

Teaching Research on the Relationship between High School Mathematics Curriculum and Life Reality

Hao Shang¹, Li Zhang¹ and Yanzhi He^{1*}

Department of mathematics, School of science, Yanbian University, Yanji, Jilin, China, 133002.

Corresponding author email id: 2419302474@qq.com

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Abstract – Mathematics is all-encompassing. On the one hand, mathematics is embodied in our daily life. On the other hand, mathematics is gradually infiltrating into our technological life. Moreover, it is clearly pointed out in the "New Curriculum Standards for Ordinary High School Mathematics" promulgated by China: Mathematics is the foundation of natural science, and its position in economic science, social science and other sciences is becoming more and more important. For the time being, many teachers are in favor of linking mathematics to life, but generally feel that there are difficulties in practice. Therefore, this thesis studies the topic of "high school mathematics curriculum and life practice related teaching research", and studies the current situation of high school mathematics teaching at present, aiming at the main problems of current mathematics curriculum teaching, and puts forward the reality of life in mathematics teaching. An effective strategy for linking mathematics courses. The author combines the mathematics tutoring during his schooling and the acting class teacher during the internship, and comprehensively adopts the literature research method, the questionnaire method and the classroom observation method, and the first grade and the second class of a senior middle school in Yanji City and the school. The high school mathematics teachers conducted separate questionnaire surveys.

According to the investigation results, this paper puts forward the corresponding solution strategy: to be a teacher who pays attention to life, to be good at discovering mathematics problems in life; to be good at mining the material of life in the teaching materials, and to select examples as much as possible. Close to life; focus on their professionalism and the connection between mathematics and other disciplines, including their own intellectual literacy and ability literacy; create an open and interactive classroom atmosphere, actively encourage students to participate in classroom activities, and praise students for actively answering questions behavior.

Keywords – High School Mathematics, Curriculum, Life Practice; Connection, Teaching Research.

I. INTRODUCTION

Human beings are constantly improving and society is constantly evolving. Whether it is the progress of mankind or the development of society, it is inseparable from the power of science and technology. Mathematics is also closely related to it. No matter what period of the course teaching, in fact, should be as close as possible to the students to convey the knowledge of life as a starting point, so that students experience the charm and application of mathematics. For high school mathematics courses, this should be the case. Only by constantly letting students realize that mathematics is useful, they are willing to invest energy and time to learn and explore.

Since ancient times, the most widely used teaching mode has been teaching materials, classrooms, and teachers. This kind of teaching mode often forms a situation in which teachers inculcate and passively accept students, ignoring the subjective initiative of students as the main body in the whole teaching activities. Under the pressure of the test-taking, even some schools and teachers have produced the phenomenon of "sea tactics", "full house irrigation" and "study time" in order to improve the students' enrollment rate. This is also very unfavorable for the cultivation of students. This teaching model does not take into account the foundation and foundation of mathematics as a comprehensive discipline, or puts mathematics at a level that students cannot reach, ignoring practicality and applicability [1].

Teachers have always played an important role in the whole education process. The role of teachers is not only to cultivate students' individuality, but also to pass on the knowledge of students so that they can use them in the future life. However, due to the abstraction of high school mathematics teaching content, teachers basically do not go deep into the connection between mathematics curriculum and real life in the mathematics class, and it is difficult to create some concrete and vivid life-oriented mathematics teaching situations. The mathematics curriculum is unchanged, and the mathematics knowledge is still difficult to understand in the eyes of the students [2]. Most of the students are only forced to study mathematics in order to cope with the college entrance examination three years later. Some students even get bored or fearful about mathematics, the most unwilling to take mathematics, and the most afraid of exam subjects are mathematics and so on. Therefore, based on the above conditions, the research question of this paper: the high school mathematics curriculum is closely related to the reality of life is a subject worthy of study.

II. RESEARCH METHODS

The survey method of this research work is mainly based on the questionnaire survey, which is supplemented by the interview method and the observation method. The questionnaires are in duplicate and are aimed at students and teachers. The interview method is mainly aimed at the frontline high school mathematics teachers [3]. The main understanding is that the frontline teachers infiltrate the actual problems of life into the classroom and the students' ability to accept mathematics learning. According to the content of the questionnaire and the actual situation of the author, the author decided to investigate the first and second classes of a senior high school in Yanji City. One hundred

copies were distributed and ninety-five copies were collected. In order to make the results of the investigation true and reliable, the author, after consultation with his class teacher, chose to issue the questionnaire in the absence of the class teacher and conducted an anonymous investigation. For the teacher's questionnaire, the author surveyed the mathematics teachers of the high school year group. Among them, due to some objective reasons of the work, they did not investigate all the teachers in the math group. Only six math teachers were investigated, and then they were the six mathematics teachers conducted interviews to make up for the deviations that occurred during the investigation [4].

