Investigation and Analysis on the Current Situation of Young Teachers' Scientific Literacy in Private Colleges—Taking Shanghai Sanda University as an Example

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Abstract. The article takes Shanghai Sanda University as an example, investigates and analysis young teachers' scientific literacy in private colleges through questionnaire survey. And then puts forward some countermeasures to improve.

Research Background and Significance

With the development of private higher education, accelerating the process of popularization education in China; meeting the needs of economic development; promoting the rational allocation of educational resources. Private colleges started late, mainly based teaching. But with the school development and social needs, school must rely on the way of improving the quality and promoting the construction of connotation. In order to improve the teaching quality, professional disciplines is the key, teaching quality is foundation, and the scientific research work is the support of the construction and teaching quality.

Young teachers in private colleges are an important part. Scientific research as a kind of comprehensive thinking training activities can effectively improve teachers' thinking ability, and enrich their knowledge structure, so as to improve teaching ability. Therefore, the improvement of scientific research quality of young teachers in private college plays an important role in personal business quality and the development of school.

The Basic Situation of Young Teachers in Sanda University

In order to make a better research, we conducted a survey. A total of 280 questionnaires were distributed, 250 were recovered, 250 were valid, the effective rate was 100%, and the recovery rate was 89%. The questionnaire mainly aimed at young teachers of school and some administrative staff (this part of teachers assume teaching task), the young teachers defined as the age of 45 years and the following staff. We use SPSS PASW.Statistics.v18 for data analysis.

Through the 250 young teachers' questionnaire, it can basically reflect the basic situation of young teachers in our school. At present, the number of female teachers more than the male. Young teachers are mostly concentrated in age of 26 to 40 years old. Most of young teachers are bachelor degree or above. The teacher who's seniority in 1 years, 1-5 years, 5-9 years and 9 years are more balanced distribution. Most of young teachers are intermediate grade and high titles. Most of the intermediate grade teachers' seniority is in 5 years and above, and the high title of teachers' seniority mostly more than 9 years. 45 and the following young teachers are no advanced titles.

Investigation on the Current Situation of Young Teacher's Scientific Research

Shanghai Sanda University has 23 anniversary celebrations. Target is in the construction of application oriented, international, high level of private Applied Technology University; with professional as the leading, discipline as the support, focus on teaching and research team. The scientific research work in our school have high requirements: focus on education and teaching work,
scientific research promoting teaching, to help the connotation development, and gradually formed the subject of academic team, research direction, subject base and academic achievements. And the development of scientific research work should be carried out in the end to the teacher.

Education and scientific research is a deep understanding of phenomenon and problems of education, teachers without the accumulation of scientific research, can only stay in the shallow level of teaching, so it's difficult to meet the private college students' further knowledge needs. The formation of teachers' scientific research quality is the foundation of scientific research work. In this study, research focus on four aspects: the understanding of the scientific research spirit, the accumulation of the scientific research knowledge, the scientific research ability and the scientific research work.

**The Understanding of the Scientific Research Spirit**

Scientific research spirit includes: recognition of their own roles, awareness of the problem, information and cooperation.

Most of young teachers in our school recognized the importance of scientific research. Teaching is based on scientific research, which can be further promoted. Teachers teaching reform is based on scientific research, that can improve their own quality and improve the professional growth.

In the questionnaire, the author investigate” Research an effectively improve the quality of teaching”. Young teachers who are agreed and agreed very well are accounted for 80.8%. For high title, the identity of this issue is the highest, and the intermediate grade teacher is the lowest.

Through descriptive statistics, for the question” Teachers should focus on teaching, scientific research let the institutions to carry out”, the teachers who do not agree with and completely disagree with are accounted for 66.4%.Senior teachers of this view not identity is higher than other professional teachers.

**The Accumulation of the Scientific Research Knowledge**

The accumulation of the scientific research knowledge mainly refers to the theoretical knowledge and methods that is necessary in the scientific research work. In addition to the necessary knowledge, the education and scientific research knowledge is indispensable for teachers to carry out. It is mainly based on the theory of educational research, such as education, psychology, educational statistics, and educational culture and so on. These are of general guiding significance to scientific research.

Currently our young master, doctor in the study period mostly research work under the guidance of their tutor, and sometimes they are embarking on the tutors' scientific research project. So when they go on jobs, theoretical level and practical experience of the deficiency limits the research work carried out.

For accumulation of educational theory knowledge, the survey found that, as shown in Fig. 1. 55.6% of young teachers read the works of educational theory, 59.2% concern the teaching subjects dynamic. Teachers have the theoretical basis of the scientific method, but the foundation is a bit weak. 72.8% teachers just general visited a couple of the education research method of books, only 13.6% of them are deeply, systematically read. For the accumulation of theoretical knowledge, the teacher autonomy is strong, and for the accumulation of education theory 80% of the teachers are working to find the problem after the conscious study.
Young teachers do not go deeply into the field of subject dynamic; it's probably to grasp the information inaccurate, and impact teachers research and topic choice. If teachers are less accumulation in teaching methods and educational theory, then on the problems encountered in the practical work can only stay on the surface, cannot analysis and summary deeply. And the research on subject is not up to the theory of high degree of understanding; it will undoubtedly make achievements into work experience summary.

