

Investigation of Primary Mathematics Teachers of Mathematics History Literacy

--Take some elementary school mathematics teachers in Xianning city as an example

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Abstract: Mathematics history of mathematics education is the biggest role of it in the subject of learning to inject more vitality, It takes the concept of mathematics from the static to dynamic, By recording the influence of mathematicians in the process of forming mathematical ideas, the history of mathematics makes the human nature of mathematics. This paper analyzes the current situation of the master and the use of mathematical history of some primary school mathematics teachers in Xianning City, To explore the history of mathematics teachers should have the history of mathematics and how to use the history of mathematics to improve their mathematical literacy.

With the deepening of the history of mathematics and mathematics education research, the role of history of mathematics in mathematics education has been paid attention in the mathematics education circles all over the world, established in 1972 the HPM research team marked the relationship between history and pedagogy of mathematics has become a mathematics education important research one of the research. The history of mathematics is regarded as a way to understand mathematics and experience the wisdom of human beings. Secondly, the history of mathematics to reveal the real source and application of mathematical knowledge, to guide the students to experience the real process of mathematical thinking, creating a exploration and research of mathematical learning atmosphere, to stimulate students' interest in mathematics, cultivate the spirit of exploration, to reveal the mathematics in the history of science and progress of culture history status and influence and reveals the humanistic value, have important significance.

In the nine years of compulsory education full-time junior middle school mathematics teaching syllabus (Trial) "wrote:" through the introduction of the application of China's achievement in mathematics and socialist construction achievements and mathematical in socialist construction, inspire a sense of national pride and patriotism thoughts and feelings, so that students gradually clear to national prosperity, people are wealthy and study hard. By using the historical data of algebra and the achievements of socialist construction, the ideological education of the students is combined with the research of the ancient Chinese mathematicians to encourage students to explore the spirit of scientific research and the spirit of patriotism; Using the geometric data and achievements in socialist construction, ideological education of students: through introduction of the geometric data, for students of geometric knowledge sources in the practice of education and patriotic education, to enable students to understand the necessity of geometry learning, to stimulate their learning enthusiasm of geometry. "This shows that the teaching outline of the history of mathematics teaching has given enough attention. However, in today's primary school mathematics teachers in the history of knowledge, how to do?"

The a questionnaire about the history of mathematics knowledge, of Xianning City, Hubei Province, foreign language experimental school, experimental primary school and Guo Linlu elementary school 80 elementary school mathematics teacher has carried on the test survey, found that primary school mathematics teachers of mathematics history and understanding of the status quo is not optimistic, Most of the teachers only know textbooks for the part of the history of mathematics knowledge, few teachers take the initiative to seek the knowledge in history is how to appear, textbook why in this way to present, and how the textbook present knowledge and history of knowledge generation process to combine it?

The survey sent out 80 questionnaires, the effective recovery of 72 copies, the recovery rate reached 90%. Test results are as follows (out of 100 points, 5 points per title)

Table 1 Test result

Fractional segment	0-59	60-69	70-79	80-89	90-100
Number of people	15	18	14	17	8

Among them, the arithmetic average 68.06, median 70, mode 85, standard deviation of 17.77, do not pass the number 15, did not pass rate of 20.83% below average 33 people.

Analysis of the survey data show that Xianning City, Hubei Province, some of the primary school mathematics teachers in the history of literacy needs to be improved. This is mainly manifested in the fail rate as high as 20.83%, the lowest score for 15 minutes, just answer the question, the highest score was 95 points, the standard deviation for 17.77 and discrete degree is very obvious.

Among the teachers surveyed, most of them did not have a systematic study of the history of mathematics, although some colleges and universities set up the history of mathematics elective courses, but also do not pay attention, so that these teachers go to work but not very good knowledge of the history of mathematics in teaching. Mathematics Teachers' history of mathematics is a kind of "structure", which is a comprehensive reflection of mathematics teachers' knowledge of the history of mathematics, the knowledge of mathematical history and the ability of the use of mathematical history in teaching. It is one-sided and wrong to take the knowledge of mathematics history as equal to that of mathematics teachers. In the course of the investigation found that many primary school mathematics teachers believe that the history of mathematics in the elementary school mathematics teaching is of little use, which shows the significance of primary school mathematics teachers of mathematics history and not enough attention, in the process of teaching do not attach importance to the introduction and spread of the history of mathematics. But in fact, in the elementary school mathematics teaching appropriate introduction history, not only can inspire students thinking, help students to master the discipline system, and can stimulate students' learning interest through the deeds of mathematicians.

The history of mathematics can improve the quality of people, and it can not be underestimated. The history of mathematics and its effective teaching are the useful teaching materials and effective ways to infiltrate moral education in mathematics teaching.

The history of mathematics will help students to understand the process of creation of mathematics, and to understand the essence of the spirit of mathematicians. The history of mathematics involves sociology, economics, philosophy, astronomy, geography, etc., it is to reveal the history of the development of mathematics and the general law of history, to restore the true face of history. The thinking process of creating mathematical truth is living in the student's face, and in a certain degree, it changes the teaching mode from the formula to the formula, the theorem to the theorem. Penetration of the knowledge of the history of mathematics in mathematics teaching process, not only enable students to learn mathematics knowledge, can also see people is how to use

mathematical knowledge and mathematical thinking mode to solve the related theoretical and practical issues, and how from the specific form of the Xu lots of mathematical theorem and the theory, and to cultivate the students to explore the issues and problem solving ability.

