

# Study of LDS at Public Mathematics in Local Universities

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## Abstract

Analysis of the current situation and background of learning disabilities students at public mathematics in local universities of engineering is provided. We also discuss why these appear .

**Keywords:** Local Universities, Learning Disabilities Students(LDS), Status

## 1. Introduction

Under the current situation of "Double First-Class" and "Emerging Engineering Education", China government puts forward higher requirements on the quality of education. More than 95% of the universities in China belong to local governments. The majority of students from local universities have poor academic performance in high school. They do not form good learning habits, and their enthusiasm for learning is not high.

The urgency and importance of improving the teaching quality of education in local institutions of higher learning. "Continually improving quality is the lifeblood of higher education"! In March 2012, the ministry of education held a meeting to comprehensively improve the quality of higher education, issued and implemented several opinions of the ministry of education on comprehensively improving the quality of higher education, and made a comprehensive deployment of improving the quality of higher education teaching and related work. This conference has sounded our country comprehensively improve the quality of education mobilization order! Higher education should regard improving quality as the most core and most urgent task of education reform and development, which is also the only way for higher education development.

In November 2015, the state council issued the overall plan for promoting the construction of world-class universities and first-class disciplines, which defined the tasks and paths for building China into a education nation. There are more than 2,600 universities in China, among which more than 2,500 are local ones. The number and number of students account for more than 90% of the total in China. It has also trained a large number of qualified socialist construction talents for China and made important contributions to the national and local economic and social development. Moreover, local universities should take the initiative to participate in the construction of "double first class", with a considerable number of graduates going to key universities for further study. Therefore, the quality of education teaching in local institutions will directly affect the quality of education in China, and directly affect the overall level of human resources in China in the future! Therefore, it is of great significance to improve the quality of education teaching in local colleges and universities.

The necessity and importance of improving public mathematics students in local engineering colleges. With the development of education cause in China, higher education has entered the stage of "elite education" from "popular education". In local colleges and universities, a large part of students have passed entrance exam at the end, their basic knowledge and learning ability have a great gap compared with the previous students, the students previously did not develop good study habits, a lot of students is to adjust to the school was even regulate the professional, so their approval of the school is not high, the professional learning enthusiasm is not high too, forced to cope with the examination, and score is not ideal.

Every class, every school has excellent students and students with learning difficulties. It is generally believed that the top 20 percent of students are excellent students, the bottom 20 percent are poor students, and the rest are middle students. In this way, the underachievers in local schools will be a very large group. They did not take the initiative in their studies and did not pass many basic or professional courses. For the students with learning difficulties in public mathematics in local engineering colleges, they often fail to learn several public mathematics well, which finally leads to their disqualification of many professional courses, which fails to meet the requirements of bachelor's degree.

## 2. Status

Public mathematics in engineering colleges is a series of basic courses for engineering majors. These courses play an extremely important role in students' learning of follow-up courses and training of scientific thinking. In 2005, the sub-committee on the teaching guidance of mathematics basic courses for non-mathematics majors in higher education institutions of the ministry of education pointed out in the newly revised "basic teaching requirements for engineering undergraduate mathematics basic courses" that mathematics is not only a tool, but also a mode of thinking. Not only a kind of knowledge, but also a kind of accomplishment; It is not only a kind of science, but also a kind of culture. It is an important sign to measure the quality of national science and culture whether we can apply the quantitative thinking of mathematics idea. Mathematics education plays a unique and

irreplaceable role in training high-quality scientific and technical talents. Higher education is the foundation of the "100 years of making people", while university mathematics education is an important cornerstone of this foundation. Undergraduate course is an important stage for college students to lay the foundation, while engineering mathematics is the foundation of engineering students.

