
A STUDY ON THE NEEDS TO IMPROVE THE PRACTICAL TEACHING MANAGEMENT OF FULL-TIME MASTER OF EDUCATION PROGRAMS

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Abstract

Under the guidance of China's strategy for high-quality development of postgraduate education, practical teaching in full-time Master of Education programs has become a crucial component in cultivating students' educational literacy and practical abilities. Its management quality directly determines the effectiveness of practical teaching and the quality of talent cultivation. This study takes a local undergraduate university in China as its research subject. Based on Dewey's "learning by doing" theory and the PDCA cycle, it employs a hybrid research method combining questionnaires and semi-structured interviews to systematically analyze the current status and core issues of practical teaching management. It accurately identifies three core improvement needs: "collaboration, standardization, and development," and constructs a complete needs system. Combining the characteristics of local undergraduate universities, this research provides empirical support for similar institutions to optimize the management of practical teaching in full-time Master of Education programs and accurately align with improvement needs, enriching the research findings on the needs of practical teaching management in Master of Education programs.

Keywords : Full-time M.Ed., Practice Teaching Management, Needs Analysis, Mixed-Methods Approach

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Introduction

Against the strategic backdrop of high-quality development of higher education in the new era, postgraduate education has shifted from quantitative expansion to quality improvement. Full-time Master of Education programs, as the core training vehicle for high-quality teachers in basic education, directly impact the effectiveness of basic education reform and development and the level of teacher development in my country. Practical teaching, as a core component of the full-time Master of Education program, is a crucial link connecting educational theory and teaching practice, enhancing students' educational literacy and practical abilities, and a key approach to implementing the "practice-oriented" training objectives of professional degree postgraduates. The standardization and scientific management of practical teaching directly determine the extent to which its functions are realized and thus influence the overall quality of Master of Education training.

Currently, academic research on the management of practical teaching in full-time Master of Education programs is increasing, but most studies still have significant shortcomings: some studies focus on surveys of the current state of practical teaching, lacking a systematic and targeted analysis of the needs for improvement; some studies define the needs vaguely, lacking empirical data support, making it difficult to identify key directions for optimizing practical teaching management; and some studies fail to consider the characteristics of local undergraduate universities and the context of the digital age, resulting in a disconnect between the proposed needs and practice, making it difficult to guide the optimization and upgrading of practical teaching management. From an international perspective, relevant international research largely focuses on the collaborative mechanisms and digital empowerment of practical teaching in Master of Education programs (Darling-Hammond et al. 2025), but research on needs assessments specifically for local undergraduate universities and incorporating management theories such as PDCA is relatively scarce, and it has failed to fully adapt to the localized needs of my country's basic education reform. This gap between international and domestic research constitutes the core research gap in this study. This study focuses on full-time Master of Education students at S University. Using a hybrid research method combining questionnaires and semi-structured interviews, it systematically investigates the current status of practical teaching management for full-time Master of Education students across six core dimensions: teaching objectives, basic principles, teaching time, teaching content, teaching evaluation, and guarantee mechanisms. The study identifies specific problems in each dimension, laying a solid empirical foundation and theoretical support for refining the needs for improvement.

Based on this, this paper, relying on relevant empirical conclusions and theoretical frameworks, and employing Dewey's "learning by doing" theory and the PDCA cycle theory, focuses on the core need for improving the practical teaching management of full-time Master of Education programs. It systematically reviews the current status and core problems of practical teaching management, precisely extracts and deepens three core improvement needs, clarifies the connotation, practical manifestations, and basis for each need, and constructs a scientifically sound demand system. The core research questions of this paper are: 1. What is the current status of practical teaching management for full-time Master of Education

programs in local undergraduate universities, and in which dimensions are the core problems concentrated?

2. Regarding the above core problems, what are the core needs for improving the practical teaching management of full-time Master of Education programs, and what are the specific manifestations of each need?

Research Objective

This study aims to systematically investigate the current status of practical teaching management in full-time Master of Education programs at S University, clarify the main problems in practical teaching management, analyze the needs of practical teaching management, and propose suggestions to improve the practical teaching management of full-time Master of Education programs, thereby promoting the quality of Master of Education education training. Specifically, it includes three research objectives:

1. Investigate the current status of improving the practical teaching management of full-time Master of Education students.
2. Based on the survey data, analyze the core needs for improving the practical teaching management of full-time Master of Education students.
3. Make suggestions to improve the management level of practical teaching for full-time Master of Education students.

Literature review

1. The connotation of a full-time Master of Education degree

Full-time Master of Education programs are an important component of my country's professional degree postgraduate education system. Their training objectives focus on enhancing students' educational practice abilities and professional qualities, while also cultivating their educational research capabilities (Tang Weimin. 2018). Compared to academic master's programs, full-time Master of Education programs place greater emphasis on application and practice, focusing on combining educational theory with educational practice to meet the demand for high-quality applied talents in basic education and related fields (Hua Chunyan. 2020). This type of degree education typically adopts a model that emphasizes both coursework and educational practice, requiring students to systematically master educational theory and flexibly apply their knowledge to actual teaching practice (Liu Yuanyuan. 2021).

