

A study on Chinese teacher education professional accreditation based on the standards comparison

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Abstract-By comparing with the American CAEP teacher education accreditation standard, we study the characteristics of Chinese teacher education professional accreditation (TEPA) and the differences between Chinese and American accreditation standards. The aim of TEPA, which is drawing lessons from the idea of engineering education professional accreditation, is to improve the overall quality of Chinese teachers team, ensure the quality of teacher education, make the quality of pre-service teachers cultivation institutions continue to improve, and meet the needs of the society for qualified and excellent teachers.

1 Introduction

One of the critical factors in determining the level of education is the quality of teachers. The goal of Chinese teacher education professional accreditation (TEPA) is to improve the quality of pre-service teachers, optimize the teaching quality guarantee system (TQGS), for improving the professional level of teachers [1]. TEPA is organized by a specialized organization which develops accreditation standards and implements accreditation process. American council for the accreditation of educator preparation (CAEP) has also carried out similar teacher education accreditation work with TEPA [2]. Therefore, this study intends to identify the characteristics of Chinese TEPA and differences between TEPA and CAEP by comparing the accreditation standards, so as to put forward feasible suggestions and opinions for Chinese teacher education professional accreditation.

2 American CAEP accreditation standard

Teacher education accreditation in America has always been carried out independently by two accreditation organization: NCATE and TEAC. The two organizations were formally merged to form CAEP in 2013 and develop accreditation standards “CAEP Initial-Level Standards for Accreditation” and “CAEP Standards for Accreditation at the Advanced-Level” [3]. The aim is to ensure that the curriculum that prepares for pre-service teachers with the knowledge and skills which can help to develop all students.

The CAEP accreditation standard gives priority to three indexes that affect the quality of pre-service teachers cultivation, “Standard 1, Content and Pedagogical Knowledge; Standard 2, Clinical Partnerships and Practice; Standard 3, Candidate Quality, Recruitment, and Selectivity”. The Standards 1 through 3 are the basis of the

whole CAEP accreditation standard. Secondly, the ultimate goal of pre-service teacher’s accreditation is to promote the learning and development of students in primary education with high-quality teachers, so “Standard 4, Program Impact” is established. Finally, on the basis of numerous management studies and combining with new trends in the field of accreditation, it establishes “Standard 5, Provider Quality Assurance and Continuous Improvement”. Therefore, the accreditation standards of CAEP emphasize the logical relationship within the index and the coordination of the elements in accreditation systems [4]. This part mainly discusses CAEP Initial-Level Standards for Accreditation. The main contents are as follows:

Standard 1: content and pedagogical knowledge

For pre-service teacher’s knowledge, skills, and professional dispositions (Table1, InTASC standards) [8]:

Table1. Model Core Teaching Standards and Learning Progressions for Teachers 1.0

Dimension	Standards	Description
The learner and learning	#1	Learner development
	#2	Learning differences
	#3	Learning environments
Content	#4	Content knowledge
	#5	Application of content
Instructional practice	#6	Assessment
	#7	Planning for instruction
	#8	Instructional strategies
Professional responsibility	#9	Professional learning and ethical practice
	#10	Leadership and collaboration

In general, educator preparation providers (EPP) should enable pre-service teachers to have a solid knowledge of subject content and pedagogy in accordance

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with the requirements of Standard 1. Subject knowledge includes a deep understanding of the core ideas, core concepts and structure of the subject, and grasp of theories, skills and development of the subject. In terms of pedagogy, it is necessary to understand what students already know, the critical points during teaching, the insight to analyze the knowledge structure, the ability to organize teaching activities and promote students' deep learning ability. Pre-service teachers also need to have the ability of self-reflection, communication, and ensure educational fairness.

Standard 2: clinical partnerships and practice

Education is a practice profession and preparation for careers in education must create nurturing opportunities for pre-service teachers to develop, practice, and demonstrate the content and pedagogical knowledge and skills that promote learning for all students.

The design principles for clinical experiences are:

- (1) A student learning and development focus
- (2) Clinical practice that is integrated throughout every facet of preparation in a dynamic way
- (3) Continuous monitoring and judging of pre-service teachers progress on the basis of data
- (4) A curriculum and experiences that permit pre-service teachers to integrate content and a broad range of effective teaching practices and to become innovators and problem solvers
- (5) An "Interactive Professional Community" with opportunities for collaboration and peer feedback.

