

# Research on the Cultivation Path of Normal Talents Based on Educational Innovation

Tao Tan

Guizhou Education University, Guiyang, Guizhou, China

## Abstract

**In the context of the current rapid technological development, this paper focuses on the cultivation of the innovative ability of normal education talents, systematically sorts out and analyzes the current situation and problems of normal education talent cultivation, combines case studies with theoretical discussions, and constructs a cultivation framework oriented by educational innovation. Starting from aspects such as the curriculum system, teaching methods, and practical links, this framework proposes specific strategies with core qualities as the goal, integrating digital teaching resources, strengthening practical ability training, and improving the teacher development support system, etc., and ensures the implementation effect of the path through institutional guarantees and dynamic evaluation, which can effectively improve the professional adaptability and innovative ability of normal education talents, and provide a new path for cultivating innovative teachers who meet the needs of future education development.**

## Keywords

**Educational Innovation; Normal Talent Cultivation; Innovation Ability; Cultivation Framework.**

## 1. Introduction

Educational innovation refers to various innovative practices inspired and incubated in the process of education, including teaching theories, teaching methods, teaching materials, teaching aids, teaching resources, internship practices, etc., to meet the needs of the rapidly developing society for the cultivation of normal talents. How to introduce advanced educational concepts and innovative tools on the basis of teaching normal students teaching skills and teaching norms, and cultivate educational talents with feelings, warmth, strong disciplines and good innovation ability is an important issue that all normal universities need to think about and explore.

## 2. The Times Background of Educational Innovation and the Cultivation of Normal Talents

In the context of the new era, educational innovation has become an important scenario for cultivating innovative teachers. Deeply understanding the connotative characteristics of educational innovation, grasping the core elements of cultivating innovative teachers, and clarifying the interactive relationship between educational innovation and innovation and entrepreneurship education play an important role in constructing a scientific and effective normal talent cultivation system.

### (1) Technological Innovation Spurs Educational Innovation

As digital technology penetrates all aspects of education, the traditional normal education model is facing a fundamental transformation. The global investment in education informatization continues to grow. According to relevant data from iResearch, the market size of China's artificial intelligence education exceeded 10 billion yuan in 2023, and technological

innovation will gradually force the transformation of teachers' roles. At the same time, a large number of new teaching tools such as virtual reality laboratories and intelligent evaluation systems have emerged in the teaching classroom. According to the "Development Report on Digital Education Technology", the proportion of primary and secondary schools adopting blended teaching has increased by 47% compared with five years ago. In the teacher-student interaction mode, the development of technology empowers the way of knowledge transfer. For example, the "AI + Teacher" dual-teacher classroom model developed by South China Normal University has covered 23 provinces across the country [1].

## (2) Educational Innovation Promotes Social Demand

The great development of educational innovation has given rise to the demand for "dual-qualified" teachers in colleges and universities. According to relevant data, the shortage of vocational education teachers nationwide is expected to reach 120,000 in 2025.

"China Education Modernization 2035" clearly puts forward the goal of having 75% of teachers master the intelligent education technology ability by 2035. These requirements pose clear multi-dimensional demands on the cultivation of normal students: they should not only strengthen the discipline professional foundation, but also build an interdisciplinary knowledge system; they should not only master traditional teaching skills, but also possess the ability to develop and apply educational technology. Facing the transformation of the education form from the physical space to the integration of virtual and real, and the evolution from the traditional classroom to the innovative classroom, the cultivation of normal talents in the new era must break through the traditional paradigm. The pilot project of a normal university shows that the evaluation score of the teaching innovation ability of students adopting the "course + practice + research and development" three-dimensional cultivation mode has increased by 31.5%. All these changes together constitute the underlying logic and realistic motivation for the transformation and upgrading of normal education in the new era.

## 3. Analysis of the Current Situation and Problems in the Cultivation of Normal Talents

In the context of the new era, deeply analyzing and systematically sorting out the specific problems existing in the traditional normal talent cultivation model, such as unreasonable curriculum systems, single teaching methods, and weak practice links, can provide a solid theoretical and practical basis for subsequent exploration of the optimization path of the normal talent cultivation model.