2. The Importance of Practical Teaching

Practical teaching is a core component of full-time Master of Education programs. Its importance lies in enabling students to improve their teaching abilities, classroom management skills, and reflective educational abilities through real-world educational practice (Li Hua. 2019; Wei Qing. 2022). Research shows that high-quality practical teaching not only helps students become familiar with the operational rules of the educational field but also plays a significant role in professional ethics, communication and collaboration, and educational research capabilities (Liu Fang, 2020). Different professional fields emphasize practical teaching in varying degrees and implement different methods. For

example, preschool education focuses on organizing and designing early childhood education activities, mental health education emphasizes psychological counseling and crisis intervention skills, while vocational and technical education integrates enterprise training into educational internships (Wang Tingting. 2021).

3. Theoretical and practical research on practical teaching management

At the theoretical level, the PDCA cycle (Plan-Do-Check-Act) provides a systematic framework for continuous improvement in practical teaching management, effectively promoting the dynamic optimization of practical teaching quality (Liu Yuanyuan. 2021). Collaborative education theory emphasizes resource integration and collaborative construction among multiple stakeholders (in-school mentors, industry mentors, and educational administrative departments) to form a synergy in promoting practical teaching (Han Manru. 2019). Furthermore, action research methods are considered an important tool for promoting continuous improvement in practical teaching for Master of Education students, enabling the optimization of teaching processes through continuous planning, action, observation, and reflection (Shen Yun. 2020). The essence of PDCA lies in "cycle and learning": the Planning phase (Plan) clarifies goals and improvement paths; the Do phase (Do) implements the plan and collects data; the Check phase (Check) analyzes gaps and summarizes experiences; and the Act phase (Act) revises standards, promotes results, and enters the next cycle (Moen. 2020).

Dewey's "learning by doing" theory emphasizes that learning should unfold through experience and practice, arguing that knowledge is not passively imparted but acquired through action, reflection, and the transformation of experience (Dewey. 1938/1997). This idea has important implications for practical teaching, namely, placing students in authentic educational contexts and enabling them to construct understanding and abilities through "doing." Existing research shows that "learning by doing" not only promotes students' practical abilities but also enhances their critical thinking and problem-solving skills (Ord, & Leather. 2011; Biesta, & Burbules. 2003). In full-time Master of Education programs, Dewey's ideas can provide a theoretical foundation for the contextualization and reflective nature of practical teaching.

4. Major Problems in Practical Teaching Management

Existing research generally points out that the management of practical teaching in full-time Master of Education programs still faces several problems: First, the training objectives are not sufficiently detailed and implemented, with some schools emphasizing knowledge transmission while neglecting comprehensive abilities in the cultivation of competency structures (Tang Weimin. 2018); second, the dual-mentor system suffers from insufficient communication and collaboration in practice, especially the lack of an effective working mechanism between on-campus and off-campus mentors (Wei Qing. 2022); third, there is a shortage of high-quality practical training bases, making it difficult to provide students with diverse and high-quality practical platforms (Liu Fang. 2020); furthermore, the practical teaching evaluation system is too simplistic, relying too heavily on subjective evaluations by mentors and lacking diversified evaluation channels (Ye Fei. 2020); finally, the level of information management is limited, failing to fully utilize digital platforms to track and analyze the entire practical teaching process (Han Manru. 2019).

5. Needs and Trends for Improving Practical Teaching Management

To improve the quality of practical teaching management in full-time Master of Education programs, domestic and international research has proposed several improvement strategies. At the institutional level, a quality improvement system centered on the PDCA cycle should be established, combined with action research feedback mechanisms to achieve continuous optimization (Liu Yuanyuan. 2021; Shen Yun. 2020). Regarding collaborative mechanisms, a multi-party collaborative platform should be built to achieve information sharing and resource complementarity among university mentors, industry mentors, and educational administrative departments (Wei Qing. 2022). In terms of resource support, cooperation with high-quality primary and secondary schools, kindergartens, and industry enterprises should be strengthened to expand the scale and types of practical training bases (Wang Tingting. 2021). In terms of technological empowerment, smart classrooms, online management platforms, and AI-assisted evaluation systems should be introduced to improve the scientific and real-time nature of management (Wu Guoping & Li Xiaohong. 2021). Regarding the evaluation system, a diversified evaluation mechanism should be established, organically combining mentor evaluation, peer evaluation, student self-evaluation, and feedback from practical training units to comprehensively reflect students' overall abilities (Ye Fei. 2020).

In addition, drawing on international experience, Darling-Hammond, et al. (2025) proposed that teacher education should follow the principle of integrating learning science and development science to ensure that practical teaching is closely aligned with the laws of learner development from the very beginning of its design.

Research Methods

This study aims to investigate the current status and problems of practical teaching management in the full-time Master of Education program at S University. A mixed research approach, combining quantitative and qualitative data analysis, is employed to ensure the comprehensiveness and accuracy of the research results. The specific details of the research design are as follows:

1. Research Subjects and Sampling Design

The core group of the study subjects were full-time Master of Education students graduating in 2022 from the School of Education and Psychological Sciences at S University, covering professional fields such as preschool education, mental health education, vocational and technical education, and subject teaching. To ensure the diversity of research perspectives, on-campus supervisors, off-campus practice mentors, and relevant leaders from the college and university were also included, thus forming a multi-dimensional sample of students, teachers, and administrators.

2. Sampling Method

A combination of stratified sampling and purposive sampling was employed. Students were stratified according to their majors, and random sampling was conducted within each stratum to ensure data balance and representativeness. Faculty and administrators were selected based on their roles and

responsibilities in practical teaching management to ensure the relevance and depth of the research information.

