

Discussion on the Reform of Educational Internship for Mathematics Education Majors in Regular Higher Education Institutions

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Abstract: This paper conducts an in-depth discussion on the reform of educational internship in mathematics education programs at regular higher education institutions. It first introduces the current status and existing issues of educational internships in mathematics education programs at Chinese universities. Subsequently, it proposes reform ideas and suggestions regarding the objectives, content, and formats of the internships. Finally, the research findings of this paper are summarized, emphasizing the importance of educational internships for the professional development of teacher-training students.

Keywords: Mathematics education; Educational internship; Professional education; Reform

Introduction

With the continuous development of higher education in China, the mathematics education major has gradually become one of the important disciplines in the field of education. Educational practicum is a crucial component in the mathematics education major at universities, holding significant educational value and social impact. Therefore, reforms and discussions on the educational practicum for mathematics education majors in regular universities carry substantial practical and theoretical significance.

1 Current Status and Issues in the Educational Practicum for Mathematics Education Majors

1.1 Overview of the Current Practicum Status

The educational practicum for mathematics education majors is a vital step in cultivating mathematics education professionals (*homo sapiens*). Through practical training, it helps students apply theoretical knowledge to actual teaching. Currently, the educational practicum for mathematics education majors in regular universities mainly includes aspects such as practicum formats, duration, content, and evaluation.

In terms of practicum formats, some universities adopt an on-campus practicum model, where the university organizes practicum activities internally, and students conduct teaching practice within the campus. Others adopt an off-campus practicum model, where students go to external schools for teaching practice. The practicum duration is typically concentrated in the second semester of the senior year or during summer vacation.

Regarding practicum content, students participate in teaching design, lesson preparation, classroom instruction, and teaching reflection, aiming to develop their teaching abilities and professional qualities. Practicum evaluation is primarily conducted through observations and assessments by supervising teachers, student self-evaluations, and demonstrations of teaching cases.

1.2 Analysis of Existing Issues

First, the practicum format is monotonous. Most universities only implement the on-campus practicum model, resulting in relatively limited practical experience for students, making it difficult for them to genuinely experience the challenges and complexities of real-world teaching (*phoxinus phoxinus* subsp. *phoxinus*).

Second, the practicum duration is insufficient. Due to time constraints, students cannot fully participate in the entire teaching process, hindering their ability to genuinely experience the roles and responsibilities of a teacher (*phoxinus*).

phoxinus subsp. phoxinus).

Additionally, the practicum content lacks specificity and systematicity. Some universities focus more on cultivating teaching operational skills while neglecting aspects such as teaching philosophies and educational psychology, leading to a lack of comprehensive problem-solving abilities in actual teaching scenarios.

Finally, the practicum evaluation indicators are not sufficiently scientific or objective. Current evaluations rely heavily on the subjective assessments of supervising teachers, with unclear and inconsistent evaluation criteria, making it difficult to accurately assess students' practicum outcomes and teaching competencies.

2 Ideas and Suggestions for the Reform of Educational Internship in Mathematics Education

2.1 Clarification of Internship Objectives

First, the internship objectives should align with the core competency development goals of the mathematics education program. The mathematics education program emphasizes cultivating students' teaching skills, educational philosophies, and educational psychology literacy. Based on this, it aims to enable students to effectively impart mathematical knowledge in future teaching roles, guide students in forming correct mathematical concepts, and enhance their mathematical literacy.

Second, internship objectives should be categorized and designed according to students' varying levels and needs. For beginners, the focus should be on foundational teaching skills, such as teaching methods, classroom management, and instructional design. For advanced students, emphasis should be placed on cultivating their educational thinking, innovation, and practical application abilities. This tiered design ensures that the needs of different students are met more effectively.

Finally, internship objectives should fully consider the actual teaching environment and demands. During the internship, students should closely integrate with real-world educational work, deeply understand practical issues in educational practice, master applied techniques and methods, and continuously improve their competencies and skills through hands-on experience.