Observed from the perspective of curriculum settings, most normal universities adopt a binary structure of "pedagogy + subject knowledge", but there are imbalances in the specific curriculum ratios. Taking a provincial normal university as an example, in the training program for the primary education major in the 2021 grade, the proportion of educational theory courses is as high as 65%, while the teaching practice link only accounts for 15%. This proportional relationship leads to the widespread phenomenon of "being able to solve problems but not being able to teach". Observed from the perspective of classroom teaching methods, in some universities, the traditional lecture method still dominates. Although some universities have tried to introduce new teaching methods such as microteaching and flipped classrooms, due to limitations in hardware facilities and teachers' capabilities, the actual application effects vary. More notably, the current evaluation system in some universities emphasizes theoretical exam scores, and this similar evaluation orientation will indirectly cause students to neglect the training of teaching basic skills. According to a joint survey of six directly affiliated normal universities of the Ministry of Education, about 43% of the fresh graduates are unable to complete basic classroom organization during their first teaching, reflecting the lack of practical training in the cultivation process.

The primary reason for these problems is that the collaborative education mechanism between universities and basic education institutions has not been perfected. Although the policy advocates the tripartite linkage of UGS (universities - government - schools), there is still a situation of "more agreements and less implementation" in actual operation. Taking the collaborative training project carried out in a certain city as an example, 30 schools have signed agreements, but less than one-third of them actually provide long-term internship positions [5]. Secondly, there is a structural contradiction in the teaching staff. Among the teachers undertaking the training of normal students, those with more than three years of basic education experience only account for 28%, which makes it difficult to connect theoretical teaching with real educational scenarios [4]. At the same time, the lag in technology application is also an important factor. Although the popularization rate of intelligent education equipment in primary and secondary schools has reached 67%, the renewal cycle of relevant training equipment in normal universities generally exceeds five years [6]. The dislocation between training objectives and social needs is prominent. Some majors still use the talent specification standards of a decade ago and fail to keep up with the new educational ecology under the "Double Reduction" policy in a timely manner. The lag is particularly obvious in the field of interdisciplinary subjects. For example, only 15% of the courses in the science education major involve the STEAM education concept, while the demand for such talents from employers has tripled [7]. The rigidity of the curriculum system is also reflected in the too low proportion of elective courses. In most institutions, general elective courses only account for 10% - 15% of the total credits, making it difficult to meet the needs of the new era for compound teachers [8].

#### **4. Setting the Training Objectives of Normal University Talents Based on Educational Innovation**

The traditional normal education regards knowledge reserve as the core goal, and this model is no longer well-suited to the new requirements of the educational innovation scenario. According to the survey data of the Ministry of Education, the coverage rate of digital teaching equipment in the field of basic education across the country reached 93% in 2022, but the passing rate of the information-based teaching ability of normal graduates in the same period was only 68% [3].

This phenomenon similar to the "digital divide" exposes the disconnection between the current training objectives of normal students and educational practice. Normal universities need to reconstruct a training system oriented towards core competencies.

##### **(1) Requirements for the knowledge structure of normal students in the new era**

In order to meet the new requirements, normal university students in the new era need to have a compound knowledge structure, that is, they should not only master subject professional knowledge, but also be familiar with interdisciplinary teaching concepts. In the reform of the training program of a provincial normal university in 2021, the artificial intelligence education technology course was set as a compulsory course, which improved the application ability of graduates in virtual reality teaching scenarios, proving that the adjustment of the curriculum system can play a key role in the realization of training objectives. The cultivation of practical ability must break through the traditional internship mode. In the practice of South China Normal University, the "dual tutor system" cultivation mechanism established by the school, through the collaborative guidance of university teachers and famous primary and secondary school teachers, has increased the excellent rate of the evaluation of normal university students' classroom organization ability to 81%.