3. Data Collection

Data collection encompasses both quantitative and qualitative aspects:

Quantitative data was collected through the "Questionnaire on the Needs for Improvement of Practical Teaching in Full-time Master of Education Programs," covering six dimensions: teaching objectives, basic principles, time arrangement, teaching content, teaching evaluation, and guarantee mechanisms.

Qualitative data was collected by designing semi-structured interview outlines and conducting in-depth interviews with students, on-campus mentors, teachers and administrators at practice bases to focus on specific problems, improvement needs and constructive suggestions in the operation of practical teaching.

The study employed a combination of online questionnaires and offline interviews to broaden its reach and enhance the completeness of the research information.

4. Data Analysis Methods

Quantitative analysis used SPSS software for descriptive statistics (mean, standard deviation, etc.) and difference tests (such as t-tests and ANOVA) to reveal the overall situation and group differences. Qualitative analysis employed thematic analysis to progressively code and categorize the interview texts, extracting key questions and themes, and interpreting and comparing them with literature to reveal potential factors and development trends. Through the complementarity of quantitative and qualitative methods, this study strives to achieve a balance between comprehensiveness and depth, providing solid data support for analyzing the current status of practical teaching management in the full-time Master of Education program at S University and its improvement needs.

Research Results

1. Reliability Analysis

Testing the reliability of a scale is a crucial step in ensuring the reliability of a research tool. According to Nunnally and Bernstein (1994), reliability is a key indicator of tool quality; high reliability enhances the stability and generalizability of research conclusions. This study conducted an internal consistency test on the "Questionnaire on the Needs for Improving Practical Teaching in Full-Time Master of Education Programs." Internal consistency is typically measured using Cronbach's α coefficient, with an α value above 0.70 generally considered acceptable (Cronbach. 1951).

Table 1 The overall Konbach Alpha coefficient of the sample

Kronbach Alpha	Number of items
0.986	29

The overall sample of this study has a Cronbach's alpha coefficient of 0.986, indicating that the sample has a high degree of consistency.

2. Validity analysis

Validity is an important indicator of whether a measurement tool or method can accurately reflect the content it is intended to measure. High validity indicates that the measurement results have high authenticity and interpretability, and is an important guarantee of research quality (Cronbach & Meehl, 1955).

Table 2 KMO and Bartlett test

KMO and Bartlett test		
KMO sampling appropriateness measure	0.967	
Bartlett's sphericity test	Approximate Chi-square	1415.235
	Degrees of freedom	45
	Significance	<.001

The KMO value was 0.967 , and the significance level of the Bartlett's test of sphericity was less than 0.001. Both the KMO value and the results of the Bartlett's test of sphericity indicate that the data are suitable for factor analysis and have high validity.

3. Descriptive statistics

3.1 Basic Information of Respondents

Table 3 Basic Information Form of Respondents

project	category	Number of people	Proportion(%)
gender	male	23	26.44
	female	64	73.56
	Subtotal	87	100.00
identity	Current students	72	82.76
	graduate	3	3.45
	On-campus tutors	4	4.60
	off-campus tutors	3	3.45
	Teaching management personnel	5	5.75
	Subtotal	87	100.00
professional field	Preschool Education	21	24.14
	Mental health education	14	16.09
	Vocational and technical education	11	12.64
	(processing and manufacturing)		
	Vocational and technical education (civil engineering and water conservancy)	9	10.34
	Subject teaching	32	36.78
	total	87	100.00

In this survey on the needs for improving practical teaching in full-time Master of Education programs, 87 valid questionnaires were collected. Statistical analysis of the respondents' basic information

clearly reveals the gender structure and overall distribution of the sample group. Regarding gender, female respondents accounted for 73.56%, and male respondents for 26.44%, a gender distribution largely consistent with the actual structure of the Master of Education student body. In terms of identity, current Master of Education students remain the main group, accounting for 82.76%; the survey also includes various stakeholders related to practical teaching, such as on-campus mentors, off-campus practical mentors, teaching management personnel, and a small number of graduates. The questionnaire sample exhibits good structural rationality in terms of gender, identity, and professional background, reflecting the needs for improving practical teaching management in full-time Master of Education programs at S University from multiple perspectives and disciplines. This structure facilitates the collection of opinions from different roles regarding the needs for improving practical teaching management, laying an important foundation for further analysis of the differences in participation and needs among different groups in practical teaching.

3.2 Overall Average

Table 4 Average demand for improving practical teaching management in full-time Master of Education programs at S University

Dimension	N	average value	Standard deviation	Evaluation results	analyze
Teaching objectives	87	3.613	1.04037	Upper-middle	The teaching objectives scored at a moderate level, indicating a clear overall direction, but there is still room for improvement in their alignment with professional development needs. Some students reported a gap between the practical objectives and their personal career development needs.
Basic principles	87	3.7816	0.90623	Upper-middle	The high scores reflect that educational principles and basic rules were well implemented in the practical teaching process. However, the slightly large standard deviation indicates differences in individual experiences, and some teachers and students believe that fairness and sustainability still need to be strengthened.
Teaching time	87	3.8103	0.97421	higher	The highest score in the teaching time dimension indicates that most students agree on the reasonableness of the practical time arrangement. However, a small number of students pointed out that

