

SOME SUGGESTIONS ON SCHOOL-BASED CURRICULUM CONSTRUCTION OF MATHEMATICS CULTURE FOR MIDDLE SCHOOL

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The curriculum aims at popularizing mathematics culture, so that more people can be motivated to understand mathematics actively and discover the value of mathematics. If you are a student, "mathematics culture" will change your attitude and emotions to mathematics. If you are a social learner, you will gradually think that mathematics is profound and interesting. If your work is far from mathematics, the mathematics thinking and literacy developed through the curriculum will also benefit yourself a lot.

INTRODUCTION

Mathematics culture is an important part of mathematics, which has a significant role in inspiring wisdom, building confidence, improving creation and application ability. In the study of mathematics education theory, mathematics culture has received great attention, but it has been in the edge position in teaching practice. In China, there are three main reasons for this situation: First, under the context of exam-oriented education, many people believe that mathematics culture does not help to mathematical learning. Second, pre-service teachers are generally lack of systematic mathematics culture knowledge. Third, middle school textbooks introduce little to mathematics culture, which lead to teachers and students to ignore the importance of mathematics culture to mathematics literacy.

Therefore, it is necessary to study some effective methods of popularization, our school-based curriculum construction is an attempt to promote mathematics culture among students and the general public, and it has been tested in practice. As long as one teacher conducts this kind of teaching practice, he then can popularize the knowledge of mathematics culture to the students and other teachers in his school, and participate more people in classroom activities through mathematical games and stories.

METHODS

We divided the school curriculum into several stages. In accordance with the principles of curriculum design and textbook compiling, we conduct a systematic analysis of the knowledge about mathematics culture, and prepare a set of curriculum content suitable for students of different cognitive levels and the general public. In a three - year junior high school or senior high school, teaching of mathematics culture may be arranged in four to five semesters, 8 times a semester.

For example, teaching topics: The Origin of Mathematics Symbols, The interesting π , The Emergence of Irrational Numbers, Appreciate Geometry, Enjoy Mathematics Games, Mathematical Beauty Appreciation.

SUGGESTIONS

The evaluation should combine qualitative and quantitative. Qualitative evaluation is based on expressive evaluation and adopts hierarchical system. Such as: writing research reports, classroom performance, hands-on operations. Quantitative evaluation should evaluate students' ability tendency from subjective test questions, which helps students to establish confidence.

After the test of several middle schools in Suzhou, China, the school-based curriculum program can successfully achieve the goal of popularizing mathematics culture in school. We will also make the content studied into video on the MOOC platform, so that the mathematics culture courses can be seen to the public outside the school.