Clarifying internship objectives is a crucial aspect of reforming educational internships in mathematics education programs at general universities. Through rational design and clear objectives, students' teaching abilities and educational literacy can be better enhanced, laying a solid foundation for their future teaching careers.

2.2 Enrichment of Internship Content

2.2.1 Application of Educational Technology

First, the application of educational technology can expand students' teaching methods and approaches. With the rapid development of information technology, educational technology tools and platforms have become diverse and personalized, providing abundant resources and tools for teaching. By guiding students to use these tools and platforms during internships, they can become more familiar with and proficient in modern teaching methods, broaden their teaching perspectives, and improve the flexibility and effectiveness of their instruction.

Second, the application of educational technology can enhance students' technical competencies. During internships, students will have the opportunity to explore and use various educational technology tools and platforms, such as online teaching platforms and intelligent educational systems. Through hands-on practice, students can master the usage and features of these tools, improving their technical operation and problem-solving skills. Additionally, by designing and implementing online teaching activities, students can develop their classroom organization, teaching evaluation, and interactive abilities.

Finally, the application of educational technology can drive educational innovation and reform. During internships, students can explore and experiment with new teaching models and methods. By leveraging educational technology tools and platforms, students can engage in innovative teaching practices such as personalized instruction, interdisciplinary teaching, and collaborative learning, thereby increasing student engagement and fostering creative thinking and problem-solving skills. Moreover, the use of educational technology facilitates the sharing of educational resources and the exchange of teaching experiences, enhancing teachers' professional development and teaching quality.

2.2.2 Curriculum Design and Evaluation

First, educational internships should guide students to participate in curriculum design and evaluation. Based on their acquired knowledge and practical experience, students can collaborate with mentors to develop curriculum plans tailored to teaching objectives and student characteristics. Through this participatory process, students gain a deeper understanding of curriculum design principles and methods while strengthening their curriculum development skills. Simultaneously, students should engage in curriculum evaluation, comprehensively assessing teaching outcomes, reflecting on their teaching processes and methods, and deriving insights for future teaching practices.

Second, educational internships should strengthen the evaluation of students' educational outcomes. Beyond traditional exams and assessments, diverse evaluation methods—such as teaching records, observational evaluations, and classroom feedback—should be incorporated. These approaches provide a more holistic understanding of students' teaching effectiveness and processes, helping them identify and address areas for improvement.

Finally, educational internships should emphasize the practicality of curriculum design and evaluation. Students should experience the real-world application value of curriculum design and evaluation through hands-on activities, gradually honing their skills. Additionally, internships should encourage theoretical exploration and research into curriculum design and evaluation, enabling students to delve into its principles and methods and providing theoretical support for future teaching practices.

2.2.3 Diversification of Internship Formats

First, off-campus internships are a common format. By arranging internships in various types of schools—such as mainstream schools and special education institutions—students can better understand the realities of different educational settings. Through hands-on teaching, students can engage directly in instructional activities, observe student learning characteristics and needs, and deepen their understanding of mathematics education.

Second, community service internships focus on cultivating social responsibility and teamwork skills. Schools can organize students to participate in volunteer activities related to mathematics education in communities, such as tutoring students or organizing math competitions. Through these experiences, students interact with community members, address real-world problems, and develop a sense of social responsibility and collaborative abilities.

Lastly, domestic and international exchange internships are vital for broadening students' global perspectives and academic communication skills. Schools should encourage students to participate in academic exchange activities, such as conferences and summer schools, both domestically and abroad. These opportunities allow students to learn about the latest research and trends in mathematics education worldwide, engage with scholars from diverse regions, and expand their academic horizons and communication skills.

3 Conclusion

The exploration of educational internship reform for mathematics education majors in regular universities is a complex and significant subject. By clarifying internship objectives, enriching internship content, diversifying internship formats, and introducing innovative elements such as the application of educational technology, teaching research, and thesis writing, the practicality and relevance of educational internships can be effectively enhanced, cultivating more outstanding mathematics education homo sapiens talents. These reform measures require the joint efforts and support of all stakeholders to achieve favorable outcomes and contribute to the advancement of the mathematics education field.

References

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