The Scientific Research Ability

Teachers engaged in teaching and research should have a certain ability to discover problems, predict the ability of design, information filtering, the ability of actual operation and express in writing. The study discusses the teachers' scientific research methods, the ability of scientific research data analysis and the literature analysis.

Due to the rapid development of the network, information sharing has become an important function of the network. From the survey, we found that 91.6% of the teachers get the information through network. 71.2% of teachers bought books and periodicals, and 70% of them through school library to obtain information.

For scientific research methods, the young teachers are familiar with the survey method, experience summary method, literature research method. See Fig. 2. The correct choice of teachers' scientific research methods can avoid the blind practice and unnecessary mistakes, and it is also a guide for teachers to carry out scientific research work. Too much use of experience summary method, will lead to the teacher too much emphasis on experience and speculation, is not conducive to the collection of scientific research information. Rational use of scientific research methods, can make the research work carried out more smoothly, more with less work.
The ability of young teachers to deal with the data with statistical knowledge is not optimistic, only 10% of the teachers are able to handle the data completely, and the 71.6% can only partially deal with statistical data. It's explaining the relative lack of statistical knowledge. See Fig. 3. The teachers are most familiar with the survey method, but if the data or information to investigate no through the analysis of the scientific method, teachers can only stay in the representation of the data or information, and cannot find essential elements and phenomena, the investigation of development is to get less effective.

The degree of data processing using statistics.

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The collation and analysis of literature data is the prerequisite for the smooth development of scientific research work. Document collection is the necessary way to collect first-hand information. The young teachers in the school are not optimistic about the literature data collection and analysis. 32% young teachers are able to sort out and analyze the literature data, and 65.2% teachers can sort and analyze, as shown in Fig. 4.

Analysis of document data.

The teachers who lack of basic methods of scientific research and related scientific knowledge may lead to the analysis problem more superficial. And have a ripple effect in collation of argumentation topic, research design, operations research and information analysis and report writing. It and cannot reach the best effect of scientific research work.

The Scientific Research Work

Familiar with scientific research program is the basis of scientific research work. After investigation, the young teachers are more familiar with the scientific research program, and fully familiar with the 67.2%.
● Undertaking scientific research projects
Most teachers have experienced scientific research and cultivation, the quantity and quality of the declared subject has been improved. In the past two years, the approval of the project was 119, the winning rate of 58%. Research funding is also gradually increased.

The application of primary scientific research projects in the school is more ideal, 68.4% of the teachers have presided over or participated in Shanghai colleges and universities training funding project for young teachers or the backbone of private college teachers' project. Shanghai colleges and universities training funding project for young teachers is more favorable to private schools, annual can apply for about 20 or so. The backbone of private college teachers' project in 2011, we applied for 131.Teachers who had applied for the school scientific research foundation is 34.4%.

But for a high level of competitive projects, such as the morning light or sunshine project, is a little weak. Only 8% of the teachers presided over or participated in these projects. For team projects, teachers are also relatively few.

● Published Articles
Scientific research papers are the results of teachers' scientific research work. In the past two years, teachers in our school published about 250 papers, the core journals published 80 at most, the high quality EI more than 10 articles. After investigation, the number of published papers is not optimistic, and over half of the teachers have only published 1~2 articles in 3 years. 3 years published articles more than 6 is only 2.8%. And 3 years didn't publish the article accounted for 28.8%.

● Time and power of scientific research
Teachers' lack of positive emotional experience, scientific research spirit and scientific research power, are not particularly adequate. The motivations for scientific research are almost professional title, appraised or school requirements.

The survey found that 89.1% of young teachers think the research time is not enough, 25.4% of the teachers think that the lack of library and laboratory research equipment. At the same time, some teachers think the reasons for the research work carried out few are that economic shortage and the leaders do not attach importance. With a variety of factors, the total time of the week that teachers carry out scientific research work is not ideal. In a week, 80% teachers carry out the research work is one day or the following. As shown in Fig. 5.

![Figure 5. Teachers to carry out research work time per week.](image)

**Measures to Enhance the Scientific Research Ability of Young Teachers**

Teachers in private college to enhance research capacity mainly depend on two aspects: First, the support and guide the schools' research policy. Second is to continuously improve of their own scientific literacy.
Create the External Environment

● System Guarantee
Formulate and improve various systems to provide institutional guarantees for teachers to participate in research. At the same time to promote scientific research management, standardized and institutionalized.