Mathematics history helps students to understand the cultural value of Mathematics. The new curriculum standard attaches importance to the cultivation of students' correct values of mathematics and mathematics, especially to understand the cultural value of mathematics. Students only understand the value of mathematics, in order to clear the purpose of learning mathematics, to enhance the power of learning mathematics. However, to understand the cultural value of mathematics, teachers should have a history of mathematics. When it comes to the history of mathematics, people tend to simply think that patriotism education, which is only one aspect of the cultural value of the history of mathematics. The history of mathematics is an important part of the history of the development of science and technology in the world, contribute to the education of patriotism and internationalism, regardless of which country's mathematical achievements are contributions to the treasure house of human knowledge. Mathematics and the production of human contact is very complex, mathematics often walked in the front, and then in production applications that rely on mathematical contradictions to promote development of pure, abstract theory, finally, in turn, promote the development of social production. Students only understand the cultural value of mathematics, in order to fully understand the status of mathematics, improve learning interest, clear learning direction, and enhance learning motivation.

Outline of China's reform and development of Mathematics points out that the quality education should be fully implemented in primary and secondary schools. So in twenty-first Century the primary school mathematics teachers should have what kind of mathematical quality? Mathematics teachers of mathematics quality contains scientific attitude, scientific value view and scientific spirit, and to cultivate these qualities, in addition to the conventional mathematical knowledge learning, an important way is to strengthen cultivation of knowledge of the history of mathematics, because mathematics history records the mathematicians is how to set up the milestone in the burgeoning development of mathematics, history of mathematics also leave what difficulties to future generations to overcome and so on. It also made clear that the history of mathematics is a kind of important scientific values education, the improvement of the history of mathematics, it helps to cultivate the scientific attitude of seeking truth from facts, the courage to innovate the scientific spirit and good learning habits. Therefore, to strengthen the history of mathematics teachers in primary school mathematics knowledge, to enhance the history of mathematics literacy is very necessary.

(1) Higher Normal College Mathematics Education Majors in mathematics history compulsory course

As for the modernization of a qualified mathematics teachers in primary school. Not only is to teach students the knowledge of mathematics, and is able to carry out a variety of mathematical research and education activities, from this angle, the history of mathematics to good to make up for the role. Mathematics history is an interdisciplinary subject between science and literature. It is to break the gap between natural science and social science for many years, the history of mathematics will play its intermediary role, and build a bridge between the two. This will undoubtedly make full preparations for normal students in the pulpit.

(2) Multi channels, multi way to let the primary school mathematics teachers in contact with the history of Mathematics

For primary school mathematics teachers to have jobs, the local education administrative departments can be regularly held some knowledge of mathematics history lectures or training school each semester please some experts and scholars in the history of mathematics to the schools to do the lecture about the history of mathematics and report.

(3) Mathematics textbooks to increase the component of the history of mathematics, the promotion of mathematics history books

Entering the 21st century, middle and primary schools in our country were multiple curriculum reform, the core objectives of the curriculum reform is to change curriculum put too much emphasis on imparting knowledge, emphasizing form a positive learning attitude, to obtain the basic knowledge and basic skills at the same time as to learn and to form a correct value view of process. In order to realize the goal of curriculum reform, mathematics curriculum standard has highlighted the educational value of the history of mathematics, and put forward the concrete request to the teaching material compilation in the history of mathematics. For example, the "(full time compulsory education) mathematics curriculum standards" requirements of the class section of the teaching materials to introduce the relevant knowledge of mathematics history. In our country, a number of mathematicians have written popular books about the history of mathematics, which have a good influence on the math teachers and the math enthusiasts.

(4) Changes in the teaching of mathematics in the history of "low use" phenomenon

Although the mathematics curriculum standard attaches importance to the educational value of mathematics history, but in the elementary school mathematics teaching process, many front-line teachers of mathematics textbook of mathematics history is slid over, widespread "by low" phenomenon. In our of Xianning City primary school mathematics teachers visited the survey found, only about 50% of the teachers will take the initiative to textbooks of mathematics history interspersed in the classroom to explain, 40% of the teachers requirements students extracurricular reading historical materials of mathematics in the textbook, and at least 10% of the teachers never to students of this guidance. Of course with the deepening of the curriculum reform, the teachers of history of mathematics into the understanding of the curriculum and the active application awareness is enhanced, but when it comes to the application of history of mathematics in teaching, it is difficult to recall the related case, they in addition to trigger students' interest in learning and moral education, history of mathematics into the meaning of curriculum lack of deep understanding, of how to use the history of mathematics in teaching confused. Thus it can be seen that improving the quality of mathematics teachers in the history of mathematics, as soon as possible so that the history of mathematics in mathematics teaching should play a proper educational value, not only the needs of the times, but also the educational requirements.

History of mathematics literacy is an important part of mathematics teachers' professional quality, in the face of the reality of the current elementary school teachers of mathematics history of mathematics accomplishment is generally low, in-depth study of elementary school mathematics teachers of mathematics history literacy to enhance the effective strategy, to adapt to the curriculum reform, improve teaching quality, promote the professional development of mathematics teachers has a certain practical significance.

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