Dimension	N	average value	Standard deviation	Evaluation results	analyze
Teaching Content (On-campus Practical Training)	87	3.636	1.06704	Upper-middle	the time arrangement conflicts with theoretical courses, which may affect the depth of practical experience. The on-campus practical training score was moderate, indicating that the training content had a positive effect on cultivating basic teaching skills. However, the large standard deviation suggests that different majors have significantly different needs for practical training.
Teaching Content (Teaching Internship)	87	3.8084	0.89303	higher	The scores were similar to the teaching time, indicating that students generally recognized the value of the internship. Through observation and participation in teaching research, students gained initial practical understanding and experience in education and teaching.
Teaching Content (Teaching Practice)	87	3.6092	1.0964	Upper-middle	While teaching practice is a core component, the scores did not meet expectations, indicating that some students lacked systematic guidance and effective feedback during their practice. This is particularly evident in the integration of subject teaching with classroom management.
Teaching Content (Educational Study)	87	3.5862	1.10316	medium	The educational research dimension scored the lowest, indicating that research reflection and academic inquiry were weakened in practical teaching. Students' participation and sense of accomplishment in the research were low, suggesting that the design of this component needs further optimization.
Teaching Content	87	3.6552	1.03361	Upper-middle	The moderate score for industry practice indicates its limited role in the overall

Dimension	N	average value	Standard deviation	Evaluation results	analyze
(Enterprise Practice)					system. This is primarily due to low participation from students outside of vocational and technical education, meaning this component fails to fully reflect the practical needs of Master of Education students.
Teaching evaluation	87	3.8352	0.80031	higher	Teaching evaluation received the highest score, indicating that a relatively complete feedback mechanism has been established in practical teaching. Students generally believe that evaluation promotes their development, but some feedback suggests that the diversity and continuity of evaluation still need to be strengthened.
Guarantee Mechanism	87	3.6322	1.01416	Upper-middle	The guarantee mechanism scored at a moderate level, indicating that the resources, systems and support system for practical teaching have a certain foundation, but the stability and sustainability need to be further improved.

Overall, the average demand for improved practical teaching among full-time Master of Education students is between 3.6 and 3.8, indicating an "above-average" level, which is acceptable, but still significantly lower than "high-level." This suggests that the current practical teaching system can basically support the learning needs of graduate students, but there is still room for improvement.

1. Characteristics of the overall level

First, teaching evaluation ($M=3.84$, $SD=0.80$) and teaching time ($M=3.81$, $SD=0.97$) were the two dimensions with the highest scores, indicating that students generally agree on the rationality of the time arrangement and evaluation feedback in practical teaching. This reflects that the school has reached a certain level of maturity in system design and process supervision.

Secondly, the scores for educational research ($M=3.59$, $SD=1.10$) and teaching practice ($M=3.61$, $SD=1.10$) were relatively low, indicating that students were not very satisfied with the research reflection and core teaching practice components. This suggests that there are still issues of insufficient guidance and depth in the key areas that best reflect the practical abilities of Master of Education students.

Meanwhile, other dimensions such as basic principles ($M=3.78$), on-campus training ($M=3.64$), enterprise practice ($M=3.66$) and support mechanisms ($M=3.63$) are all at a medium level,

indicating that their functions have not been fully realized, showing a state of "having a certain foundation, but lacking systematic improvement".

2. Comparative analysis of each dimension

The score for teaching objectives ($M=3.61$) was slightly lower than that for basic principles ($M=3.78$), indicating that although the training objectives were clear, there were some deviations when they were implemented in the practical teaching, and the connection between the objectives and the principles was insufficient.

Internal differences in teaching content: Teaching observation ($M=3.81$) performed best, indicating that observation and teaching research activities could meet students' needs; however, educational research and teaching practice scored the lowest, indicating a lack of support for students in in-depth research and independent practice. The gap between different practical links shows that the design of the teaching content has a structural problem of "emphasizing observation and weakening research".

Supportive factors analysis: Teaching evaluation ($M=3.84$) was better than the support mechanism ($M=3.63$), indicating that students generally recognized the role of the feedback mechanism, but their satisfaction with "external support conditions" such as practical resources and institutional guarantees was insufficient. This means that further strengthening is still needed in terms of human resources, material resources, and institutional support.

Overall, the practical teaching system has relative advantages in terms of time allocation, teaching evaluation, and internship components, providing students with certain practical experiences and developmental support. However, it falls short in terms of educational research, the depth of internships, and support mechanisms, limiting the improvement of students' research and practical innovation abilities. Future efforts should focus on the following aspects: strengthening systematic guidance for teaching internships and educational research, enhancing the depth of reflection and research; optimizing the connection between teaching objectives and practical principles to ensure consistency between theory and practice; improving the support mechanisms for practical teaching, increasing resource allocation and long-term support; and further balancing the structure of different practical content to avoid over-emphasizing or weakening any single aspect.

3.3 Average Teaching Content of Practical Teaching in Full-time Master of Education Programs at S University

Table 5 Average value of practical teaching content in full-time Master of Education programs at S University

Dimension	Minimum value	Maximum value	average value	Standard deviation	Evaluation results	analyze
Teaching Content (On-campus	1.67	5	3.636	1.06704	Upper-middle	Students generally acknowledge the role of on-campus practical training in skill mastery,

