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Original Paper

Higher Education in China should Increase the Proportion of Practical Teaching

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Abstract

With the evolution of society, the demands on human resources have also changed significantly. In the face of such changes, the field of education also needs to adapt. Current higher education in China, influenced by Confucianism, places more emphasis on theory than practice, leading to a lack of applied, innovative, and complex talents in the market, so the proportion of practical teaching should be increased. By discussing the benefits of practice for knowledge, talent development, and employment, this paper illustrates the important role of increasing the proportion of practical teaching in Chinese higher education today, guiding students to become applied, innovative and complex talents with solid theory and good quality and suggesting improvements in response to the problems currently faced by practical teaching.

Keywords

Higher education, Practical education, Practical teaching, Theoretical teaching

1. Introduction and Context

The term “practical education” has already existed in the history of education in ancient China, such as Mozi’s idea of putting learning into practice, the idea of using science and technology as the content of education, and the six arts during the Western Zhou Dynasty, namely ritual, music, archery, riding, calligraphy and mathematics. During the Western Han Dynasty, Emperor Wu of Han put forward the idea of “dismissing a hundred schools of thought and respecting only Confucianism” based on the advice of Dong Zhongshu. The core of Confucian culture is benevolence and love, characterised by a preference for theory over practice and morality over skill. As China has long been influenced by Confucianism, emphasising theory over the practice has occupied an important place in school education (Yan, Tian, & Peng, 2017).

Chinese schooling is more theoretical than practical, but practical teaching is as important as theoretical teaching. A study by Cobbinah and Bayaga (2017) found that higher education in China is experiencing difficulties in employment for graduates, and there need to be more applied, complex, and innovative talents in the market. Osakede, Lawanson, & Sobowale (2017) learned that Chinese undergraduate students generally need more innovative thinking and creative skills. At the same time, the knowledge learned in school cannot be flexibly applied to practice. Because the traditional teaching model in universities is one in which teachers impart knowledge from the lectern while students sit passively and listen without proper practice. In this teaching model, students are in a passive and fixed state, which is detrimental to personality development, lacks teacher-student interaction, and is not conducive to developing students' independent learning skills. As a result, students need better innovation abilities and cannot meet the talent needs of social market development (Hu & Gong, 2022). Meanwhile, the development of practical education abroad is relatively mature, with the UK, Germany, and the US has made great achievements in cultivating practical talents (Yao, 2017; John, Molepo, & Chirwa, 2017).

The development of the economy and society is constantly pushing higher education to the forefront of the times society. Facing society and serving economic development and social progress have become the general trend of higher education reform. Therefore, cultivating talents to meet the market's actual needs has become a real problem for higher education reform (Ji, 2008). Firstly, the number of professional practice teachers in higher education needs to be increased. Secondly, the cooperation and collaboration between the various functional departments that serve and manage students' needs to be strengthened. Thirdly, there is a lag in practice teaching and a lack of novelty in the educational content. Fourthly, there is a lack of recognition in evaluating the effectiveness of practice teaching (Mijiti, Duan, & Fan, 2022).

Therefore, the position statement of this paper is that higher education in China should increase the proportion of practical teaching so that students achieve unity and relevance to knowledge, skills, and abilities. As an educational concept, the practical teaching mentioned in this paper is distinguished from practical teaching in the traditional sense. While practical teaching in the traditional sense tends to stop at experiments, internships, graduation designs, and other practical engineering teaching links, the practical teaching proposed in this paper places more emphasis on the whole process of talent training, such as experimental teaching, internship teaching, graduation designs, science and technology innovation, social practice and physical exercise. More specifically, it can be flipped classroom, computer application, software application, independent research, discussion class, project collaboration, fieldwork, interdisciplinary research, and exchange learning programs. Moreover, the important role of increasing the proportion of practical teaching in Chinese higher education is illustrated by discussing the benefits of practice in three areas: knowledge, talent development, and employment.

2. Claim 1: Practical Teaching is Important for Students to Acquire and Consolidate Theoretical Knowledge

Practical and theoretical teaching are the two major links in cultivating talents in higher education institutions. As an old saying goes: “Read ten thousand volumes of books and travel ten thousand miles.” Reading ten thousand volumes of books is a demonstration of knowledge and learning. Walking ten thousand miles is the accumulation of practical experience. These two are essential components. Through practical teaching, students gain a more intuitive understanding of the theoretical knowledge they have learned and continue to apply it in practice, thus deepening their memory. Therefore, practical teaching is an important means for college students to learn and consolidate theoretical knowledge.