III. ANALYSIS OF SURVEY RESULTS

The survey was conducted in the first and second classes of a senior high school in Yanji City, with a total of 100 students. The questionnaire was distributed 100 times. 95 Students were collected with the cooperation of students and teachers. After the questionnaire was collated and analyzed, the results shown in Table below were obtained.

Table 1. Views of high school students on the connection between mathematics and life.

problem	Option (%)			
	Never found	Generally more	a lot, often used	
Do you think there are many problems related to mathematics in daily life?	34.20	47.20	18.60	
Do you often use mathematics to solve practical problems in your life?	Never before	occasionally	often	
	63.80	25.30	10.90	
What do you think of the connection between mathematics and real life?	Never	general	very much	
	43.56	34.78	21.66	
What kind of achievements do you want to achieve in mathematics?	Praise	Progression	Learning to use	Does not matter
	13.45	53.47	18.30	14.78
In the teaching of teachers, do you think that you are closely connected with your life?	no need	It is necessary	Very necessary	
	37.98	47.25	14.77	

Table 2. High school students' interest in mathematics learning and difficulties encountered.

problem	选项 (%)			
	Language	mathematics	English	
Which discipline do you like the most?	67.83	8.510	23.66	
What is your interest in mathematics?	nothing	Learning interest	Strong interest in learning	
	33.46	43.11	23.43	
What is your reason for being interested in mathematics?	helpful	Progression	Like math teacher	
	18.45	57.66	23.89	
When you have trouble with mathematics, what will happen?	Do not ask people	research	Ask a classmate	
	28.95	24.78	46.27	
In the classroom, are you often answer questions?	Never speak	Rarely	sometimes	often
	34.77	28.56	24.78	11.89

Table 3. Types of teacher lectures preferred by high school students.

problem	Option (%)			
	More abstract	Less interaction	book is simple	
What do you think is the difference between the teaching methods of junior high school mathematics teachers?	30.87	24.35	44.78	
What form of math class do you like?	Lecture Practice mainly	Self-study	Practice combination	
	16.1	14.18	34.11	35.61
What kind of class do you like teachers?	Lecture	Heuristic	the above	Exploratory
	13.91	13.11	59.87	13.11
In order to improve your enthusiasm for learning, have your teachers taken some measures?	Often taken	Has achieved results	Not taken	
	28.65	43.11	28.24	
What do you feel about studying mathematics?	effortlessly	Effort can be overcome	Unable to overcome	
	17.79	30.11	52.10	

When I designed the questionnaire questions, the first five questions were related to the students' views on the relationship between mathematics and life. I mainly wanted to investigate whether the current high school students have an understanding of mathematics in life. According to the data, most of the current high school students feel that there are very few practical problems related to mathematics in daily life, and the proportion of such students is 81.4%. Few people are able to discover mathematical problems in reality. In the data display of whether or not we can use the acquired knowledge to deal with some practical mathematics-related problems, we also find that basically students will not deal with practical problems in life, often using what they have learned. The number of people who have knowledge to solve problems in their lives is only 10.9%. Another key issue is that there are biases in the motivation of high school students to learn mathematics. Most people hope that the achievements in mathematics are only for the examinations that can achieve a good grade. The students account for 53.47%, of which students who study mathematics in order to be able to apply what they can learn in later life account for 18.3% of the total. It can be seen that the examination-oriented education has become the biggest problem since the implementation of quality education in China.

The 6-10 questions in the questionnaire mainly want to understand the high school students' interest in mathematics and the difficulties encountered in their studies. From the statistical data we can see, most high school students have a general interest in mathematics, accounting for 43.11%, and even 33.46% of students have no interest in mathematics, that is to say, more than half of high school students the interest in mathematics has been lost. The most important reason why the rest of the people are interested in mathematics is not the charm of mathematics itself, but only for the needs of further studies, they only study hard on the scalp. The children who have this idea are not in a small part 57.66%. Through the questionnaire, it is also found that the current high school students do not like to answer the questions raised by the teachers in the classroom. Only 11.89% of the students will answer the questions

frequently. The remaining students either answer occasionally or basically do not speak. Through the analysis of 6-10 questions, we know that the current high school students' interest in mathematics is basically lacking, and the enthusiasm for learning is also very low. There are also some problems in learning mathematics.

The 11-15 questions in the questionnaire mainly want to understand the current high school students' views on teachers and teachers. Through statistical data, we can find that nearly 44.78% of high school students now think that the content of the textbooks taught by teachers is simple, but one will not. The data shows that nearly 60% of students are eager to change the way teachers teach, eager for a new way of teaching, and the more popular is the combination of teaching and heuristic. Therefore, it is extremely urgent to change the teaching mode of teachers. Only teachers' teaching methods change, and more interact with students. Most of the practical examples related to mathematics in daily life are moved to the classroom, and students will find mathematics interesting and useful.