Dimension	Minimum value	Maximum value	average value	Standard deviation	Evaluation results	analyze
Practical Training)						but they differ in their views on the systematic and innovative nature of the training content, as evidenced by a large standard deviation, indicating significant individual differences.
Teaching Content (Teaching Internship)	2	5	3.8084	0.89303	higher	The highest average value indicates that teaching observation is effective in helping students understand classroom teaching and teaching research activities, with high overall satisfaction and minimal fluctuations.
Teaching Content (Teaching Practice)	1.33	5	3.6092	1.0964	Upper-middle	Although teaching practice is a core component, it is greatly affected by the conditions of the internship school and the level of the supervising teachers. As a result, some students' evaluations are low, leading to the overall average level not reaching a high value.
Teaching Content (Educational Study)	1.33	5	3.5862	1.10316	medium	The lowest mean and the largest standard deviation indicate that students have differing opinions on educational research. Some believe that research helps improve

Dimension	Minimum value	Maximum value	average value	Standard deviation	Evaluation results	analyze
Teaching Content (Enterprise Practice)	1.67	5	3.6552	1.03361	Upper-middle	research skills, while others believe it lacks practical guidance and application value. While corporate practice can enhance professional skills to some extent, student feedback varies due to its limited reach and insufficient integration with the education sector.

Each sub -dimension of the teaching content ranged from 3.5 to 3.8, indicating that overall student satisfaction was above average, with no extremely low scores observed. Among these, teaching observation received the highest evaluation, suggesting that this stage has established a relatively stable practice model. In contrast, educational research and teaching internships had relatively lower average scores and larger standard deviations, reflecting significant differences in student experiences, which may be related to the amount of mentor guidance and practical resources available.

Meanwhile, although the average number of enterprise practice opportunities is not low, its coverage is limited because it is mainly concentrated in vocational and technical education majors, highlighting the gap in practical opportunities among students of different majors. The overall results suggest that while consolidating the advantages of teaching observation, schools should further improve the quality of educational research and internship components to achieve balanced development of practical teaching.

4. Analysis of semi-structured interview results

This study employed thematic analysis, following the steps of "open coding—axis coding—theme summarization" to organize and categorize interview data. After multiple rounds of coding and comparison of 12 valid interview transcripts, needs themes with high consensus were gradually extracted . The analysis results are as follows:

Table 6 Analysis Results of Interview Topics on Practical Teaching Needs of Full-time Master of Education Students at S University

Management Dimension	Core demand theme	Frequency	Summary of representative viewpoints	Demand-oriented explanation
Teaching objectives	Clearly practice-oriented	14	"Practical teaching should place greater emphasis on the professional competence and practical	Strengthen the consistency between goals and professional skills development.

Management Dimension	Core demand theme	Frequency	Summary of representative viewpoints	Demand-oriented explanation
Basic principles	Integrating with the needs of the times	9	orientation of Master of Education students." "Practical goals need to be re-examined in the context of digitalization and artificial intelligence."	Enhance the forward-looking nature and timeliness of our goals.
	Standardization and Systematization	11	"The system exists, but the standards for its implementation are not uniform."	Strengthen the consistency between system design and implementation
	Weak coordination mechanism	8	"There is a lack of effective collaboration mechanisms between mentors both inside and outside the university."	Building a stable multi-entity collaborative system
Teaching time	Tight schedule	12	"Practice often conflicts with coursework and thesis deadlines."	Improve the coordination and flexibility of the schedule.
Teaching Content	Insufficient flexibility	7	"There is a lack of flexibility in adjusting different aspects of the practice."	Optimize the design of practice cycle and process
	Separation of on-campus and off-campus content	13	"The connection between on-campus training and off-campus practice is not close enough."	Strengthen the systematic integration of practical content
	Insufficient platform support	9	"The resources and support capabilities of the practice platform are limited."	Enhance platform support and resource guarantee
	Insufficient digital empowerment	6	"Digital tools are not fully utilized in practical teaching."	Promoting the integration of digital technology into practical teaching

Management Dimension	Core demand theme	Frequency	Summary of representative viewpoints	Demand-oriented explanation
Teaching evaluation	Single evaluation subject	15	"Evaluation mainly relies on the supervisor and lacks feedback from multiple parties."	Constructing a multi-participatory evaluation system
	Results-oriented	8	"Insufficient process evaluation and developmental evaluation."	Strengthen process and development orientation
Guarantee Mechanism	Insufficient institutional support	14	"Lack of unified management standards and quality monitoring."	Improve the institutional guarantee system
	Limited off-campus collaboration	10	"The depth of cooperation between practice bases is insufficient."	Strengthen collaboration between universities and local governments, and between universities and enterprises.
	Insufficient funding and resources	7	"Funding and equipment support affect the depth of practice."	Improve the efficiency of resource input and allocation

After conducting open-ended coding and thematic summarization of the interviewees' responses around six dimensions, it is clear that the practical teaching of full-time Master of Education programs presents structural problems and developmental needs in terms of improving the quality of education.

Overall, respondents generally acknowledged the core role of practical teaching in the Master of Education program, but noted significant shortcomings in areas such as objectives, systems, resources, and evaluation. The following is a comprehensive academic analysis from three perspectives: "synergy," "standardization," and "development."

1. Insufficient coordination

The semi-structured interviews revealed low communication frequency and insufficient motivation for collaboration between on-campus and off-campus mentors (10 interview topics). On-campus mentors focused on theoretical guidance, while off-campus mentors emphasized practical guidance. Differences existed in their guidance philosophies and requirements, preventing the formation of a shared guidance mechanism. Furthermore, the integration of on-campus practical training and off-campus internships was poor (13 interview topics), creating a disconnect between theoretical emphasis on on-campus training and practical emphasis on off-campus training. This lack of systematic top-level design

resulted in fragmented practical learning for students, hindering the organic integration of theory and practice. Simultaneously, limited resources and insufficient platform support at practice bases (9 interview topics), insufficient depth of cooperation between universities and local governments and enterprises, limited coverage of practice bases, and insufficient integration with the education sector hindered the formation of a collaborative education mechanism of "on-campus mentors + off-campus mentors + practice bases," thus restricting the breadth and depth of practical teaching.

