

## Exploring practice teaching in Chinese universities

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**ABSTRACT:** The main methodological approach to general university education in China is to include both, theoretical and practical teaching. Practice teaching for students is a means of cultivating in them a sense of innovation, while acquiring practical ability in a real-life context. It helps to improve the overall quality of the students and personnel training, which is extremely important as it contributes to the attainment of university educational goals. However, universities often place less emphasis on practice teaching than they do on theoretical teaching. Starting from an analysis of the problems and the status of university practice teaching, the authors put forward several proposals on how to strengthen university practice teaching.

### INTRODUCTION

Training students in universities to meet the needs of society is a systematic project. Both theory and practice education is important for these university students. Practice teaching at university improves students' quality by cultivating in them innovative and practical abilities. In recent years, affected by the global financial crisis, the difficulty of employment for university graduates has become more of a problem for them. In fact, their employability is the main question graduates face when searching for employment. It reflects the deficiency of university practical training and the practice education should be strengthened. Therefore, it is important to promote the development of practical education in universities because it can help to build social and economic development, which is important for satisfying a growing demand for graduates.

### THE STATUS OF PRACTICE TEACHING IN UNIVERSITIES

Practice education is different from classroom teaching. Practice education is a basic requirement for training personnel in universities and is an extension of classroom teaching. Practice education is an effective way to enhance the theory taught in the classroom [1]. University practice education has many forms, such as professional practice, e.g. through internships; ideological theory; military training; and social practice. At present, universities pay less attention to practice than they do to theory education. There is no accepted system for practice education in universities and this includes its construction or design, implementation, mode of operation and the teaching materials.

### THE PROBLEMS OF PRACTICE TEACHING IN UNIVERSITIES

#### Orientation of Schools in Universities

For a long time, Chinese universities were under the jurisdiction of the Central Committee of the Communist Party and local government. As a result of this direct jurisdiction, schools lost their individual character, leading to a similarity of training across universities, and the phenomenon of *small and complete, only but not fine*. The standards proposed by government for different schools focus on pure academic aspects, such as degrees, key disciplines, key laboratories, papers published and scientific research. As a result, most universities pay more attention to scientific research and less to the students' education. At the same time, due to the impact of years of the planned economy, many universities have not adapted to the demands of the market economy.

Universities neglect the requirements of the economy for practice education. Meanwhile, the excessive pursuit of academic knowledge becomes an obstacle to the cultivation of students' ability to innovate. As a result, it is difficult for university students to meet the diverse needs of the community.

## Understanding the Practice of Education in Universities

At present, the attention paid to practice education at universities is, to a great extent, close to theory and propaganda, without any real implementation [2]. In reviewing the history of the development of Chinese university education, it will be not difficult to find that the education systems have always exhibited the problem that knowledge has been more important than practical ability, and the inculcation of knowledge has been more important than the practice.

As it stands now, and because of its popularity, Chinese higher education pays much more attention to theoretical and academic education, ignoring innovative ability and practice in professional skills. University curricula mainly are courses on theory, with practice courses as a supplement. Hence, teaching mainly is focused on the classroom, with practice teaching as a supplement.

In such a system, the purpose of practice training is to enhance the understanding and mastery of theoretical knowledge, rather than the cultivation of a student's ability to analyse and solve problems. This education mode is out of touch with changes to industry and the market demand for talent. As well, it is an obstacle to the cultivation of students' practical and independent innovative abilities. The graduate's competitiveness in the jobs market is eroded and they find it difficult to adapt quickly to real working environments and job roles.

### Formalised and Superficial University Practice Education

Practice education has become an important issue for universities. There exists a formalised but superficial implementation of practice education in many universities. These universities have developed rules and regulations regarding practice education that they find difficult to carry out. For example, the major universities have realised the importance of practice education for university students' employment, and have added practice courses to their teaching plans. But many of these practice courses are purely nominal because of the limits of funding, faculty staff, teaching venues, training equipment and other factors.

First, there is a large gap between the funding available and the requirements for practice education. In recent years, with the expansion of university enrolment and the increasing wealth of society, school expenditure has increased year on year. For many universities, the investment in practice education is relatively high, while the enhancement of students' quality and innovative abilities does not bring immediate benefits to the school. Thus, these institutions lack enthusiasm for investing limited funds for the implementation of practice education.

Second, the staff of practice education is limited in experience and staff turnover is high. University laboratory technicians are regarded as *supplementary* staff by the universities and are not regarded as important. Compared with teachers, they have low status and salaries, which affects their attitude and enthusiasm for work. This results in a lack of practical tutors. On the other hand, the PhD is considered an *iron threshold* by which to recruit teachers at a considerable number of universities. This leads school administrators to focus on the candidate's degrees rather than their abilities.

