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Study on the Talent Training Model of Pedagogy Major in Colleges and Universities in the New Era

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Abstract: Against the backdrop of the new era, the innovation of the talent training model for pedagogy majors in colleges and universities has become an important path to respond to the call of the strategy of building a powerful education country. Based on this, the author will, in this paper, focus on the national educational strategic needs and the development laws of the education discipline, put forward corresponding countermeasures for the problems existing in the current talent training of pedagogy majors in colleges and universities, hoping to provide some references and help for readers.

Keywords: Pedagogy; Talent training; Higher education

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1. Introduction

As socialism with Chinese characteristics enters a new era, education has increasingly highlighted its strategic position as a fundamental plan for the country and the Party. The report of the 20th National Congress of the Communist Party of China clearly put forward the general requirements of "accelerating the construction of a powerful education country" and "comprehensively improving the quality of independent talent cultivation", pointing out the direction for the reform and development of higher education. In this context, the pedagogy major in colleges and universities, as the core position for cultivating professional talents in the field of education, its talent training model not only undertakes the mission of inheriting educational theories and innovating educational practices, but also shoulders the era responsibility of responding to the needs of national educational modernization and serving the high-quality development of education [1].

2. Practical dilemmas in the talent training model for pedagogy majors in the new era

2.1. Lack of an interdisciplinary competence development mechanism

The talent training model for pedagogy majors in the new era faces multiple practical dilemmas due to the lack of an interdisciplinary competence development mechanism. Currently, the curriculum system of pedagogy

majors is still dominated by traditional disciplinary knowledge frameworks. Although content from related disciplines such as psychology, sociology, and neuroscience has been incorporated, it mostly exists in the form of fragmented knowledge points, lacking a systematic interdisciplinary curriculum design. This makes it difficult for students to establish knowledge connections between different disciplines and form an integrated analytical framework for educational issues. The limitations of such curriculum settings mean that when students face complex practical educational problems, they tend to be confined to a single-disciplinary mindset and struggle to propose innovative solutions from a multi-disciplinary perspective [2].

In terms of the construction of the teaching staff, the lack of an interdisciplinary competence development mechanism is reflected in the singular knowledge structure of teachers. Most pedagogy teachers have long focused on a single disciplinary field and lack an in-depth understanding of cutting-edge theories and research methods in other related disciplines, making it difficult for them to guide students in interdisciplinary thinking during teaching. At the same time, the mechanism for communication and cooperation between teachers of different disciplines within institutions is inadequate, and there is a lack of regular platforms for interdisciplinary teaching and research activities. This makes it difficult to effectively integrate interdisciplinary knowledge into teaching practice, thereby affecting the cultivation of students' interdisciplinary thinking [3].

The inadequacy of interdisciplinary competence development is even more prominent in practical teaching. Currently, the practical teaching of pedagogy majors is mostly limited to traditional school education scenarios, and there is a lack of a linkage mechanism with interdisciplinary practice sites such as psychological counseling institutions and social education organizations. Students thus lack opportunities to apply interdisciplinary knowledge to solve problems in diverse educational contexts. The singularity of this practical model makes it difficult to effectively cultivate students' interdisciplinary application abilities, failing to meet the demand for interdisciplinary talents in the field of education in the new era [4].

2.2. Lag in the cultivation of digital literacy in the times

The talent training model for pedagogy majors in the new era also faces multiple practical dilemmas due to the lag in the cultivation of digital literacy in line with the times. Currently, the integration of digital knowledge into the curriculum system of pedagogy majors remains at the level of technical tool operation. Cutting-edge digital content, such as the educational application of artificial intelligence, learning data analysis, and educational metaverse, lacks systematic curriculum design and is mostly presented in fragmented forms, such as elective modules or lectures. This makes it difficult for students to construct an analytical framework for educational issues in the digital age and form a holistic understanding of "technology empowering education" [5]. The lag in such curriculum settings means that when students face practical scenarios such as smart classroom construction and online education operation, they tend to fall into a superficial understanding of "tool use" and struggle to propose innovative solutions from the deep logic of educational digital transformation. Moreover, the lag in the cultivation of digital literacy is even more obvious in practical teaching. Currently, the practical teaching of pedagogy majors is mostly limited to the application of digital tools in traditional classrooms, and there is a lack of a linkage mechanism with digital practice sites such as smart education laboratories and online education enterprises. Students thus lack opportunities to apply digital knowledge to solve problems in cutting-edge scenarios such as virtual simulation teaching and educational big data analysis [6].

