

On the Cultivation of Innovation Ability of Mathematics Normal Students Based on the Second Classroom

Yanqiu Tang, Xiao Wu*

School of Mathematics and Statistics, Zhaoqing University, Zhaoqing 526061, Guangdong Province, China

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Abstract: This paper analyses the mathematics teachers need and urgency of cultivating the ability of innovation, discusses the mathematics students innovation consciousness lack of factors, put forward the theoretical basis for using first class, through the second classroom for mathematics teachers to carry out flexible space, rich contents, various forms of activities, promote students using the brain and hand, give full play to students' subjective initiative, in time to find new problem solving new problems, so as to promote the innovation ability of students.

Keywords: The second class; Normal university student; Ability to innovate

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***Corresponding author:** Xiao Wu, jxwuxiao@126.com

1 Introduction

With the continuous development of China's socialist market economy and the innovation of national development strategy, the thirst for innovative talents in all walks of life is stronger than ever before. On teacher education and the ministry of education innovation ability training and so on many times, made clear that "normal university to the goals of training high-quality professional teachers, insist on education, practice orientation, the concept of lifelong learning", "innovative teachers training mode, strengthening practice link, strengthen the ethics and education teaching ability training, focus on cultivating students

is social responsibility, innovation spirit and practice ability"^[1]. In March 2016, the opinions on strengthening the educational practice of normal university students issued by the ministry of education clearly pointed out the third point: "we should enrich and innovate the forms of educational practice, enrich the educational practice experience of normal university students by adopting diversified forms, and improve the educational practice effect of normal university students"^[1]. As the reserve army of teachers, normal university students will directly or indirectly enter primary and secondary schools to engage in education and teaching activities after graduation. Whether primary and secondary school students can cultivate their innovative spirit and ability from an early age has a great impact on whether teachers themselves have the ability and awareness of innovation. Therefore, strengthening the cultivation of innovation consciousness of normal university students is the key to improve the innovation quality of the whole nation and has important research significance to the cultivation of innovation ability of normal university students.

2 The requirement of society on the innovation ability of mathematics normal university students

"Innovation ability is the ability to continuously provide new methods, new ideas, new theories and new inventions with ecological, social and economic values in the field of technology and various practical activities, and to use new ideas and theories to discover

and analyze problems and find solutions from the perspective of reform"^[2]. The first class in the university mainly studies the basic professional knowledge and some professional skills, and mainly pays attention to the imparting of knowledge. As an extension of the first class, the second class focuses on various forms of social activities, discipline competitions and innovative activities outside the teaching schedule. The social activities carried out by mathematics normal university students mainly include: activities organized by various associations, voluntary teaching, volunteer teaching during holidays, and carrying out various social surveys in cooperation with teachers' subjects. The discipline competition activities mainly include: college students mathematics competition, national college students mathematical contest in modeling, financial modeling competition, *etc.* The innovative activities mainly include: applying for college students' innovation and entrepreneurship projects, college students' climbing plans, "challenge cup" innovation and entrepreneurship competition, *etc.* Make full use of what you have learned in the first class, and carry out a series of social service activities, discipline competitions, and innovation project research and study interest discussion under the guidance of teachers, which plays an important role in consolidating the basic knowledge learned in the first class, improving students' professional skills and training students' innovation ability.

3 Factors influencing the lack of innovation consciousness of mathematics normal university students

Guangdong to build a "new normal" implementation plan has been more than a year, according to a survey of math class students in our school, according to the results of math students' intellectual level is higher than the students in our school on average IQ of more than 80% proportion of students, the results show that the mathematics teachers' consciousness of innovation is not affected by mental factors. In addition, the survey results also show that the mathematics normal students in our school tend to be challenging, curious and imaginative. However, the actual innovation consciousness of college students is not consistent with the results reflected in the survey. In view of this problem, this paper traces the lack of innovation consciousness of mathematics normal university

students in our school, mainly due to the following reasons.

3.1 Backward innovative education concept

In recent years, some colleges and universities have a certain understanding and definition of college students' innovative education, but some colleges and universities still emphasize the imparting of knowledge and neglect the cultivation of students' innovative ability. This kind of traditional education severely restricts students' personality shaping and creative potential. In order to meet the standards, set by the school, many students just immerse themselves in "dead reading" and ignore the importance of practice. Although a variety of professional activities such as innovation and entrepreneurship competitions, mathematical modeling competitions, mathematical knowledge competitions and so on have been carried out in and out of school, most students regard these competitions as extracurricular activities and consider them dispensable, largely ignoring the real significance of such innovative activities.

3.2 Innovation education emphasizes theory over practice

At present, under the social development trend of "mass entrepreneurship and innovation", colleges and universities have opened innovative education courses for college students, but the courses are single, theoretical depth is not enough, and there are few connections with professional courses and other courses, making innovative education courses divorced from reality^[3]. In addition, the assessment of innovation education courses only focuses on asking students to write or design innovation and entrepreneurship plans, and has not been really put into the specific "actual combat" of innovation and entrepreneurship.