Universities devote much attention to the construction and development of education structures [3] and academic research structures, with appropriate professional titles for teachers, while ignoring the practice education teachers' quality and ability. Many tutors lack experience of practice education and so are ill-equipped to implement practice education for students.

Third, because of insufficient funds, there is a shortage of training facilities, equipment and laboratories in universities. For example, at some universities, the education facilities are poor, the classrooms are scheduled tightly, and the tutor teams are not properly organised, receiving no professional training. At other universities, the laboratories allow only for a small number of students, who participate in research or competitions, resulting in a deficient system for most students. What is more, the chances of getting an internship are small, due to the shortage of training facilities and equipment in some universities. All of these factors lead to deficient training for students and this affects the quality of practice education.

### University Teaching Material

Traditional practice materials are aimed at helping the students to deepen their understanding and application of theoretical knowledge, almost without taking into account the cultivation of students' abilities to innovate. Society is developing rapidly, but traditional practice material changes slowly, and this has not kept pace with the development and revolution of modern science.

The inadequate education facilities at many universities have meant teachers must instill knowledge only during classroom teaching. Furthermore, teachers use traditional training methods that have changed little over the years, with hardly any innovation or reform. For most science and engineering universities, practice education mostly consists of demonstrative or confirmatory experiments instead of designing experiments or expanding on existing experiments.

In much of the practice education, the instructors completely arrange the work: they tell the students all the methods, procedures and conclusions to expect. This makes students no more than puppets manipulated by the teacher. Such an approach to practical education seriously hinders students' independence of thought, or the opportunity to think proactively, or innovatively.

There is no Perfect System for Practice Education

Many units at a university have practical activities, e.g. academic schools, as well as activities related to ideological and political theory; the armed forces; a students' affairs division; the communist youth league; and a student union. Practical activities organised by these are concentrated on practice education. However, there is a lack of co-operation and a disconnection between these units.

Many universities have not developed an adequate evaluation system for practice education. The deficiency of recognised and standardised evaluation criteria makes practice education seem superficial. The practical activities at some universities are organised mostly by the students themselves and, hence, is relatively dispersed. It is difficult for teachers to provide timely guidance. Because of the difficulty of supervision, guidance is superficial, and this is bad for students in terms of improving their practical ability.

On the other hand, some universities set up training facilities with enterprises. However, university regulation of practice education is not in place and the evaluation mechanism is inadequate. Many training facilities are just a decoration [4].

## MEASURES TO STRENGTHEN EDUCATIONAL PRACTICE AT UNIVERSITIES

Practice education is an effective way to combine theoretical knowledge with practical ability and is an important trend in higher education. The following measures have been developed by the authors to guide the construction of an adequate practice training system.

### Establish Training Goals

With the rapid development of modern society, the demand for talent is constantly increasing. Major changes have taken place in the structure of the economy and, as a result, competition among graduates has grown more intense. Universities must monitor closely current social and economic development, as well as market demands. Hence, universities should institute reforms to improve the implementation of practice education.

Universities should have the consciousness, enthusiasm and urgency to cultivate innovative talent using practice education. They should establish practice education, delivering quality training of innovative talent. They should focus on the kind of person to cultivate, and how to cultivate such a person, i.e. *on what and how to cultivate*.

Universities should set the curriculum and textbooks according to the personnel training requirements, as well as building and assigning content to theory and practice education. The curriculum should reflect latest developments in the discipline, as well as its social context. It should strive to improve constantly the practice teaching as a way to promote the practical and innovative abilities of students.

Universities need to put more funds into practice education, to improve the hardware facilities and, especially, to construct laboratories and practice bases for training. The effect should be to improve practice education and optimise educational resources.

Universities should attach special importance to the construction of training bases outside their schools. School-company co-operation facilitates in-depth personnel training and scientific research [5]. Often, the training base has the newest technology and applications and is the training centre for professional and technical personnel for the enterprise. So this school-company co-operation can be a win-win situation.

By improving and expanding the practice education platform, the training base can become an important facility for students by which to improve their practical and innovative abilities. Based upon the above, universities can establish a diversified base of practice education. A new education model can be built that combines decentralised and centralised activities.

### Attend to the Overall Planning of a University Education Practice System

University education should be driven by the demands of society. These should be combined with teaching and subject characteristics, to produce a system that cultivates talent who can adapt to the needs of social and economic development. This educational system should be complemented by a more theoretical education. Universities should:

- strengthen the construction and implementation of a practice education curriculum;

- produce a practical education plan;
- arrange a reasonable schedule for all types of practice;
- the curriculum should increase the proportion of elective courses, to expand the scope of practice education.