##### **(2) Competency Requirements for Normal University Students in the New Era**

In the new era, it is even more necessary for normal students to possess data analysis and educational technology application capabilities. Taking preschool education as an example,

referring to the seven core capabilities[12] proposed in the "Professional Standards for the Teaching Profession of Preschool Education Normal Students", the modern educational technology application capabilities can be listed as an independent training module for this major. At the same time, educational innovation also puts forward the requirement of regional adaptability of normal students' capabilities. For example, after Ningxia Normal University incorporated the concept of "new liberal arts" into the cultivation of foreign language talents and added courses on regional culture research, the employment rate of its graduates in ethnic minority areas increased by 27% [10] within three years.

**Table 1.** Analysis of the Elements for Reconstructing the Training Objective System of Teacher Education

Dimension	Problem Description	Data Support	Solution	Effect Verification	Source of literature
Knowledge structure	The traditional knowledge reserve model is out of touch with educational innovation	In 2022, the passing rate of normal students' information-based teaching ability reached 68%	Build a compound knowledge structure (discipline + STEAM concept)	The VR teaching ability of a provincial normal university increased by 42%	[9][10]
Practical ability	The effect of the traditional internship mode is limited	The excellent rate of the "dual tutor system" in South China Normal University is 81%	The collaborative cultivation mechanism between colleges and primary & secondary schools	The excellent rate of the evaluation of classroom organization ability has increased to 81%	[11]
Technical applications	Digital divide	The coverage rate of digital devices in basic education is 93%	Add a compulsory course on artificial intelligence education technology	Improve the application ability of virtual reality teaching scenarios	
Evaluation system	Limitations of a single academic assessment	The score of innovation ability increased by 31% after adopting the portfolio system	Implement a diversified assessment system	The scores in the dimension of educational innovation ability continued to grow	[8]
Cultivation direction	The homogenized cultivation led to a low rate of professional correspondence	The professional counterpart rate after hierarchical cultivation is 89%	Set up differentiated goals for teaching/research/administration	Improvement of graduates' career matching degree	[2]
Non-cognitive abilities	The traditional system ignores soft skills	The award-winning rate of the competition increased by 58% after communication and collaboration were included in the compulsory courses	Incorporate non-cognitive abilities into the credit system	Outstanding performance in the team teaching competition	[4]
Dynamic adjustment mechanism	The update of the training plan lags behind	The UGS platform shortens the update cycle to 18 months	Establish an industry demand feedback system	The fit between the training program and market demand is improved	[5]
Regional adaptability	The lack of regional characteristics in talent cultivation	The employment rate of Ningxia Normal University has increased by 27% in three years	The "New Liberal Arts" reform integrating regional cultural research	The employment competitiveness in ethnic regions has been enhanced	
Standard system	The ability standards are not perfect	The "Standard" stipulates seven core competencies	An independent module for educational technology application ability is established	The passing rate of vocational ability certification has increased	[12]

(3) The diversified training objectives of normal students in the new era

Currently, some universities have started to explore diversified training goals. For example, the training directions are subdivided into teaching-oriented, research-oriented, and management-oriented. This differential goal setting has increased the professional matching rate of graduates to 89% [2]. At the same time, incorporating the cultivation of non-cognitive abilities into the training goals is also a relatively new attempt. For example, a normal university has incorporated communication and collaboration abilities into the compulsory credit system, and the award-winning rate of graduates in team teaching competitions has increased by 58% [4]. The adjustment of training objectives means that the evaluation system needs to break through the single academic assessment at the same time. The training objectives for normal students need to establish a dynamic adjustment mechanism to truly adapt to the innovative development of education. For example, after a certain normal university introduced the "growth portfolio" assessment system, the scores of students in the dimension of educational innovation ability increased 31% [8]. A certain province shortened the update cycle of the training plan to 18 months by establishing a UGS collaborative training platform and collecting real-time data on the employment needs of primary and secondary schools [5]. Only by constructing a three-dimensional goal system covering professional qualities, practical abilities and innovative awareness can a new type of teaching staff be cultivated to adapt to future education.