3.3 Lack of innovation ability of teachers of innovative education courses

Most colleges and universities only take innovation education as a course, and teachers are arranged by the students' schools and departments, but not assigned to a department to complete the teaching. Teachers of innovation education courses are not provided with professional training and practical operation, and lack of professional teachers with professional background and practical experience. In addition, the practice of innovative education has a very strong "real combat",

teachers' accurate guidance is more difficult.

3.4 Students' lack of awareness of innovation

Most students have a lack of awareness of innovation. They like to be satisfied with the status quo in daily learning and are satisfied with the ready-made answers. They will not actively ask questions, think and stick to the rules. In addition, with the general improvement of people's living standards, current college students lack the consciousness of assiduous study, arduous struggle, struggle and competition.

4 Measures taken by the second classroom to improve the cultivation of innovation ability of mathematics normal university students

4.1 to improve teachers and students' understanding of the second class

Taking the major of mathematics and applied mathematics (normal) in our school as an example, a leading group of the second classroom education has been set up for mathematics normal university students, to plan and improve the second classroom education system for normal university students, set up the second classroom credits, and put them into the teaching plan. For mathematics teachers to find work, understand the student needs, reasonable distribution of first class and second class time, using the established five professional association (the association of mathematical modeling, mathematical education association, the association of maths, statistics and financial association, program design association) rich innovation education activity type, improving the quality of activity. Through developing the mathematical culture festival each year for seniors, especially freshmen propaganda ideas and activities associated with the second classroom, using the college website, easy class, the number of public platform to show results of the second classroom, teacher as the second classroom instruction teachers encourage the higher-education groups, to efficiently with high quality to carry out the second classroom activities to provide a strong faculty.

4.2 Use professional associations to carry out practical activities suitable for interests and specialties of mathematics normal university students

According to the specialty characteristics of mathematics normal university students, mathematics

competition association and mathematics education association have been established in our school. At the same time, in order to cultivate the innovation consciousness of mathematics normal university students, mathematical modeling association, programming association and statistical and financial modeling association have been set up in the whole school to form "five professional associations". The establishment of professional association provides a new platform for extracurricular learning and practice for every student, provides a base for practical innovation and skill upgrading for application-oriented talents training in colleges and universities, and greatly stimulates students' innovation ability and spirit. In addition, also need to strengthen the cooperation between the school and enterprises, to provide students with "real combat" opportunities. The mode of "please come in" and "go out" should be implemented, so that students can keep abreast of social requirements for the development of normal university students, so as to better integrate theory with practice in the learning process. It is also necessary to advocate the cultivation of college students' innovation ability and encourage them to actively participate in the competition of college students' scientific and cultural works, such as "challenge cup" college students' innovation and entrepreneurship competition and college students' career planning competition. In addition, in order to improve the teaching skills of mathematics normal university students, the platform of mathematics education association is used to carry out the course ideological and political seminars, as well as lectures on teachers' moral education and mathematics literacy cultivation. Mathematical knowledge competition, blackboard writing competition, micro-lesson trial teaching competition and other activities are carried out by mathematical competition association, so that students can improve their mathematical teaching ability and cultural literacy through activities in the second class, and fully realize the importance of innovation ability.

4.3 Provide all-round guarantee for the second classroom activities

The second class is carried out on the basis of the professional association, and the professional association of our school has established a special management group, which provides a strong guarantee for the development of the second class. The types of activities carried out in the second class and the

results of the activities shall be uniformly collected and sorted out by the professional association. For the classes with a large number of participants and a high rate of awards, the honorary title of "innovative class" can be set, and appropriate funds shall be provided for carrying out innovative activities to fully mobilize the enthusiasm and enthusiasm of students to participate in the second class. In addition, in order to encourage the instructors to actively participate in the second classroom instruction, the workload of the instructors should be converted, corresponding remuneration should be given to the instructors, the tutor library should be established, and the instructors should visit and communicate at home and abroad on a regular basis. At the same time, senior teachers in primary and secondary schools are employed as practical tutors, and the system of application-oriented mentoring system is implemented, so that students can obtain theoretical and practical guarantees in innovative education.

5 Conclusion

As an important link in teaching practice, the second class, which focuses on cultivating the basic skills of college students and improving their comprehensive quality, forms a "complete education system" together

with classroom teaching^[4]. The innovation education of mathematics normal university students is still in the stage of development. In terms of the cultivation of innovative education for normal university students, we can go out and communicate with each other, learn excellent experience cases of other universities and combine with the actual situation of the university, and put forward more reasonable teaching measures in line with the development of students of the university, so as to train more excellent teachers for the development of the university and local education.

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