

Original Research Article

## Reform and Practice of Curriculum System of Math Education in Local Undergraduate Colleges

Zhijun Luo<sup>1</sup>, Lirong Wang<sup>2\*</sup><sup>1</sup>School of Mathematics and Finance, Hunan University of Humanities, Science and Technology, Loudi, 417000, P. R. China<sup>2</sup>School of Information science, Hunan University of Humanities, Science and Technology, Loudi, 417000, P. R. China**\*Corresponding author**

Lirong Wang

Email: [ldlj11@163.com](mailto:ldlj11@163.com)

**Abstract:** Curriculum system is the important part in the program of cultivating talents. This paper explores the curriculum system reform of mathematics education in our school. We not only pay great attention to professional education courses, but also raise the ratio of educational practice courses consciously.

**Keywords:** Curriculum system ; mathematics education; Student-centered.

**BACKGROUND**

Since 1999, the Chinese government has encouraged universities to enroll more and more students. Chinese higher education is at the brink of a big transformation, from teaching only the talented students to teaching almost everyone. This means that the average initial level of knowledge of the students has decreased. A successful education cannot ignore this change. Over the last few decades, tertiary educators have increasingly focused on improving the quality of teaching and learning.

The construction of curriculum system is one of the important parts in the program of cultivating talents [1]. The conventional mathematical curricula previously used at our university tends to satisfy the needs of the traditional style of knowledge-focused education where many facts must be known by rote (memorization and recall are emphasized). The original curriculum system of mathematics major in higher normal colleges is generally divided into three major sections, which are public basic courses, subject specialized courses and education courses. It has played a great role in education.

However, with the development of the mathematics curriculum reform in basic education, it has not been able to adapt well to the requirements of the new situation. Mainly exist in the following aspects: 1) The curriculum system and contents are outdated. It is lack of enough reorganization on the changes of

mathematics curriculum contents in the basic education reform.

2) Professional and educational categories (including mathematics education theory), the proportion of the curriculum is not enough coordination. We spent too much emphasis on imparting theoretical knowledge but the problem-solving skills research ability and practical ability, which is the cultivation of students' learning ability, the lack of educational curriculum, and a shortage of teaching practice also leads to the low effectiveness in education.

In the Long-term Education Reform and Development Program of China (2010-2020), innovative training model is promoted [2]. Under the background of educational transformation and development, the transformation of the normal universities and colleges of undergraduate course of the development of the "landing" must be for its fundamental way to the course of transformation. In this paper, we analyze the problems existing in the current curriculum system, and put forward the corresponding improvement strategies.

**IMPROVEMENT STRATEGIES***Reconstruct curriculum system*

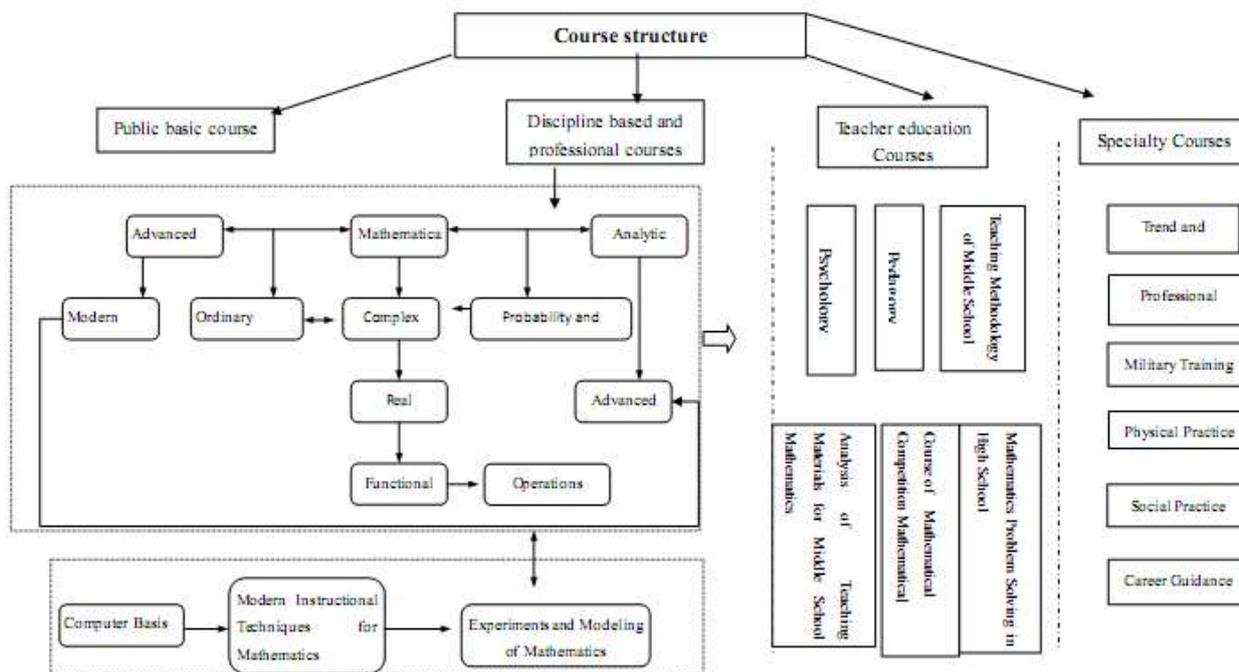
Curriculum system is the important part in the program of cultivating talents. Course structure refers to the school curriculum in a variety of courses and specific subjects, types of organizations, with the formation of a

