

# Combining Scientific Research with Teaching to Improve the Quality of Personnel Training

1<sup>st</sup> Zhao Yuzhen  
*School of Sciences*  
*Xijing University*  
 Xi'an, China  
 zyz19870226@163.com

3<sup>rd</sup> Yang Zhao  
*School of Sciences*  
*Xijing University*  
 Xi'an, China  
 zhaoyang@xijing.edu.cn

2<sup>nd</sup> Yuming Li\*  
*School of Accountancys*  
*Xijing University*  
 Xi'an, China  
 2505487201@qq.com

4<sup>th</sup> Zhun Guo  
*School of Sciences*  
*Xijing University*  
 Xi'an, China  
 guozhun1987@163.com

**Abstract**—Scientific research and teaching in Colleges and universities complement each other. Scientific research is the "source of living water" of teaching and teaching is the "invisible power" of scientific research. High-level scientific research results are the source of impetus to promote the development of colleges and universities. Teachers in Colleges and universities must correctly understand and handle the dialectical relationship between teaching and scientific research. Combine scientific research with teaching to improve the quality of personnel training in an all-round way. This paper mainly discusses the effective ways to combine scientific research with teaching, to promote teaching by scientific research and to support scientific research by teaching. The two complement each other and jointly promote the quality of personnel training.

**Keywords**—*Scientific Research, Teaching, the Quality of personnel Training.*

## I. INTRODUCTION

The report of the Nineteenth National Congress of the CPC points out that socialism with Chinese characteristics has entered a new era, and the main contradictions in our society have been transformed into the contradictions between the people's growing need for a better life and the unbalanced and inadequate development. In terms of educational needs, people are more willing to receive higher quality education. From the perspective of social benefits, in recent years, great achievements have been made in the cultivation of talents in higher education, which plays an irreplaceable role as the main force in the construction of a strong talent country and a strong human resources country. However, compared with meeting the needs of the people, there is still a certain gap in the development of higher education in China, which can not fully meet the needs of the people and the objective needs of all-round development, personality development and lifelong development. Therefore, the undergraduate training program of ordinary colleges and universities should pay more attention to how to improve the quality of personnel training, and how to match the needs of social development for talents and people's all-round development while guaranteeing the quantity and scale. This paper explores the combination of scientific research and teaching to jointly promote the quality of personnel training[1-3].

## II. THE RELATIONSHIP BETWEEN SCIENTIFIC RESEARCH AND TEACHING

Scientific research is the "source" of teaching. Without the support of scientific research, university classroom teaching will lose its "soul". Experts point out that teaching without scientific research is an education without opinions. Teachers with a high level of scientific research are bound to think more deeply and thoroughly about teaching content, grasp knowledge more accurately, and teach more easily "in-depth and shallow", which is conducive to students' learning and understanding. Moreover, the attention to scientific research enables teachers to constantly enrich the most cutting-edge academic achievements into their classes in time, and makes up for the "gap" between the original curriculum knowledge and the latest research, which will greatly attract students' interest in learning. In addition, the promotion of scientific research on teaching is not limited to the content of teaching. In the University classroom, scholar-type teachers influence students more by their way of thinking, rigorous attitude to scientific research and assiduous learning spirit[4].

Teaching is the "invisible motive force" of scientific research. Without paying attention to teaching, teachers may lose the opportunity to improve the level of scientific research. Many teachers feel that classes, lesson preparation and correcting students' homework will occupy the time and energy of scientific research, and invest too much, which is harmful to the development of scientific research and development. In fact, if we want to give students a glass of water, teachers themselves have to have a bucket of water, high-quality teaching will effectively promote teachers' scientific research work. In order to teach a good lesson, teachers must not be confined to the curriculum knowledge. They must have profound knowledge and broad horizons, which will help broaden the thinking and field of scientific research work. In the process of elaborate lesson preparation, teachers need to read a lot of research materials related to the curriculum, which will prompt teachers to think deeply about professional issues. In addition, teachers should never neglect the role of mutual Enlightenment between teachers and students in the classroom. Perhaps in the process of discussion with students, teachers will get new scientific research inspiration. Therefore, teaching can become a powerful driving force for scientific research[5,6].

### III. COLLEGES AND UNIVERSITIES PROVIDE A PLATFORM FOR THE DUAL TASKS OF TEACHING AND SCIENTIFIC RESEARCH.

College teachers shoulder the dual roles of teaching and scientific research. This is different from research institutions, which only carry out scientific research or train graduate students through scientific research projects, while colleges and universities, in addition to graduate students, there are tens of thousands of undergraduate students. All the work of the school should be centered on cultivating talents, and teaching and scientific research should assume different functions under the goal of educating people. It has set up a platform for us to combine teaching and scientific research. From the point of teaching and educating people, it is not only the traditional educational idea that focuses on systematically disseminating scientific knowledge, but also the deeper knowledge. Scientific research and practice are the source of knowledge creation. In colleges and universities, teaching and scientific research are the means, training talents and creating knowledge are the purpose, while talents promote scientific research, and knowledge created by scientific research in turn supports personnel training[7,8]. The educational function of colleges and universities is shifting from focusing on disseminating knowledge to simply emphasizing teaching function, to teaching and educating people, so as to cultivate talents with all-round development of morality, intelligence and physique, solid foundation, broad knowledge, strong ability, high quality and innovative spirit. The change of educational thought has led to a series of changes in the educational mode and teaching mode of colleges and universities, which put forward higher requirements for our teachers' teaching and scientific research. Teaching and scientific research permeate each other. Teaching activities are carried out while scientific research is carried out. Scientific research results support teaching reform. Teaching and scientific research interact with each other. Teaching and scientific research are mutually beneficial. Shanghai University has created a good learning and research environment for our teachers and students, enabling them to improve their knowledge level and research ability together in teaching and learning, change their teaching concepts, change from imparting scientific knowledge to imparting scientific research methods, cultivate students' innovative consciousness and spirit, and adopt modern methods. The teaching means and methods make students become explorers and creators from simple receivers of cultural knowledge.