Moreover, human knowledge results from exploration, induction, and summation through the practice of countless workers (Wang & Yin, 2005). For example, in order to learn to swim, one has to go into the water to practice, medical progress is made through the experiments of medical practitioner’s time and again, and the development of astrophysics is made through the observations of astronomical telescopes time and again.

Under the influence of traditional teaching methods, teachers take up much time to explain the theoretical knowledge of professional courses in a lesson, resulting in insufficient time for students to carry out practical work. And coupled with students’ lack of self-control, their energy and time spent on practical activities after the lesson is necessarily limited. The lack of practical activities and practical time for students directly leads to problems in their application of theory and is detrimental to students’ understanding of professional knowledge (Kan, 2020). However, practice is necessary to help students transform theoretical knowledge into competence (Li & Xian, 2005). Practical teaching can help students to understand theoretical knowledge better and develop their ability to relate it to practice (Chen, 2015). For example, teachers explain the theoretical knowledge to students, guide them to make concrete interpretations and practical applications of the theoretical knowledge, and show students practical procedures and guide them step by step. Simply put, practical teaching allows students to apply their course knowledge to concrete practice, thereby developing their academic literacy and operational skills (Mijiti, Duan, & Fan, 2022).

Practical teaching looks at talent development; unlike traditional teaching, there are many different ways. For example, experimental teaching, practical teaching, graduation design, science and technology innovation, social practice, and physical exercise. More specifically, it can be a flipped classroom. The results of a study involving 433 business students over three years suggest that the flipped classroom format improves students’ final exam results. Furthermore, there were no other negative effects (Guy & Marquis, 2016). Another study with 142 undergraduate nutrition majors confirmed that the flipped teaching method was more likely to engage students and increase their enjoyment of the course (Gilboy, Heinrichs, & Pazzaglia, 2015).

Higher education has the sacred mission of cultivating talents, imparting knowledge, and serving society. To cultivate such talents, on the one hand, we need to pay attention to the learning and mastering of book knowledge during the college years to lay the necessary knowledge foundation for their future to go to society and serve society. On the other hand, we need to increase the proportion of practical courses for college students so that through practical activities, college students can be exercised and grow the ability to link theoretical knowledge with practical. For example, when students memorise knowledge for exams, their brains often only remember the knowledge, but only in the short term, and they will soon forget it, whereas knowledge is more likely to develop into long-term memory through practical sessions such as experiments and project collaboration (Bhat, 2021). Through practical teaching, students gain a more intuitive understanding of the theoretical knowledge they have learned and continue to apply it in practice, thus deepening their memory. Therefore, practical teaching is important for students to acquire and consolidate their theoretical knowledge.

3. Claim 2: Practical Teaching is an Essential Means of Quality Education and Cultivating Innovative Talents

Theoretical teaching is the main source for students to acquire basic knowledge and fundamental theories and is the main channel for knowledge transfer. Practical teaching, however, is more intuitive and comprehensive and is an important part of quality education and talent cultivation goals. Therefore, practical teaching is an important way of quality education and training innovative talents.

Through practical teaching, universities can build “student innovation centres” to promote the integration of multiple disciplines and cultivate innovative talents and build a new system for practical teaching with the development purpose of multiform, cross-cutting, and innovation, and the fundamental goal of cultivating students’ innovative, practical ability (Tong, Chen, & Li, 2020). At present, some higher education institutions suffer from poor communication between departments, inadequate integration of resources and service guarantees, and practical teaching focuses on the form but neglects the substance, resulting in students’ low motivation for practical teaching and affecting its effectiveness. Therefore, practical teaching needs to fully use effective resources inside and outside the university to provide students with social practice, scientific research, competitions and volunteer services related to the curriculum. to expand the scope of learning and practice and promote the improvement of teaching effectiveness and talent cultivation (Mijiti, Duan, & Fan, 2022).