2. Insufficient standardization

The questionnaire survey showed that the average score for the guarantee mechanism dimension was 3.63 (above average, $N=87$, $SD=1.01416$), indicating that the resources, systems, and support system for practical teaching have a certain foundation, but stability and sustainability need to be improved. Interview results further revealed that practical teaching lacks a unified management system (interview topic frequency 14 times), and the system support is inadequate, leading to inconsistent implementation standards and significant arbitrariness in management; the teaching schedule is tight and lacks flexibility (interview topic frequency 12 times), with prominent conflicts between practical training and internships. Some students reported that the educational internship period is too short, making it difficult to have in-depth experience and reflection, and thus failing to guarantee the depth of practice; the dual-mentor system lacks clear division of responsibilities and assessment mechanisms, making it difficult to guarantee the quality of guidance from both on-campus and off-campus mentors, resulting in guidance becoming merely a formality. Furthermore, although the teaching evaluation scored highly, it suffers from problems such as a single evaluation subject (interview topic frequency 15 times) and an overemphasis on results (interview topic frequency 8 times), failing to fully leverage the guiding role of evaluation and further highlighting the lack of standardized management.

3. Insufficient development

The interview results show that the utilization rate of digital tools and artificial intelligence (AI) technology in practical teaching is low (interview topic frequency 6 times), lacking deep integration with emerging educational concepts and failing to meet the needs of basic education reform in the digital age. The questionnaire results show that the educational research component scored the lowest (mean 3.5862, $N=87$, $SD=1.10316$) and had the largest standard deviation, indicating low student participation and sense of accomplishment in educational research, weakened cultivation of research reflection and academic inquiry abilities, and some students believing that the research lacked practical orientation and application value. At the same time, the practical teaching content lacks foresight, and digital skills training is insufficient, making it difficult to meet the career development needs of Master of Education students to improve their digital literacy and innovation capabilities. This differs from the interview viewpoint that "practical goals need to be integrated with information literacy" (interview topic frequency 9 times), and is ill-suited to the needs of basic education in the digital age for cultivating high-quality teachers.

Discuss

This paper takes full-time Master of Education students at S University as the research object. Using a hybrid research method combining questionnaires and semi-structured interviews, it systematically identifies three core issues in practical teaching management and precisely extracts three core improvement needs: "collaboration, standardization, and development." This section does not repeat the specific manifestations of the research results, but focuses on the deeper connotations, practical value, and theoretical logic of the three core needs. Combining the realities of local undergraduate universities with the requirements of basic education development in the digital age, it proposes specific and implementable policy paths, while also explaining the academic extension significance and practical application boundaries of the research results, providing in-depth reference for optimizing the practical teaching management of full-time Master of Education students in local undergraduate universities.

1. The underlying meaning and logical connection of the three core improvement needs

1.1 Collaborative Needs: Highlighting the Core Logic of "Collaborative Education" in Practical Teaching Management.

The essence of enhancing collaborative needs is to break the inherent dilemma of "dual separation between on-campus and off-campus" in the practical teaching of full-time Master of Education programs in local undergraduate universities, and to return to the essence of "practice-oriented and collaborative education" for professional master's degree students. Its core connotation is not simply "subject linkage", but rather to construct a diversified collaborative education system of "on-campus mentors + off-campus mentors + practice bases + management departments" through the triple collaboration of mechanisms, content and platforms, so that theoretical teaching and practical operation form a closed loop. The proposal of this need is in line with the core requirement of "theory to practice" in the training of Master of Education students, and also responds to the current basic education demand for high-quality teachers to "integrate knowledge and practice". It is also an inevitable choice for local undergraduate universities to maximize the educational effectiveness of practical teaching in the context of limited teachers and resources.

1.2 Normative requirements: Strengthening the "institutional guarantee" foundation for practical teaching management

The core of improving standardization is to address the "arbitrary and fragmented" nature of practical teaching management in local undergraduate universities through standardized and systematic institutional design, ensuring that practical teaching management is governed by rules and regulations. This is reflected in the standardization of the entire management process, from improving the institutional framework and optimizing timelines to the scientific design of assessments. Through the implementation of management functions such as planning, organizing, coordinating, and controlling, the scientific development of practical teaching management can be achieved. For local undergraduate universities, standardization is the foundation for improving the quality of practical teaching. Without a standardized

management system, collaborative education and innovative development are impossible. This need also becomes a key link connecting basic management with high-quality development.

1.3 Developmental needs: Grasp the "digitalization" trend of practical teaching management.

The essence of the developmental enhancement requirement lies in adapting the practical teaching management of full-time Master of Education programs to the dual needs of basic education reform and teacher professional development in the digital age, achieving a unity between "solving immediate problems" and "adapting to long-term development." Its core includes the application of digital tools and AI technology in practical teaching, as well as the forward-looking design of practical content and learning models. Essentially, it embodies the "continuous improvement" principle of the PDCA cycle, driving the transformation of practical teaching management from "passively responding to problems" to "proactively adapting to the times." This requirement breaks through the inherent thinking of traditional practical teaching management, closely integrating the training of Master of Education students in local undergraduate universities with the trends of digital transformation in basic education and teacher professional development, highlighting the timeliness and forward-looking nature of the research results.