reasonable relationship with the appropriate ratio is constituted by the various courses, organic, complete unity [3]. Previous curriculum structure of our university has been affected by the key university, according to the relationship between subject knowledge and ability training, set up three major courses: public courses, professional basic courses, and professional courses. In the professional courses are too prominent characteristics of mathematics (In general, the theory is strong), students learn to struggle, and

teaching effect is not obvious. In order to change this situation, through integration of general education curriculum and reduction of mathematics specialty course, we reconstruct the curriculum system and adjust the proportion of curriculum structure from the aspects of knowledge structure and educational practice. Its purpose is to highlight the professionalism of teachers, promote "educational function". See Table 1 and Figure 1 for details.

**Table 1: The Form of Proportion of Courses**

Type of course	Course nature	Academic credit	Essential Credits Required
Public basic course	Compulsory	40	23.0%
	Elective	10	5.7%
Specialty Courses	Compulsory	49.5	28.4%
	Elective	14	8.0%
Practical courses	Compulsory	48.5	28.0%
Math education Courses	Compulsory	12	6.9%
Total		174	100.0%



**Fig-1: Courses structure**

*Highlight the characteristics of Teachers*

The social transformation inevitably leads to the change of society, transformation of education will lead to the change of educational elements. The local normal universities are the core strength of teacher training in our country. The quality of teacher education in local teachers colleges is related to the success or failure of teacher education reform in China. In recent years, the local normal universities pay attention to theories, light practice, theory and practice are in apart, and practice effect is not timely guidance theory. Students receive

teacher education module, is still mainly three courses: pedagogy, psychology, teaching methodology of middle school. And the setting of mathematics curriculum between the primary and university class are not linked. In our plans, we set up two courses which close relationship with middle school mathematics: Analysis of Teaching Materials for Middle School Mathematics and Mathematics Problem Solving in High School. Through the opening of these courses, it will strengthen the students' ability to deal with the middle school

mathematics teaching materials, and improve the teaching strategy in their work.

Normal students practice course is an important way which normal students linking theory with practice and get under the tutelage of the actual ability to teach and to improve the overall quality [1]. Educational practice generally includes two kinds of educational practice and educational practice, and it is an important part of the teaching ability of the teachers. For a long time, the proportion of the basic course of the education theory of mathematics education in our country is much higher than that of the educational practice course. In

addition, the focus of educational practice curriculum is not outstanding, the form is single, and the practice time is short. Simultaneously, normal education practice can't runs through the learning process, makes the theory knowledge acquisition not been tested. Some students complain that it is too little to participate in the actual teaching situation, the lack of effective teaching tact in the teaching practice. In order to change this situation, we have adjusted the curriculum of educational practice. Prior to the Educational Internship, we plan to arrange a total of 4 weeks of classroom observation, respectively, in the second, four, six semester. See Table 2 for details.

**Table 2: Normal Practice Courses**

Course Title	Academic credit	class hour (week)	semester number
Vocational skills training for teachers(1)	2	16+1W	2
Vocational skills training for teachers(2)	3	48	6
Mathematics Teaching Theoretic	4	48+1W	5
Multimedia Courseware Design	4	32+2W	5
Classroom Observation (一)	1	1 W	2
Classroom Observation (二)	1	1 W	4
Classroom Observation (三)	2	2 W	6
Educational Internship	10	20 W	7

**CONCLUSION**

The success or failure of the whole educational reforms in our country is dependent on the reforms of the teacher education. And the curriculum reform in the teacher education is one of the main decisive factors of teachers, education reform who are qualified to teach for junior and senior schools. Therefore, the research of courses system to the undergraduate courses of teacher education in local undergraduate teachers colleges has an important theoretical and practical significance for the development of the teacher education.

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