Analysis of the elements for reconstructing the training objectives of teacher education is shown in Table 1. The data in the table indicate that there is room for improvement in the current teacher education in dimensions such as goal orientation, practice mode, and technology application. The effectiveness verification of the differentiated training and dynamic adjustment mechanism validates the effectiveness of the three-dimensional goal system, and the cultivation of non-cognitive abilities and regional adaptation can become the key breakthrough points. This multi-source data supports the necessity of the transformation from single knowledge imparting to the three-dimensional system of literacy-ability-innovation.

## 5. Construction of the Training Path for Teacher Talents Based on Educational Innovation

The establishment of the training path for normal university talents under the concept of educational innovation requires the support of multi-level elements, including the adjustment of training standards, the reform of the curriculum system, the setting of curriculum modules, the construction of the teaching staff, the innovation of teaching methods, the integration of digital technology, the strengthening of practical links, the establishment of a feedback mechanism, a quality assurance mechanism, the transformation of international experience, etc. Each university can adjust the weight ratio according to its own advantages and characteristics, which helps to clarify the school's investment and development direction in the training of normal students, so as to build a more perfect and school-specific training ecosystem for normal university talents.

The reform of the curriculum system needs to strengthen the integration of disciplines. For example, Ningxia Normal University incorporates the module of regional culture research into the construction of English majors, and the proportion of interdisciplinary courses has increased to 28%, effectively enhancing the adaptability of the knowledge structure. The innovation of teaching methods shows diversified characteristics. The class hour ratio of the blended teaching mode has increased from 15% in 2019 to 43% in 2022, and the application of virtual simulation technology has increased the visualization degree of abstract educational theories by 76% [6].

In the practical session, it is necessary to break through the superficial form. For example, South China Normal University has extended the education internship time from 4 weeks to 16 weeks, established 12 provincial education practice bases, and ensured that each student's practice duration in real teaching scenarios exceeds 300 hours [11].

In terms of the construction of the teaching staff, a two-way flow mechanism needs to be established. A provincial normal university has selected 40% of its professional course teachers to conduct on-campus research in basic education units in the past three years. At the same time, 56 special-grade primary and secondary school teachers have been hired to participate in curriculum design. This "flowing water" mechanism has improved the degree of 契合 between educational theory and practice.

Digital technologies need to be deeply integrated into the training process, and the frequency of using artificial intelligence-assisted teaching systems in teacher skill training needs to be increased. Data shows that if artificial intelligence assistance reaches 8 class hours per week in teacher skill training, it can increase the depth index of teaching reflection by 32%.

It is necessary to establish a dynamic adjustment mechanism for training standards. According to relevant research, after establishing an ability matrix based on the "Professional Competence Standards for Preschool Education Normal Students" and covering 23 indicators in 5 major fields, relevant schools found through three-year tracking that the passing rate increased from 71% to 89% [12].

The flexible setting of curriculum modules, the construction of quality assurance mechanisms, the localization transformation of international experience, and the improvement of feedback mechanisms can effectively enhance students' autonomy in the cultivation of normal students, the traceability of talent cultivation quality, the proportion of school-enterprise cooperation in curriculum development, and teachers' teaching design capabilities. However, at the same time, any reform should adhere to the essential attributes of teacher education, and any reform measures need to maintain a balance between traditional education methods and innovative means. For example, a certain survey shows that over-reliance on technological means may reduce the frequency of teacher-student interaction by 27% [6]. In summary, all explorations of the cultivation path of normal talents based on educational innovation jointly point to a core goal, that is, constructing a normal talent cultivation ecosystem that conforms to educational laws and has the characteristics of the times is an important common topic for all normal universities.