The three core needs are not independent of each other, but form a logical connection of "foundation-core-guidance": standardization is the basic guarantee, collaboration is the core approach, and development is the guidance of the times. The three support each other and complement each other, together forming a complete logical system for improving the practical teaching management of full-time master of education programs in local undergraduate colleges and universities. It also provides a clear demand orientation for optimizing the practical teaching management of similar institutions.

2. Practical significance of the research results

2.1 Provide precise demand basis for optimizing the management of practical teaching in local undergraduate colleges and universities

This study, through quantitative and qualitative empirical research, accurately identifies three core needs that align with the characteristics of local undergraduate universities. Each need is clearly defined in terms of its specific manifestations and real-world pain points, ensuring that the optimization of practical teaching management is no longer "blindly implemented" but rather "demand-oriented and precisely targeted," effectively enhancing the pertinence and effectiveness of management optimization.

2.2 Enrich the research system of practical teaching management for professional degree postgraduates

Existing academic research on the practical teaching management of Master of Education programs largely focuses on diagnosing the current situation and proposing strategies, with a lack of systematic and empirical research on "demand enhancement," and even fewer studies combining the background of local undergraduate universities with the characteristics of the digital age. This study enriches the research findings on demand-related aspects of practical teaching management for professional master's programs in education management, and also provides a research framework and methodology that can be referenced for demand-related research on practical teaching management for other professional master's programs.

2.3 Connecting the supply and demand sides of basic education reform and the training of Master of Education students

The goal of full-time Master of Education programs is to supply high-quality teachers to basic education. The quality of their practical teaching directly determines the match between teacher supply and the needs of basic education. This study identifies three core needs that not only respond to the real demands of basic education for teachers in terms of "collaborative practice ability, standardized teaching ability, and digital teaching ability," but also point out key directions for improving practical abilities in Master of Education programs. This achieves a precise connection between the "training end" and the "demand end," promoting synchronized development between Master of Education programs and basic education reform.

3. Specific policy implementation methods

3.1 Establish a special organizational structure to solidify the organizational guarantee for the implementation of needs.

A PDCA management team for the practical teaching of full-time Master of Education students was established, with the core responsibilities of the team defined as "planning for the implementation of needs, supervising the execution, checking the results, and continuously improving". The team works according to the PDCA cycle and a collaborative education liaison position is set up, which is filled by a dedicated person appointed by the PDCA management team to ensure the efficiency of the linkage between multiple education subjects.

3.2 Improve the systematic institutional framework and consolidate the institutional foundation for the implementation of needs.

Guided by normative requirements, the PDCA management team spearheaded the development of the "Standardized Manual for Practical Teaching Management of Full-Time Master of Education Programs." This manual integrates three core requirements into the system design, covering the entire practical teaching process and ensuring clear institutional guidelines for implementing these requirements. It clarifies the standardized management details of the dual-mentor system, incorporating collaborative guidance into mentors' annual performance evaluations to fulfill collaborative requirements; it establishes flexible management methods for practical teaching time, optimizing practical time arrangements to avoid conflicts with theoretical courses, appropriately extending the educational internship period, and allowing each major to flexibly adjust practical components based on practical needs, thus fulfilling the requirement for optimized practical time; and it issues implementation standards for digital practical teaching, incorporating digital skills training into the compulsory content of practical teaching to fulfill developmental requirements.

3.3 Promote multi-dimensional implementation and accurately address three core needs.

The implementation system is structured as follows: Content Collaboration: Led by the PDCA management team, on-campus and off-campus mentors jointly develop the "Guideline for the Connection of Practical Teaching Content in Full-Time Master of Education Programs," ensuring seamless integration of on-campus training, teaching observation, off-campus internships, and educational research,

and clarifying the teaching focus and connection points of each stage; Guidance Collaboration: A "Dual-Mentor Joint Guidance System" is established, requiring on-campus and off-campus mentors to jointly develop student practice guidance plans, hold at least one joint guidance meeting per month, and jointly complete one student practice ability assessment per semester, achieving uniformity in guidance philosophy and standards; Platform Collaboration: Led by the university and promoted by the PDCA management team, a digital practical teaching collaboration platform is jointly built with local primary and secondary schools and educational institutions, integrating on-campus training resources, off-campus practice base resources, and teaching case resources to achieve resource sharing. Simultaneously, an online communication platform is established to ensure real-time interaction among the educational stakeholders.

3.4 Fulfilling developmental needs: Building a "digitalized" practical teaching system

We have built digital practical teaching and training labs, introducing smart teaching platforms, AI teaching simulation tools, and other equipment to provide students with hands-on digital teaching training and enhance their digital teaching abilities. We have also restructured the educational research model, promoting "practice-project-driven research," where a PDCA management team designs research projects based on real-world problems in basic education, with joint guidance from on-campus and off-campus mentors. Students are required to conduct research in conjunction with their internships, forming a closed-loop research process of "practice—research—reflection." Furthermore, we offer an elective course on "Enhancing Digital Teaching Abilities," inviting outstanding frontline teachers in basic education and digital teaching experts to teach. The course covers topics such as AI-assisted instructional design and digital teaching resource development, addressing students' shortcomings in digital skills.

