
Promoting the Improvement of Teaching Quality by Scientific Research

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Abstract – Teaching and scientific research in colleges are interdependent, mutually reinforcing and inseparable. Teachers' scientific research activities can not only improve teachers' scientific research level, but also improve the quality of teaching. The thinking and analysis in this paper aims to improve the effectiveness of scientific research and give full play to the leading role of scientific research in school teaching.

Keywords – Scientific Research, Teaching Quality, Promoting Teaching with Scientific Research.

I. INTRODUCTION

As a place for cultivating high-level technical and management talents, the colleges should increase the vitality, strength and competitiveness of running schools, effectively improve the teaching quality [1] and transport higher-level graduates for the society. To achieve this goal, we must start from both teaching and learning, with both high-level teachers and high-quality students. Taking scientific research as a breakthrough and promoting teaching with scientific research has been widely accepted and fully reflected in teaching evaluation.

II. SCIENTIFIC RESEARCH CAN PROMOTE TEACHING

A. *Scientific Research is the Basis of Improving Teachers' Professional Quality*

Teachers' professional quality is the guarantee of improving teaching quality. Scientific research is indispensable to improve teachers' professional quality. First, teachers' participation in scientific research is conducive to the renewal of knowledge structure, which can promote them to better understand the development trend of modern science and technology, understand the needs of practice for theory and talents, and master the latest theoretical research results; Second, scientific research helps to improve teachers' academic level [2], so that teachers can stand at a new height, think and look forward to the development trend of new talents, and then think about the way to cultivate the best knowledge and intellectual structure of talents; Third, the scientific research process is a hard mental work, which can cultivate teachers' pioneering and innovative spirit and tenacious fighting spirit, and improve teachers' logical thinking and expression ability, at the same time, teachers can reevaluate their practical ability in scientific research and examine their educational ideas, teaching contents and teaching methods in teaching; Fourth, the development of scientific research activities and the improvement of teachers' quality have created conditions for the formation of teachers' backbone and promoted the construction of teachers.

B. *Scientific Research is the Basis of Constantly Updating and Deepening Teaching Contents and Reforming Teaching Methods*

With the rapid development of modern economy and science and technology, knowledge is updated faster and faster. Only by constantly enriching and reforming teaching contents with the latest scientific research

achievements can higher education meet the needs of social development and serve economic construction. Continuously absorbing the scientific research [3] achievements of academia and enriching and reforming the teaching content is determined by the nature of the task of guiding social practice in higher education. The systematicness of teaching activities determines the universality of scientific research activities. Scientific research in the process of teaching activities includes not only the research on teaching contents, but also the research on teaching methods. The focus of teaching activities is to solve the difficult, hot and key problems concerned by students. The deep-seated problems to be solved in the focus of teaching are the best combination of teaching and scientific research.

C. Scientific Research is the Basis of Cultivating High-Quality Talents

University teachers should not only master the professional knowledge of the subject, but also train students in research, research habits and research ability through scientific research. Only by cultivating talents in this way can they engage in creative work and directly participate in scientific discovery. The scientific research activities of universities are closely related to the growth of college students. The personal charisma of teachers in scientific research activities [4], such as professionalism, innovation consciousness, strong enterprising spirit and the consciousness of independent exploration, have a great impact on the success of students. In fact, many scientists in universities, their ability and style of commitment to scientific research, often have a subtle and silent influence on students' creativity, spirit and attitude.

III. SCIENTIFIC RESEARCH IS THE WAY TO PROMOTE TEACHING AND IMPROVE TEACHING QUALITY THROUGH SCIENTIFIC RESEARCH PRACTICE

Scientific research and teaching are two important functions of colleges and universities. On the one hand, colleges and universities explore truth and develop knowledge through scientific research, which constitutes the think tank of social development [5]; On the one hand, through teaching, tap and develop people's potential ability to accumulate knowledge and creative human capital for social development. The joint action of scientific research and teaching in Colleges and universities constitutes the source power of social sustainable development.

A. Scientific Research has Improved the Overall Level of Teachers and Promoted the Construction of Teachers

Teachers find and solve problems through the research of scientific research projects. This not only solves scientific problems, but also integrates the thinking methods and latest achievements of scientific research into teaching, promotes the cultivation of students' innovative thinking and innovative ability in undergraduate teaching, reforms teaching contents and methods, improves the level of theoretical teaching and experimental teaching, and improves teachers' professional quality and level. If you don't devote yourself to scientific research, you can only copy other people's materials in the East and West in teaching, or you can only explain the subject according to the book. To really improve the teaching quality, you must stand at the forefront of the discipline, understand the latest research results, update knowledge, strive to create something, and strive to take another step forward in the academic height that others have reached. On the other hand, to do a good job in scientific research, we need someone and gradually form a scientific research team. For example, if you receive a project, you need a team to do it. You should consider the structural components of the team and individual

division of labor. Through the research process of this project, we can gradually train a discipline team and strengthen the echelon construction, which should be very positive for the cultivation of teachers.