## 6. Summary and Outlook

The educational innovation born in the new era has put forward new requirements for the cultivation of normal university talents in colleges and universities, covering many aspects such as the adjustment of cultivation standards, the reform of the curriculum system, the setting of curriculum modules, the construction of the teaching staff, and the innovation of teaching methods. Colleges and universities need to clarify the core problems existing in the cultivation of normal university talents in their own schools, find the core elements of high-quality normal university talents that suit their own schools, and accordingly build an excellent cultivation path for normal students with the characteristics of their own schools and adapted to the educational resources of their own schools by taking into account both hardware and software construction, so as to build a stable support platform for the cultivation of future educational talents.

In future related research work, the internal mechanism of educational innovation and the cultivation of normal university talents can be explored at a deeper level, and the differential research on the talent cultivation paths of normal universities at different regions and levels can be strengthened. At the same time, with the continuous development of information

technology and the continuous advancement of educational reform, university workers should pay timely attention to the new trends of educational innovation, continuously improve the talent cultivation paths of normal universities, and provide more powerful support for cultivating more high-quality normal university talents that meet the needs of the development of the times.

## Acknowledgments

This work was supported in part by Guizhou Province Higher Education Teaching Content and Curriculum System Reform Project "Exploration and Research on the Integration Model of Double Creation Education and Ideological and Political Education under the Background of the New Era", No. 2021184

## References

- [1] Khursanovna, Umurzakova Kommuna. DIGITAL INNOVATIVE TECHNOLOGIES IN EDUCATIONAL BUSINESS. *University Research Base* (2024): 273-276.
- [2] Qin Qianqian. Research on the Training Program for Primary Education Majors under the Background of Normal Professional Certification [ J ]. *Research and Practice on Innovation and Entrepreneurship Theory*, 2024, 7(13): 101.
- [3] Luo Ruizhi, Jiang Kai. Paths to Improve the Training Quality of Normal Students under the Background of Professional Certification [ J ]. *Journal of Teacher Education*, 2023, 10(6): 115-122.
- [4] Chen Yanping. Reform and Practice of the Talent Cultivation System for Physical Education Majors Based on the Professional Certification of Normal Majors [ J ]. *Sports Goods & Science*, 2022.
- [5] Peng Mengyuan, Cen Yixuan. Research on the UGS Collaborative Cultivation Path of Physical Education Normal Students under the Background of Normal Professional Certification [ J ]. *Abstracts of the 12th National Congress of Sports Sciences - Poster Exchange (School Sports Sub-committee)*, 2022.
- [6] Lee, Kyungmee, and Mik Fanguy. Online exam proctoring technologies: Educational innovation or deterioration? *British Journal of Educational Technology* 53.3 (2022): 475 - 490.
- [7] Wang Changbao. Research on the Core Literacy and Cultivation Path of Biological Science Major in the New Era [ J ]. *Education Teaching Forum*, 2022.
- [8] Li Kejun, Zhao Bowen. Research on the Innovation Path of the "New Normal" System from the Perspective of Teacher Education Professional Certification [ J ]. *Journal of Hebei Normal University (Educational Science Edition)*, 2023, 25(1): 116-120.
- [9] Wang Changping, Wu Wenzhe. Some Thoughts on the High-quality Cultivation of Normal Talents in the New Era [ J ]. *Educational Research*, 2022, 43(4): 142-147.
- [10] Li Min. Exploration of the Path for Cultivating Foreign Language Talents in Ningxia Normal University under the Background of New Liberal Arts [ J ]. *Progress*, 2023(24): 119-121.
- [11] Chen Yiwen. Innovative Integrated Cultivation of Aesthetic Education Talents in Higher Normal Universities from the Perspective of Aesthetic Education —— Taking the Music and Movement Education Practice of the School of Music, South China Normal University as an Example [ J ]. *Art Education*, 2023, 2: 63-66.
- [12] Wang Wenlu, Liu Xinyu. Research on the Cultivation Path of Vocational Competencies of Preschool Education Normal Students in Higher Vocational Colleges —— Based on the "Standards for the Professional Teaching Competencies of Preschool Education Normal Students (Trial)" [ J ]. *College and Job*, 2024, 13:248.