2.3. Lack of construction of a diversified evaluation system

Currently, the evaluation system for education majors still centers on standardized tests, with assessments

of students' knowledge retention accounting for over 70%. However, evaluation indicators for new-era core competencies, such as interdisciplinary application ability, educational innovation thinking, and digital practice, are severely lacking. This leads to a structural mismatch between evaluation orientations and the talent demands of the education industry [7]. The singularity of this evaluation system forces students to focus most of their energy on memorizing theoretical knowledge during their studies, making it difficult for them to independently develop problem-solving and innovative practical abilities required in educational scenarios. Consequently, a problematic "score-focused, ability-neglected" training cycle has formed.

At the course evaluation level, the absence of a diversified evaluation system is reflected in the imperfect evaluation mechanisms for interdisciplinary and practical courses. Most institutions still use traditional term papers or closed-book exams to assess innovative education courses, lacking scientific evaluation of students' practical outcomes, such as curriculum design proposals and educational case analysis reports. As a result, new teaching models like "project-based learning" and "interdisciplinary workshops" become mere formalities due to the lack of supporting evaluation systems, failing to truly cultivate students' comprehensive literacy. Meanwhile, the subject of course evaluation is singular, relying solely on professional teachers, with insufficient participation from industry experts, practical mentors, and other diverse subjects. This makes it difficult for evaluation results to fully reflect the achievement of course objectives [8].

In the dimension of teacher evaluation, the lack of a diversified evaluation system restricts the direction of teachers' development. Currently, the evaluation of education major teachers mainly focuses on indicators such as the number of research papers and the level of project approvals, while lacking quantitative evaluation standards for teachers' digital teaching capabilities, interdisciplinary curriculum development skills, and practical teaching guidance proficiency. This leads teachers to prioritize academic achievements in their professional development while neglecting the improvement of educational and teaching innovation capabilities. Such an evaluation orientation makes it difficult for the teaching team to form internal motivation to promote the reform of talent training models, further widening the gap between theoretical teaching and practical needs [9].

3. Talent training paths for university education majors in the new era

3.1. Constructing an interdisciplinary integrated curriculum ecosystem

To build an interdisciplinary integrated curriculum ecosystem for university education majors in the new era, it is necessary to take "Educational Science +" as the core concept to break down traditional disciplinary barriers. While retaining basic theoretical courses in education, interdisciplinary modules should be systematically integrated, and curriculum group construction should be used to transform knowledge from fragmented accumulation to systematic integration, thereby cultivating students' ability to construct multi-dimensional frameworks for analyzing educational issues. Currently, education curriculum systems are often dominated by a single disciplinary knowledge structure. Relevant content from psychology, sociology, neuroscience, and other fields mostly exists as fragmented knowledge points, lacking a systematic interdisciplinary design, which makes it difficult for students to establish connections between disciplinary knowledge. Therefore, reconstructing the curriculum system needs to break through this limitation. For example, courses such as Introduction to Educational Neuroscience, Learning Data Analysis and Application, and Intelligent Education System Design can be offered to systematically integrate interdisciplinary content, such as neuroscientific research on learning mechanisms, data science analysis of educational behaviors, and artificial intelligence optimization of teaching scenarios, enabling students to approach educational phenomena from multi-disciplinary perspectives [10]. In

terms of teaching models, a combined form of "theoretical modules + interdisciplinary workshops + project-based learning" should be adopted. Around real educational issues such as "digital transformation of rural education" and "design of inclusive education programs for children with special needs," students are organized to integrate multi-disciplinary knowledge from education, psychology, data science, etc., to design solutions. This interdisciplinary integrated curriculum ecosystem not only equips students with diverse knowledge reserves but also cultivates their ability to propose innovative educational solutions from an interdisciplinary perspective. It effectively addresses the challenges posed by complex issues in new-era educational practice to talent training and promotes the transformation of education majors from knowledge receivers to interdisciplinary problem solvers [11].