The main components of innovative capacity development are school, students’ independent learning, learning and practice and social practice (Xu & Chen, 2010). The essence of practical teaching is to allow students to experience, construct knowledge and apply their knowledge to solve problems in practical activities. At the same time, students’ involvement in social practices can facilitate their knowledge of society and raise their awareness of the present economy and social progress (Ji, 2008). Moreover, in practice, students are guided to understand society, improve their quality, grow their talents, develop their character and exercise their perseverance. Shows that social practice not only

promotes university students' contact with society but also has practical significance in deepening professional understanding, career choice, and transition to the workplace (Mijiti, Duan, & Fan, 2022).

It was found that there is a certain lack of regulatory control over the assessment results of practical education, no authoritative institutional recognition system, and subjective emotional involvement in the evaluation process (Mi, Duan, & Fan, 2022). Because the evaluation of traditional teaching is mainly in the form of examinations, defences, and essays, there is a more authoritative recognition system. At the same time, the practical skills assessment mainly focuses on practical reports and practical works. However, this also makes the evaluation of practical teaching more diversified and can combine various aspects of the assessment to evaluate students to enhance their innovative abilities (Yao, 2017). The university can take the form of writing or discussing and writing an experimental report in comparison and analysis. By writing lab reports, students can further familiarise themselves with and master their thinking skills, creativity, and ability to analyse problems.

Through project practice, students can explore and discover knowledge on their own and be able to educate themselves, analyse problems and solve them, thus enabling them to explore knowledge in the process of constant trial, error, and correction. At the same time, it cultivates students' quality of questioning and inquiry, corrects their rigorous and realistic learning attitudes, cultivates good habits, and builds their relentless spirit of knowledge, observation, thinking, and practical skills. It also stimulates students' interest and motivation in learning, improves their overall quality and helps them to establish a correct worldview, outlook on life, and values (Li, & Xian, 2005).

4. Claim 3: Practical Teaching can Increase Students' Adaptability in the Employment Process

According to the visits to some enterprises, the current undergraduate graduates' ability to adapt to the enterprise is relatively weak, and it takes a long time to adapt, which generally takes about two years. After accepting undergraduate graduates, some enterprises will even arrange for them to study in the enterprises' technical schools for a period of time and pass the examinations of the technical schools before they can start their jobs. This reflects the conclusion that there is a gap between the practical ability of university students trained by higher education and the actual requirements, and there are problems in integrating higher education with production practice. Most of the university teachers lack practical experience, new teachers have no practical experience, and some of the older teachers who have practical experience need help to understand the industry's reality because they have worked within the school for a long time. On the one hand, due to the disconnection between higher education and social production, the professional knowledge and skills learned by university students during their school years cannot adapt to the requirements of the changing social and economic structure, and when they graduate, they cannot adapt to the needs of the job market and thus cannot be successfully employed. On the other hand, due to the insufficient connection between what they have learned and the actual production, university students generally lack adaptation to their positions after graduation (Ji, 2008). However, good practical teaching can increase the adaptability of students in the

employment process and help graduates to adapt to the social environment.

Yuan (2022) research study found that students in many schools have low participation in various competitions and practical activities within the school. More importantly, the awareness of some subject knowledge competitions and research competitions is low among the university student population. Also makes the important role of practical teaching in developing practical education in higher education less prominent, but its position is still important, and there is more room for improvement. Universities can help students understand the realities of the industry through cooperative education and by inviting elites who have worked in the field for many years to pass on their work experience (Schomburg & Teichler, 2018).

The promotion of cooperative education will certainly deepen the reform of practical education in universities. Cooperative education is an educational model in which schools and enterprises work together to train human resources to meet the production needs of society. The American Council for Cooperative Education describes cooperative education as "combining classroom study with paid, structured and monitored job opportunities in the public or the private sector to enable students to cross campus boundaries and face the real world in order to gain the practical skills, increase self-confidence and clarify career directions". The World Cooperative Education Association describes co-operative education as: "Co-operative education combines classroom learning with work-based learning, where students apply theoretical knowledge to real-world practice and then bring back to school the challenges and insights they encounter on the job, thereby contributing to teaching and learning in schools" (Ji, 2008).