Develop and improve research activities related incentive and restraint mechanisms and evaluation mechanism is an important guarantee for the smooth development of the research work of teachers. Incentive mechanism of scientific research can effectively stimulate young teachers' enthusiasm and initiative, create young teachers to participate in scientific research atmosphere, and also can improve the efficiency of the scientific research work of the team of teachers. Restraint mechanisms can regulate the young teachers to participate in scientific research activities, and guide young teachers to establish a good academic moral cultivation. The assessment mechanism is let young teachers have certain pressure in scientific activities. At present our school has some management systems; some of them still in the modify stage. In addition, according to the views and suggestions of teachers, establish and improve the reimbursement system is also very necessary.

● Improvement of scientific research project management, guidance and service system
Research Project Management can be in two ways:
First, combine the target management with process management. Target management is a means of control by setting measurable goals, and fines the reality gap, timely detection and correction. Process management is a process of dynamic management, to find out and correct the deviation in time. Target management is a means of control by setting measurable objectives, and to detect and correct shortcomings reality. Process management is a process of control, and dynamic management can find and correct the error. In the research management, management can be the ultimate goal by objectives, combined with the project management process.
Research process management mainly refers to the success of scientific research projects, scientific research management department of the open research questions; manage mid-term examination, inspection and concluding stages of the work.
Second, strengthen the two level management systems. Two-level management can audit the project materials. And also can improve the efficiency of management, the specific topic related problems can be solved. At the same time, the two-level management can establish mutual cooperation between teachers, the development of cooperative relations. It can give full play to the role of teachers.

● To create a learning atmosphere, build learning platform, and to provide convenient conditions
First, create a learning atmosphere.
We can organize scientific research activities seminars, salons, and form a positive research culture, to give teachers a platform in a relaxed loose, free and equal exchange.
Pay attention to the construction of the research team to help teachers identify research methods. It has a positive meaning in improving the level of scientific research and school teachers overall level of scientific research.
To strengthen ties and cooperation between schools and other institutions of higher learning and scientific research institutions, and lead teachers to the combination of theory and practice way.
Second, build learning platform.
At present, teachers in private colleges are in urgent need of professional theory and professional practice ability and professional training. In addition, some teachers pointed out, lack of relevant training information is one of the difficulties they faced.
Young teachers are an important part of teachers in private colleges. For them, on-the-job training may be more important significance. Private college teachers generally graduated from the traditional university, but they are confronted with non-traditional students and training programs, to perform non-traditional objectives and teaching content. Therefore, strengthen the training of young teachers in private colleges, which is decided by the particularity of the private colleges.
To enhance the scientific literacy of teachers, in addition to rely on individual efforts and the support of the school of continuing education, effective and efficient ways to improve teachers' scientific literacy. School can invite famous scholars, experts, academic reports and scientific research or short-term training, on the one hand, can help teachers to understand the new trends in the development of scientific research, on the other hand can help teachers understand the scientific process. Especially pay attention to the declaration on teachers' subject instruction. At the same time to strengthen the teachers' project management, research methods, research ability, analysis and processing of statistical data and other aspects of the guidance and training.

Third, provide convenient conditions.

School need to provide a good scientific research environment for teachers as much as possible, including the necessary material resources and information resources. The teachers' scientific research needs a lot of literature, based on the network of our times, only the book is not enough, still need to have more journals database, especially foreign periodicals database.

Strength the internal force field

● Update the concept of consciousness, and understand the value of scientific research correctly

Young teachers should enhance the importance of research work for understanding. The development of the school cannot without the scientific research work, and research work is the professional development of teachers. It is the source of teaching innovation, also is the basis for the cultivation of innovative talents.

● Strength the theoretical study, and enrich their knowledge structure

Teachers doing research need to have basic knowledge, but also need to have more thorough understanding of their professor discipline, especially focus on the frontier of knowledge. Scientific literacy of teachers in scientific research including: basic knowledge, basic methods of scientific research and scientific knowledge. Teachers should not only master the professional knowledge of the discipline, also should have the education, psychology, management science and other disciplines of knowledge, in order to establish the knowledge network.

Teachers doing research, largely depends on the correct methods of scientific research. Correct and effective research methods can shorten the research process. Generally speaking, the common research methods are: experience method, observation method, experimental method, survey method, literature research method, and the action research method and case study method. Teachers should grasp the basic principle in the use of each kind of scientific research method, and combined with the previous lessons, summarize from practice carefully.

● Pay attention to practice, combined with teaching and research

The teachers should clarify the relationship between teaching and scientific research. Young teachers can combine the theoretical knowledge with teaching practice. Teacher should consciously observe, think and solve all kinds of problems in the teaching activities of vision, and improve the phenomenon of education insight. Let the teaching reform of the hot and difficult problems as the main content of scientific research, and research on the theory and practice of binding sites.

References