3.2. Establishing a diversified and multidimensional educational evaluation ecosystem

To build a diversified and multidimensional educational evaluation ecosystem for pedagogy programs in colleges and universities in the new era, it is necessary to break through the limitations of standardized tests and construct an evaluation system featuring "competency framework + growth portfolio + industry certification". Through multi-dimensional indicators, multi-subject participation, and dynamic assessment, this system aims to scientifically measure students' comprehensive qualities and provide positive guidance. The traditional evaluation system, centered on standardized tests, lacks indicators for assessing new-era core competencies such as interdisciplinary application ability and digital literacy. This disconnects evaluation orientation from the demands of the education industry. Therefore, the first step is to develop a competency indicator database covering dimensions like interdisciplinary application, digital practice, and educational innovation thinking, shifting the evaluation focus from knowledge memorization to capability building. For example, practical tasks such as "designing a teaching plan for educational robot programming" can be used to assess students' ability to integrate knowledge of pedagogy, psychology, and information technology, thereby changing the single closed-book examination format [12]. In terms of evaluation methods, a combined model of "classroom performance + project outcomes + situational tests" is adopted. Classroom performance focuses on students' collaborative ability and the quality of questions raised in interdisciplinary workshops; project outcomes emphasize practical outputs such as educational program designs and case analysis reports; situational tests simulate real educational scenarios like smart classroom management and home-school communication to assess students' on-the-spot adaptability and problem-solving skills. For instance, a situational test on "handling unexpected classroom conflicts" can evaluate students' practical application of educational psychology and class management knowledge. In addition, it is necessary to introduce industry certification standards, such as teacher qualification certificates and educational data analyst certifications, integrating external evaluations into the training quality monitoring system. By aligning with industry standards, the quality of talent cultivation can be driven to improve [13].

3.3. Strengthening the full-cycle cultivation of digital literacy

In the traditional training model, the cultivation of digital literacy faces problems such as fragmented courses, lagging practice, and simplistic evaluation. To address these issues, a compulsory course "Fundamentals of Educational Technology" should be offered at the enrollment stage, systematically teaching basic content such as the operation of intelligent teaching tools and online course design, to help students establish a cognitive framework of "technology empowering education". For example, learning skills like interactive courseware production and the use of educational resource platforms can lay the operational foundation for digital teaching. In the senior years, elective courses such as "Smart Education Innovation Practice" and "Educational Big Data

Analysis" should be offered, introducing cutting-edge content like educational metaverse and learning behavior prediction models. This forms a stepped course group from basic application to innovative practice, ensuring the in-depth progression of digital knowledge throughout the learning process. In the practical teaching link, a three-level system of "virtual simulation – on-campus training – industry practice" should be constructed. On campus, smart education laboratories should be built, equipped with tools such as educational large model application platforms and learning behavior analysis systems, allowing students to simulate operations like smart classroom design and educational data visualization in virtual scenarios [14].

4. Conclusion

In summary, to address practical dilemmas such as insufficient interdisciplinary ability, lagging digital literacy, and a simplistic evaluation system in talent cultivation for pedagogy programs in colleges and universities in the new era, a systematic thinking approach is required. By constructing an "educational science +" interdisciplinary curriculum ecosystem, knowledge from disciplines such as psychology and data science can be transformed into methodologies for solving educational problems. Relying on the diversified evaluation system of "competency framework + industry certification", an evaluation transformation from "score-oriented" to "literacy-oriented" can be realized. Through the stepped course group and three-level practical system, a full-cycle cultivation closed loop for digital literacy, "from foundation building at enrollment to improvement after employment", can be formed [15]. This path not only responds to the demand for compound talents in the strategy of building a strong education country but also promotes the transformation of pedagogy professionals from knowledge inheritors to constructors of an educational innovation ecosystem through the collaborative reform of courses, evaluation, and practice, providing sustainable talent support for the development of educational modernization.

Disclosure statement

The author declares no conflict of interest.

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