Local engineering colleges and universities of public mathematics poor student are often not just a mathematics to learn. They often didn't learn many courses of mathematics well, because of the strong correlation between these courses. For example, they have not learned advanced mathematics, linear algebra, probability theory probably well, and other mathematics are difficult to learn, resulting in a semester courses. They are overwhelmed by the burden of both learning new lessons and retaking old ones, thus forming the "domeller domino effect". In the end, many basic courses and specialized courses fail to pass the required level of bachelor's degree. Some students with learning difficulties do not get a degree certificate, and "lose their job when graduation".

Therefore, the "shortcoming" of students with learning difficulties directly affects the academic atmosphere of the whole class, the graduation rate, the placement rate and the professional construction of the whole school, and the overall quality of education teaching in local engineering colleges. The improvement of public mathematics students in local engineering colleges is the core and focus of improving the teaching quality of education in local engineering colleges.

Study status of students with learning difficulties in public mathematics in local engineering colleges. Some students with learning difficulties are forced by their parents to fill in the college entrance examination, which results in students having no interest in their major. There are still some students can't recognize and treat their major correctly, thinking that there is no future for them to continue to study, so the study is not secure, academic performance is not ideal, showing weariness. Most of the students do not like math and are subjectively afraid of it. The lack of interest in learning higher mathematics is accompanied by the expansion of college enrollment and the increasing number of students with learning difficulties in higher mathematics. However, they also have self-esteem and desire for progress. They are only temporarily behind because of various factors.

We have mastered solid teaching theories and have years of front-line teaching experience in engineering mathematics. We have been paying attention to students with learning difficulties in public mathematics for a long time. Courses taught include: engineering mathematics analysis (88 hours in English), advanced mathematics (88 hours in each class), linear algebra (48 hours in each class), probability theory and mathematical statistics (48 hours in each class), probability theory and random process (48 hours in each class), application of advanced mathematics (80 hours in each class), and complex function (32 hours in each class). Over 300 hours per year on average. Over the past three years, We have guided the undergraduate graduation design, including 5 undergraduates in 2012, 5 undergraduates in 2013, 4 undergraduates in 2014, and 2 undergraduates in 2016.

We once participated in the construction of the key course project "engineering mathematics analysis" of chongqing university of posts and telecommunications, and compiled the supporting teaching materials, which were praised by experts and students in and out of the university. The teaching reform project "teaching evaluation research and practice of public mathematics courses in colleges and universities" and "exploration of the integration of higher algebra and analytic geometry of mathematical science and information technology" have achieved positive results. Participated in the compilation of higher mathematics textbooks (mainly for information majors) and linear algebra textbooks.

The members of the research group have been working in the front line of teaching management or teaching practice for a long time, paying attention to the learning status of students with learning difficulties in public mathematics, accumulated rich relevant experience, and laid a solid theoretical foundation and practical foundation, which provide strong theoretical support and practical guarantee for the research and implementation of this project.

With the increasing number and proportion of students with learning difficulties, the problem of students with learning difficulties is becoming more and more serious, which has become the main reason influencing the teaching quality of colleges and universities. "The decision on deepening education reform and comprehensively promoting quality education" points out: "comprehensively promoting quality education, we should insist on facing all students, and create corresponding conditions for the comprehensive development of students respect students' physical and mental development characteristics and education rule, make students active and active to get development. Therefore, as the workers of education shouldering the historical responsibility, we should not only pay attention to the cultivation and exploration of excellent and middling students, but also not be more than nerve-racking to students with learning difficulties, either sitting on the bench, or ignoring them, or turning a blind eye, or even slandering. It is more worthwhile for us to enlighten, discover, awaken and care with the love of our teachers. They need our respect and attention more.

