): 38–55.
- [7] Wang Z, 2017, A New View on Knowledge and Learning in the Intelligent Era. *Journal of Distance Education*, 2017(3): 3–10.
- [8] Chen L, He X, Zheng Q, Wang H, 2023, Reconstructing Epistemological Foundations: A New Knowledge Perspective on Adult Lifelong Learning. *Modern Distance Education Research*, 35(1): 3–9, 19.
- [9] Li Z, 2020, Graduate Teaching Reform in the Context of Uncertainty Knowledge. *Degree and Graduate Education*, 2020(5): 31–37.
- [10] Liu B, Gu G, 2023, Opening the Door to Public Digital Learning: Advocacies, Hidden Worries, and Transcendence of the United Nations Summit on Educational Change. *China Electronic Education*, 2023(1): 16–24.
- [11] The Central Committee of the Communist Party of China and the State Council, 2019, Modernization of Education in China 2035, viewed January 22, 2024, [http://www.gov.cn/xinwen/2019-02/23/content\\_5367987.htm](http://www.gov.cn/xinwen/2019-02/23/content_5367987.htm).
- [12] Wen X, Jie N, Chen W, et al., 2021, New Ideas for the Construction of Innovative Practical Courses for Professional Graduate Students Based on Project-Based Teaching: A Case Study of Project-Based Training Courses for Off-Road Robots. *China Modern Education Equipment*, 2021(9): 118–121.
- [13] Zhang L, Zhu H, 2015, Progress and Inspiration of International Smart Education. *Research on Education Development*, 2015(5): 54–60.
- [14] Yuan Z, 2023, Digital Transformation of Education: What to Transform and How to Transform. *Journal of East China Normal University (Education Science Edition)*, 41(3): 1–11.
- [15] Huai J, 2023, Digital Transformation and the Future of Education: Keynote Speech at the World Digital Education Conference. *China Education Daily*, 2023(1): 3–10.
- [16] Feng T, Liu D, Huang L, Cao P, et al., 2024, Digital Education: Application, Sharing, and Innovation: A Review of the 2024 World Digital Education Conference. *China Electronic Education*, 2024(3): 20–36.

### Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.