IV. STRATEGIES FOR LINKING HIGH SCHOOL MATHEMATICS COURSES TO LIFE PRACTICE

Mathematics itself is actually an imaginative and interesting subject, but through the questionnaire, it is found that current students do not think so. On the contrary, more and more students think that mathematics is an inscrutable and incomprehensible, useless subject. Even some people rank mathematics as one of their most feared subjects of study, and learners' enthusiasm for learning mathematics is also very low. There are many reasons for this phenomenon, such as the learner's own efforts, the students' own qualities, the talents they learn, and their study habits. Especially for high school mathematics teachers, compared with junior high school mathematics, high school mathematics knowledge is more abstract, and students will naturally feel very difficult to accept. So for high school mathematics teachers, how to present abstract mathematics in front of students in a way that is easy to understand and close to life is the key to teaching. Therefore, the teaching of mathematics curriculum in high school should pay more attention to the connection between mathematics curriculum and life practice. Teachers should shift the center of work to how to realize the connection between high school mathematics curriculum and life reality, instead of blindly explaining mechanically. Knowledge, let students mechanically remember, mechanically do the problem. Only make the teaching of high school mathematics courses become more life-oriented and more close to life. In this way, students' enthusiasm for learning can be aroused, making learners feel relaxed and boring rather than boring. In recent years, especially after the curriculum reform, the content of mathematics textbooks has paid more attention to "lifestyle." In the teaching process, it is necessary not only to train learners to treat the world with mathematical eyes, but also to train learners to learn to solve problems with mathematical thinking. So how do we link the high school math curriculum to the reality of life? We can work hard in the following aspects.

A. *Be a Teacher who Cares about Life Everywhere*

In fact, life is a huge mathematics classroom, rich living materials are around us, waiting for us to dig. There are mathematical problems in life, and one of the main duties of mathematics teachers is to train students to look at the world with their mathematical eyes. This requires teachers to be able to find out the mathematics problems in their lives, to pay attention to life, and to accumulate some materials related to mathematics. Only in this way can high school mathematics courses be established with life [5]. When students feel the reality of life in the mathematics classroom and really feel that life is inseparable from mathematics, students will take the initiative to learn mathematics.

There will be no absurd idea of "mathematical uselessness". To be a teacher who pays attention to life, you will find that there are many math-related problems in the middle. If you can bring these vivid and vivid math problems into the classroom, you will make the boring math classroom vivid and close to life [6].

B. *Good at Mining Textbooks*

Mathematics teachers are also good at discovering life-related materials in textbooks, and are good at finding practical cases related to life in the textbooks. Some life experiences that students already have should be the starting point of the high school mathematics curriculum. The teaching of high school mathematics courses should be as close as possible to the students themselves, and the problems in real life should be abstracted into mathematical problems to solve. In the end, I will return to real life [7]. At the same time, teachers should also teach in the whole teaching process in accordance with the basic concept of living close to life and connecting with life.

C. *Create an Open and Interactive Classroom Atmosphere*

Teaching itself is a process in which students and teachers interact and learn together and communicate. An open and harmonious classroom atmosphere is a catalyst for teacher-student interaction [8]. The classroom atmosphere is harmonious and harmonious, and the teacher-student interaction will become smooth and pleasant, and the teacher-student interaction and teaching quality in this atmosphere will also achieve good results. For high school mathematics courses, creating an open and interactive classroom atmosphere is essential. Open communication and interaction are not just the interaction between teachers and learners, but also the interaction between learners, groups and groups [9]. An open and interactive classroom atmosphere not only allows students to experience the joy of mathematics, but also the charm of practice.

V. CONCLUSION

The essence of linking high school mathematics curriculum with life practice is to let mathematics enter life and integrate life into mathematics classroom. It is a very feasible teaching method, which is also recommended and popularized in the teaching process. In the actual teaching process, teachers should start from the reality of students, connect mathematics with life, make mathematics problems

live, and make them feel the connection between mathematics world and real world, thus stimulating their interest in mathematics learning. With passion. Let them learn to analyze the world from a mathematical perspective and solve problems.

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AUTHORS PROFILE



Hao Shang (1993.03-), female, Jilin Province, China, master of Education in Yanbian University, as a postgraduate of Subject teaching (mathematics).



Li Zhang (1994.11 -), female, Jilin Province, China, master of Education in Yanbian University, as a postgraduate of Subject teaching (mathematics).



Yanzhi He (1966. 06-), corresponding author, male, Jilin province, China, associate professor, master's degree, master's tutor of Subject teaching (mathematics) in Yanbian University. Engaged in the study of mathematics curriculum and teaching theory.