### 3. Research methods

- (1) literature research. The research data of education transformation for students with learning difficulties are compared and analyzed from a multidisciplinary perspective. The existing research results and experience and lessons are used for reference to grasp the development trend of the research.
- (2) investigation method. On the basis of the investigation, a comparative study was conducted to compare the students with the students without the implementation of the method.
- (3) case experiment. According to the theoretical results of the above research, the specific classes and students with learning disabilities in our school are combined to carry out practice, verify and improve relevant countermeasures, and practice again, in the hope of transforming students with learning disabilities and improving teaching quality comprehensively.
- (4) action research. The participating teachers discover and solve problems in their own practice, constantly practice, constantly revise, summarize experience, constantly improve and improve countermeasures, and improve the research level

Research on strategies and practices improves the mathematics performance of students with learning difficulties from the aspects of management, psychological counseling, teaching theory, examination methods and practice, and help them transform, thus driving their learning of professional courses. It can be used for reference by other universities to accumulate experience and give research report.

It is proved by experts that this subject has good theoretical significance and practical value, has a good research foundation, has a teaching and research team of unity and cooperation, and can further and comprehensively study problems and form valuable research results.

Tolstoy once said, "to live is to have a purpose." Students should pay attention to the ideal education, education students should have lofty ideals, and set up correct learning goals. We should respect students with learning difficulties, care about their life, be good at discovering the shining points of students with learning difficulties and timely praise them, enhance their confidence in learning, encourage them to move forward towards the established goal, and finally make them develop good learning habits. In the end, students who are emotionally attached to their teachers and believe that they will develop their potential to learn engineering mathematics well.

Through the methods of questionnaire survey, irregular interview, interview and tracking, the students with learning disabilities in different majors were investigated, and the internal and external factors of their formation and development were analyzed in various aspects, and the connotation of the students with learning disabilities was carefully sorted out and identified. The internal causes of the students with learning difficulties have special and complicated relations, such as bad learning habits, wrong learning methods, poor learning foundation, and family disharmony. The internal reasons include the basic reasons of students with learning difficulties in senior high school, the goal of learning, the will and perseverance of learning engineering mathematics, the learning method, the learning efficiency, the existing cognitive level and the ability of mathematical thinking. The post-80s generation is the first generation beneficiary of the large enrollment expansion of higher education. The overwhelming majority of the post-80s students become students with learning difficulties, which is related to the contemporary Internet. Internet addiction has become the main cause of most of the post-80s students. However, with the post-90s generation entering the university, Internet addiction is no longer the only reason for students with learning difficulties. Psychological problems caused by immature feelings, inertia caused by spoiled children and difficulties in life caused by family changes are also the main factors for students to become students with learning difficulties.

External reasons include: the reasons of teaching materials, teachers teaching reasons, management reasons and so on. Whether the textbook is suitable for students with learning difficulties, whether the teacher's teaching is targeted, and whether the methods of talent training in colleges and universities are scientific, etc. These are the factors that can't be ignored.

### 4. Conclusion

We obtain the following conclusion.

- (1) We should unify our thinking, effectively change our thinking, firmly establish the education concept that students with learning difficulties can be transformed, establish the education concept that everyone is a talent and everyone can become a talent, strive to innovate education model, care for students with learning difficulties and be responsible for them. There is no concept of "poor students", only the term "difficult students" or "difficult students education".
- (2) establish a long-term mechanism to improve students with learning difficulties in engineering mathematics. Through the research of this project, a set of effective operation mechanism of promoting transformation of students with learning difficulties is established.
- (3) establish a education research team for students with learning difficulties in engineering mathematics. Through the team's guidance, strengthen the cultivation and improvement of students with learning difficulties.

(4) education method of transforming mathematics students in engineering. With classroom teaching as the starting point and curriculum reform as the driving force, a scientific education method is formed to effectively improve students with learning difficulties.

(5) change the thinking pattern, cognitive style and bad study habits of students with learning difficulties in engineering mathematics. Guide them to find their own shining points and motivate them to learn. This paper studies the causes of bad learning habits of students with learning difficulties and explores strategies for the formation of good learning habits so as to improve their academic performance. Build up the confidence of students with learning difficulties to learn and become successful.

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- Funding: This work was supported by higher education teaching reform research of Chongqing Municipal (No. 173069).