The negative impact of weak practical education on the development of higher education is significant and affects not only students but also schools and society. The impact on individual university students is that it creates employment barriers for students, which affects the development of the school, and the impact on society is the lack of composite and applied talents. Therefore, universities should strengthen the management of students' internships, deepen students' mastery of the knowledge and skills taught, and develop students' adaptability to employment (Sun & Zhang, 2008). Moreover, the aim is to train application-oriented talents and adopt a flexible and diverse approach to teaching students to meet the needs of social development (Stylianides & Stylianides, 2017).

5. Discussion and Conclusions

The main finding of this study is a focus on practical teaching in higher education and why it is important in higher education and what should be done to increase the proportion of practical teaching in higher education. This is because, in the Chinese education system, there has long been a relative emphasis on theoretical teaching to the detriment of practical teaching due to the influence of Confucianism. In higher education, practical teaching has been in a passive position and does not account for a large proportion of the curriculum. In terms of ideology, existing research has revealed that at this stage of higher education, there is a somewhat insufficient understanding of practice in

terms of guiding ideology, and there is a tendency to emphasise theoretical teaching and neglect practical aspects.

With the development of the times, knowledge is leaping forward to change at an alarming rate and is accelerating indefinitely. Society's requirements for talents are becoming higher and higher, not only in terms of solid basic knowledge, but also in terms of strong learning and adaptive ability. Changes in the way society operates make competencies beyond professional knowledge skills such as cooperation, coordination and management skills increasingly important. In this context, therefore, higher education can no longer be confined to the transmission of knowledge but, more importantly, to the development of the various competencies that students will need when they go out into society. Teachers at university should not only make students 'learn', but also make them 'learn'; they should not only teach them knowledge, but also give them the 'key' to open the door to knowledge. It is important to focus on improving students' ability to analyse and solve problems correctly.

This study found that in the development of competencies, practical teaching can play a role in the understanding and consolidation of knowledge, giving students the opportunity to make the transition from knowledge to competence. For example: the ability to innovate, to think, to solve problems, to communicate, to coordinate, to deal with interpersonal relationships, to socialise, to cooperate, to manage and to resolve conflicts, and to take risks. At the same time, the penetration of practical teaching into the whole process of higher education is not only conducive to improving the overall quality of students and cultivating innovative talents, but also to increasing students' adaptability in the employment process.

Promoting practical teaching is an important project in the reform of higher education teaching, and it is very urgent and necessary to increase the proportion of practical teaching in teaching in view of the trend of economic and social development and higher education development. However, it can be understood from past studies that there are certain limitations in the implementation of practical teaching in higher education. For example, the number of professional practice teachers in universities is insufficient, and the cooperation and collaboration between the various functions that serve and manage students need to be strengthened. There is a lag in the form of practical teaching and a lack of novelty in the content of education and a lack of recognition in the evaluation of the effectiveness of practical teaching (Mi, Duan, & Fan, 2022). Most university teachers lack practical experience and are less aware of the realities of the industry due to their long time working within schools (Ji, 2008).

In addition, the study proposes some solutions to the problems encountered in previous studies. The study argues that universities should think more rationally about this and promote cooperation between universities and companies in practice. For example: helping students understand the realities of the industry through co-operative education and inviting elites who have worked in the field for many years to pass on their work experience (Teichler, 2018), and raising the importance teachers attach to practical education, giving full play to the main role of teachers and updating teaching concepts through regular training exchanges. At the same time, universities need to strengthen the cooperation

and cooperation of various departments, forming a coordination mechanism between teaching units under the leadership of the university and various departments such as academic affairs and the league committee to serve practical teaching. Moreover, universities should make full use of modern technology to guide students to become applied, innovative and complex talents with solid theory and good quality through rich practical teaching (Mi, Duan, & Fan, 2022). However, specific collaborative strategies regarding the education sector and other stakeholders need to be further researched.

To conclude, in the process of higher education, cultivating the talents needed by society is the overall direction of educational reform and development. First and foremost, both schools and teachers need to actively promote teaching and learning activities in line with the requirements of the times. Secondly, schools and teachers need to formulate special educational research programmes to promote the development of practical education activities in higher education based on the analysis of the current situation obtained from research studies. In summary, this paper discusses the benefits of practice in terms of knowledge, talent development and employment to illustrate the important role of increasing the proportion of practical teaching in Chinese higher education today, and to vigorously promote the reform of practical education and advocate an increase in the proportion of practical teaching in Chinese higher education.

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