### IV. THE PROMOTING ROLE OF TEACHING IN SCIENTIFIC RESEARCH

Through undergraduate and postgraduate teaching, we have the experience that teaching practice can make us understand the basic theory more thoroughly. Even for the theoretical knowledge they have learned and studied, once they need to teach the students, so that they can understand and grasp these theories smoothly, they will certainly think more deeply about the familiar theories. Through this process of thinking, we can promote our understanding of the basic theory, and thus have a better theoretical basis for our research activities[9].

The teaching requirements are deep and simple. When teaching courses, it is easy to deepen the content, but it is not easy to teach students plainly and make them easy to understand, master and accept. In-depth research can bring better basic conditions for scientific research; shallow is not to simplify the problem, which requires a precise grasp of the nature of the problem, is the process of re-upgrading and condensing knowledge. We should broaden our horizons and look at problems from different perspectives, so as to promote our reasoning to a deeper level. Our aim is to make teaching more effective, but in the process of teaching, it plays a role in promoting scientific research.

### V. SUPPORT AND GUIDANCE OF SCIENTIFIC RESEARCH TO TEACHING

Professors are advocated to undertake basic courses for undergraduates because they have a solid foundation in scientific research. Professors engaged in teaching will have a positive impact on teaching. Teachers who have scientific research projects and always stand at the forefront of scientific research can grasp the development of the discipline, have a broad vision in the teaching process, rich theoretical knowledge and a thorough understanding of the problem. Only by engaging in scientific research and mastering abundant knowledge can we broaden our thinking and make classroom teaching lively and easy for students to accept and understand knowledge. The positive influence of scientific research on teaching is obvious. To improve teaching quality, besides the reform of teaching methods, it is necessary to improve teachers' quality and knowledge level, master basic knowledge, and practice and apply it in scientific research work[10]. Only in this way can we build a high house in the teaching process, make it simple and in-depth, and stimulate students' interest in learning. In scientific research work, we will constantly encounter new problems, explore new ways of solving problems, accumulated research methods will consciously and unconsciously bring into the classroom, so that students learn to ask questions, analyze problems and solve problems, rather than just mechanically learning knowledge from books.

### VI. SUMMARY

The combination of teaching and scientific research is the fundamental way to train high-quality talents and produce high-level scientific research results, and the motive force to promote the development of disciplines and specialties. Especially, the material conditions of experimental teaching can be effectively improved with the support of funds of scientific research projects, including the improvement and renewal of teaching experimental instruments and equipment, and the addition of new experimental items. Objective To improve the level of the original experimental teaching. The scientific research achievements have promoted the academic status of the specialty, and are also the basic factors affecting the construction and development of teaching. The quality of students is high and the requirements for teachers are high. Teachers must consciously renew their knowledge in order to meet the needs of students. Full-time teachers can improve their knowledge structure and academic level through scientific research activities of their specialty and related disciplines, deepen their understanding and understanding of their specialty, and thus acquire advanced and scientific knowledge. In order to serve the economy and society more quickly and better, students broaden their horizons, improve their learning initiative and improve their comprehensive quality. Once this

virtuous circle of scientific research and teaching is formed, it will help to form a good style of study, and the formation of a good style of study can also promote the scientific research work of colleges and universities, so as to achieve a good combination of teaching and scientific research, teachers and students at various levels and in all directions.

#### ACKNOWLEDGEMENTS

This work was supported by the Scientific Research Program Funded by Shaanxi Provincial Education Department (Program No. 17JK1160), National Natural Science Foundation of Shaanxi (Grant No. 2017JQ2037), Special fund for high-level talents of Xijing University (Grant No. XJ16T05).

#### REFERENCES

- [1] C.X. Hou, X.D. Tang, G.P. Kang and J. wang: *Journal of Higher Education*, (2018) No.16, p.24-28. (In Chinese)
- [2] L.J. Chen, Y.H. Ruan, H.Ma: *Journal of Higher Education*, (2015) No.22, 72-73. (In Chinese)
- [3] J. Shi: *Education and teaching forum*, (2015) No.34, 275-276. (In Chinese)
- [4] R.L. Zeng, H.M. Zhao, H. Shen, J.M. Mei, B. Zhou and J.D. Jia: *Education and teaching forum*, (2017) No.15, 192-193. (In Chinese)
- [5] C.Q. Li, J. Wang, J. Li, Z.Q. Zhang and W.G. Shi: *Education and teaching forum*, (2014) No.37, 61-62. (In Chinese)
- [6] H.Q. Zhang, M.R. Ren, X.J. Gao, A.J. Yan and Q.W. Fan: *Research in Teaching*, Vol. 31 (2008) No. 5, p.436-439. (In Chinese)
- [7] X.X. Yuan: *Higher Education Forum*, (2008) No.5, p.12-13. (In Chinese)
- [8] J. Yang: *Experimental Technology and Management*, Vol. 33 (2016) No.3, p.436-439. (In Chinese)
- [9] H.D. Zhang, J. Xie and E.C. Jiang: *Guangzhou Chemical Industry*, Vol. 44 (2016) No.1, p.155-156. (In Chinese)
- [10] C.X. Chen, J.Q. Hong and M.L. Ye: *Experimental Technology and Management*, Vol. 34 (2017) No.4, p.195-198. (In Chinese)