B. Scientific Research Promotes the Reform of Curriculum System

First, Scientific research promotes the renewal of teaching content. With the rapid development of science and technology, higher education has become popular. In order to strengthen undergraduate teaching and improve teaching quality, it is urgent to study the corresponding teaching modernization reform. The focus of teaching modernization reform lies in the modernization of teaching content, eliminate the old teaching content that gradually does not meet the requirements of the times, and introduce and develop new knowledge related to disciplines, the transformation of high-level scientific research achievements is needed to realize the organic combination of teaching and scientific research, so as to promote undergraduate teaching and improve teaching quality. Now teachers pay more and more attention to scientific research. Through scientific research, they can find the cutting-edge things in the field of this discipline and constantly update the teaching content. Teachers with rich academic achievements in scientific research participate in teaching work, which is conducive to enrich teaching content with the latest discipline development and academic achievements [6], better provide students with ideas, methods and experience to solve problems, and promote the renewal of teaching ideas and teaching content. Teachers engaged in scientific research will organically combine the knowledge points in the basic theory with the frontier of discipline development in the classroom. This combination is a very natural and natural combination. This is because some of the frontier topics of the development of these disciplines are teachers' own research fields or fields related to their own research topics. When he has a deeper understanding of this research field, he naturally has a strategic position when talking about basic courses, which really explains in simple terms, and sows seeds for further study of Undergraduates in the future.

Second, the reform of teaching methods can be promoted by scientific research. Because through scientific research, teachers may find or understand that a certain teaching method may be outdated or inappropriate. According to his logical thinking of scientific research, they will put forward some simple and clear ways that are more conducive to students to accept knowledge, views and theories, so as to promote teaching quality through scientific research. Scientific research has cultivated teachers' sensitivity to emerging fields. Teachers engaged in scientific research are always sensitive and easy to accept new educational technologies.

Third, the curriculum system can be optimized and reformed, and students' practical ability can be cultivated. According to their own scientific research work, teachers have changed the experimental curriculum. The new experimental topics reflect the development of the discipline. The experimental teaching process is easy to stimulate students' creative thinking. Take scientific research as the combination of education, encourage undergraduates to participate in scientific research activities as soon as possible, give full play to their rich imagination and creativity, and develop their scientific research potential. It improves students' knowledge structure, expands students' vision and improves students' ability to solve practical problems. Students' professional knowledge and practical ability have been improved, and the quality of undergraduate teaching has been improved.

C. Scientific Research Promotes the Construction of Teaching Infrastructure

In scientific research, teachers' research problems are unsolved problems or new fields. Most of them need to

use the latest instruments and device, which are generally purchased with scientific research funds. After the purchase of instruments and device, it is not only used in scientific research and mastering the use methods of instruments and device, but also used in teaching. On the one hand, the use of new instruments and device is to improve students' ability to use advanced technology and device, on the other hand, it is to start new experimental courses for new instruments and device. Through long-term scientific research and experiments, teachers have accumulated rich experimental experience, applied their experience to the design and updating of teaching device, and manufactured experimental instruments and device suitable for undergraduate teaching, simpler operation and good experimental effect. The use of these devices greatly improves the teaching effect and saves resource.

D. Cultivating Students' Innovative Spirit and Practical Ability through Scientific Research

During their study in school, college students will complete dozens of courses, and the task is relatively heavy. In the process of learning, we have always followed a model, that is, we always passively listen to the teacher talk about the knowledge in books in class. Students rarely take the initiative to learn by themselves, and lack the cultivation of their ability to independently analyze practical problems and solve specific problems. Students participate in some scientific research work, let them personally take charge of some small projects and research, put forward solutions and measures to solve problems by themselves, and implement the whole problem-solving process, which can not only cultivate their coping ability when they encounter practical problems, but also cultivate their initiative and enthusiasm in solving specific problems, Stimulate students' creative thinking, give full play to their rich imagination and creativity, and develop their scientific research potential. In the process of students' participation in scientific research activities, it not only improves students' knowledge structure, expands students' vision, cultivates their ability of logical thinking, but also cultivates their rigorous scientific attitude and work style, and improves students' ability to think and solve problems independently and practical ability. Teachers' scientific thinking methods, teachers' innovative thinking habits and teachers' scientific literacy have a subtle impact on the cultivation of students' scientific quality in the teaching process. This influence is non-literal, but its effect is huge. Generally speaking, teachers engaged in scientific research are exploratory, not superstitious about authority and dare to question. These qualities are reflected in the teaching process as not superstitious about teaching materials, good at raising open questions, guiding students to think actively and participate in discussion, which has opened up students' innovative consciousness.

IV. CONCLUSION

In short, promoting teaching with scientific research is an important way to improve the quality of curriculum teaching. The introduction of scientific research achievements into classroom teaching can enrich the teaching content, improve students' interest in learning, and help students better understand the content of teaching materials. College teachers should correctly handle the relationship between teaching and scientific research, promote teaching with scientific research, realize the coordinated development of teaching and scientific research, and cultivate high-quality talents for national construction and social development.

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