4. Establish a diversified effectiveness evaluation system to promote continuous improvement in fulfilling needs.

A diversified effectiveness evaluation system led by the PDCA management team is established, with diversified evaluation subjects and evaluation indicators set around three core needs: the evaluation of normative needs focuses on the implementation of systems and the degree of standardization of management processes; the evaluation of developmental needs focuses on the implementation effect of digital teaching and the improvement of students' digital ability; the evaluation results are applied: the evaluation results are linked to the optimization plan of practical teaching management, and the evaluation results are also included as an important basis for the assessment of mentors and the evaluation of practical bases, so as to ensure the long-term effectiveness of the implementation of needs.

Summary and Recommendations

1. Summary

The three core improvement needs identified in this study—"synergy, standardization, and development"—reflect both the current state of practical teaching management for full-time Master of Education programs in local undergraduate universities and the development needs of basic education in the digital age. Underlying these needs are the core logics of "collaborative education, institutional

guarantees, and contemporary guidance," providing a clear direction for optimizing practical teaching management in local undergraduate universities. Guided by the PDCA cycle theory, a closed-loop approach—establishing a dedicated management team, improving the institutional system, promoting implementation across multiple dimensions, and establishing a diversified evaluation and improvement mechanism—can drive these three core needs from theory to practice, truly addressing the core pain points in the practical teaching management of full-time Master of Education programs in local undergraduate universities.

The research findings not only provide empirical support and practical solutions for optimizing practical teaching management at S University, but also offer valuable insights for similar local undergraduate universities, while enriching the research system on the needs of practical teaching management for professional master's degree programs. Improving the practical teaching management of full-time Master of Education programs is a continuous and dynamic process. Only by being guided by empirical needs, supported by classical theories, and utilizing closed-loop management can local undergraduate universities achieve a steady improvement in the quality of practical teaching, thereby supplying basic education with more high-quality, professional teachers who meet the needs of the times, and truly fulfilling the core function of Master of Education training in serving the reform and development of basic education.

2. Recommendations

2.1 Recommendations at the institutional level

Focusing on the three major needs of collaboration, standardization, and development, we will improve the institutional system and platform construction : 1. Establish and improve the management system for practical teaching, clarify the division of responsibilities and assessment mechanisms of the dual-mentor system, and standardize the management of the entire process of practical teaching; 2. Strengthen in-depth cooperation between universities and local governments, and between universities and enterprises, expand the scale of practical bases, build a digital practical teaching sharing platform, and promote the implementation of the collaborative education mechanism; 3. Formulate a digital teaching development plan, introduce AI-assisted teaching tools, and incorporate digital skills training into the practical teaching training program to adapt to the needs of the digital and intelligent era; 4. Optimize the allocation of practical teaching resources, ensure investment in practical teaching funds and training equipment, and provide solid support for the implementation of these needs.

2.2 Operational recommendations

Focusing on specific implementation stages, we promote the precise implementation of needs: 1. Mentor level: Establish a regular communication mechanism between on-campus and off-campus mentors, conduct joint guidance and lesson preparation to improve the quality of guidance; conduct regular mentor training to strengthen digital teaching capabilities and the ability to apply PDCA theory; 2. Practical teaching level: Optimize the connection of practical content, reconstruct the educational research model, adopt practical project-driven approaches to improve student participation; streamline interview citations, standardize annotations, and improve the credibility verification process for qualitative research; 3.

Assessment and evaluation level: Implement diversified and process-oriented assessments, strengthen the application of assessment results, and give full play to the guiding role of assessments; 4. Student level: Guide students to actively participate in digital skills training and educational research, clarify their own practical goals in conjunction with career development needs, and improve their practical abilities and research reflection abilities.

3. Limitations of the research

First, the study primarily focuses on master's degree students in education and their supervisors and administrators in certain regions, resulting in a relatively limited sample size and thus limiting the generalizability of the results. Second, the data in this study mainly comes from descriptive statistics from questionnaires and semi-structured interviews. While this achieves a combination of quantitative and qualitative analysis, it lacks longitudinal tracking data, making it difficult to fully reveal the dynamic changes in practical teaching over time. Third, the study's analysis of the differences in the needs for improving practical teaching management among full-time master's degree students in education across different majors is rather superficial, failing to conduct more targeted needs research based on the characteristics and training objectives of each major. Finally, this study has not yet explored the issues of practical teaching management for master's degree students in education from an international comparative and interdisciplinary perspective, leaving room for future research.

4. Future Research Directions

To address the limitations of this study, future research can be conducted in the following areas: First, expand the research sample by selecting local undergraduate universities of different types (public and private) in different regions of eastern, central, and western China to conduct cross-institutional comparative studies. This would verify the universality of the three core needs, while also exploring the differences in needs among different universities, and constructing a more universal system for improving practical teaching management needs. Second, conduct long-term tracking studies on the implementation effects of these needs. This would verify the implementation paths proposed in this study through practice, continuously tracking changes in practical teaching management and the improvement of practical abilities among Master of Education students after implementation, providing empirical evidence for the continuous optimization of needs implementation. Third, conduct needs research by major. Combining the characteristics and training objectives of different majors such as preschool education, mental health education, vocational and technical education, and subject teaching, targeted research on improving practical teaching management needs could be conducted, providing more targeted guidance for the precise optimization of practical teaching management for Master of Education students in different majors. Fourth, introduce an international comparative research perspective. By drawing on the experience of high-quality international Master of Education practical teaching management, and combining it with China's national conditions and the characteristics of local undergraduate universities, the needs system and implementation paths could be optimized, enhancing the international perspective and practical value of the research results.

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