These measures would provide a broader scope for practice education for university students and enhance the co-ordination with basic theory. Improvement results from the balance between compulsory and elective courses, and from education in classrooms and education outside classrooms. Thus, is achieved an optimisation of practice education.

Universities should strengthen the leadership and management of practice education, integrate and co-ordinate all of the departments involved and break down departmental barriers. This would enable different forms of practice education to connect and co-operate, thus, improving the effective operation of practice education at the university.

Also, universities should develop and improve their educational programmes for practice education. The quality assessment and evaluation for practice education should be improved. Universities should further build and improve the quality monitoring system for practice education, standardise the rules and regulations, and strengthen management. Supervision, inspection and timely feedback should be improved, so as to solve problems during training.

### Reform of University Practice Education

Practice education is the most important aspect of training for students. It has an irreplaceable role in cultivating students' practical and innovative ability. Universities must insist on the teaching principle of *taking students as the main body, taking ability as the standard*.

Alongside the teaching of theory, practice training and social practice, the opportunity and content of research activities should be increased, so as to cultivate students' adaptive and creative abilities. Teachers from a classroom teaching background have to come to regard students as being at the centre of education, and change the thinking of education as blind indoctrination. Teachers should make full use of multimedia technology, so as to increase students' enthusiasm and, hence, enhance the effects of education.

Universities should reform examinations, and develop an evaluation system based on new evaluation standards. The evaluation system should focus on evaluating the training of university students against the needs of the market and society.

Universities should deepen their connections with enterprises:

- The enterprise can help set the goals for the practice education, according to the reality of the marketplace the society demands.
- Experts in the enterprise can participate in the formulation of the practice education plan.
- The enterprise can contribute to the evaluation content and criteria.
- The enterprise can help monitor and perfect the training system.
- Constant improvement of the mode of education practice and setting the goal for practice curriculum education are needed that accord with the reality faced by students and the demands of society. Practical activities in an enterprise enable students to strengthen their professional knowledge and the ability to relate theory to practice, thus, improving the quality of students, and laying a solid foundation for success and later all-round development [6].

Universities should ensure that university practice education is incorporated into the training plans. Moreover, a student's visit and investigation, simulation activities, research and societal services should be treated as a whole. They should also make the activities systematic, standardised and proceduralised. The plans should draw upon information in textbooks and from teachers. It should produce a training timetable, assessment scheme and identify funding to ensure the effective development of practice education at universities. Through the innovation of practice education, a universal model with long-term effect can be established for Chinese education [7][8].

### Strengthen the Practice Teaching Team

Practice education staff are an important group at universities. If universities want to promote practice education reform further, they must pay attention to the role of these teachers. For universities, the construction of an education practice team with reasonable structure, dedication and professional ability is important for improving the quality of education. First of all, it is not reasonable that a higher degree is the only *threshold* for a university teacher. It is better to bring varied talents into a practice teacher team to provide rich, professional knowledge, strong practical ability and a combination of theory and practical experience.

First, high-level teachers should be encouraged to engage in practice education and management. They could strive to explore the education theory with the professional practice. Universities could also employ experts from companies or institutions as part-time practice teachers.

Second, universities need to improve and enhance the treatment of practice teachers by creating a comfortable working and living environment for them. Assessment indicators should be quantified and related to treatment. This would increase their enthusiasm and attract more high-level talent to work in practice education. The education practice team needs to become strong.

Third, universities should try to cultivate and improve teachers' practical ability, as well as construct and then improve the system of teachers' learning about business and training. Universities could send teachers with excellent quality, outstanding ability and dedication to business units. There they could increase their knowledge and improve their practical ability. Through such targeted training, the teachers' professional practice level would be increased.

## CONCLUSIONS

The 21st Century is characterised as the knowledge economy. Talent must be innovative to succeed in this new century. However, there is a lack of practical activities when training students. Methods to develop the ability to innovate, and mechanisms to stimulate students' practice innovation, are lacking. Educational methods are monotonous and backward-looking. Teaching materials are not up to date and teachers lack education practice ability; they also do not promote innovative thinking. The existence of these problems within university education has affected seriously the cultivation of university students' innovative ability in practice. The university should be the cradle from which to cultivate a new generation of society's builders.

One must recognise the importance of practice education, be aware of educational targets, promote the reform of practice education, improve the status of practice education, as well as improve the practice education assessment and monitoring system, so as to cultivate new talent having not only high professional theoretical knowledge but also outstanding practical and innovative abilities.

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