Practical ability is the critical competence of teachers, which needs to be cultivated through high quality teaching practice. In general, EPP and practice partners join efforts in developing education function of primary and secondary schools and community, designing practice activity. The practice partners shall send practical tutors to guide the internship of pre-service teachers, to ensure the implementation of the teaching ability training. At the same time, it evaluates whether the teaching knowledge, skills and emotion of pre-service teachers meet the requirements in the standard. Based on this, the effect of teacher cultivation program is evaluated.

Standard 3: candidate quality, recruitment, and selectivity

EPP have a critical responsibility to ensure the quality of their candidates (pre-service teachers). The quality of new teachers entering the field depends not only on the quality of the preparation they receive, but also on the capacity of preparation programs to attract and select academically able people who have the potential to be effective teachers. Attracting able, high-quality candidates (pre-service teachers) to teaching is a critical goal.

CAEP accreditation requires EPP to strictly control the admission requirements of pre-service teachers, because the quality of pre-service teachers needs not only the cultivation of EPP, but also the attraction of teacher cultivation program. Attracting highly qualified candidates (pre-service teachers) is a critical objective. EPP should pay attention to the moral and cultivation of pre-service teachers during various links, and take into account the needs from society. EPP should demonstrate an understanding the needs of community, state, national and STEM, English learning, special students.

EPP need regular evaluation on the professional ethics and capability development, and document the pre-service teachers' subject knowledge, pedagogical knowledge and understanding of teaching, which have reached the standards.

Standard 4: program impact

Standards 1 through 3 address the preparation experiences of pre-service teachers, their developing knowledge and skills, and their abilities at the point of program completion. By contrast, Standard 4 addresses the results of preparation at the point where they most matter—in classrooms and schools. EPP must attend to pre-service teachers mastery of the knowledge and skills necessary for effective teaching, but that judgment is finally dependent on the impact the completers have on-the-job with student learning and development. The paramount goal of providers is to prepare candidates (pre-service teachers) who will have a positive impact on students. Impact can be measured in many ways.

The quality and social influence of EPP are judged by the influence of pre-service teachers on students' learning, teaching effectiveness, employer satisfaction and self-satisfaction. The goal of the standard is feedback on culture results. Firstly, the impact of pre-service teachers on student learning and classroom teaching. The second is the degree of pre-service teachers' satisfaction on EPP, which should prove through data that teachers can promote the learning and development of students. To establish effective teaching indexes, EPP should prove that pre-service teachers can effectively use professional knowledge, skills and emotions on observation and investigation of students. EPP should investigate the employers' satisfaction for the teachers' teaching. At the same time, it should be demonstrated that teachers themselves recognize that the cultivation of EPP has a positive effect on solving practical teaching problems and are satisfied with the EPP and cultivation programs.

Standard 5: provider quality assurance and continuous improvement

Effective organizations use evidence-based TQGS and data in a process of continuous improvement [5]. These systems and data-based continuous improvement are essential foundational requirements for effective implementation of any of the three CAEP accreditation pathways an EPP chooses—whether it is the Inquiry Brief, Continuous Improvement, or Transformational Initiative pathway.

The quality of an EPP is measured by the abilities of its completers to have a positive impact on student learning and development. Program quality and improvement are determined, in part, by characteristics of pre-service teachers that the provider recruits to the field; the knowledge, skills, and professional dispositions that pre-service teachers bring to and acquire during the program; the relationships between the provider and the primary and secondary school in which pre-service teachers receive clinical training; and subsequent evidence of completers' impact on student learning and development in schools where they ultimately teach. To be accredited, a preparation program must meet standards on each of these dimensions and demonstrate success in its own continuous improvement efforts.

CAEP requires EPP to track and evaluate the teaching ability of pre-service teachers before and after receiving cultivation, with monitoring data on pre-service teachers' on-campus, post-graduation teaching achievements, and teacher cultivation program improvements. Based on these data, an evidence-based database is established to discover the deficiencies of cultivation institutions and evaluate the performance of EPP.

3 Chinese Teacher Education Professional Accreditation standard

China issued "The Measures for Implementation of Teacher Education Professional Accreditation in Colleges and Universities" in 2017. It is clear that teacher education professional accreditation consists of three types and three levels standards, "Accreditation Standards for Secondary Education, Primary Education and Pre-School Education", each standard is divided into three levels. The first-level accreditation standard is the basic requirement of the teacher education, which includes 15 indexes. The second level accreditation standard is the qualification requirements for teaching quality of teacher education, and the third level accreditation standard is the outstanding requirements for teacher education, both of which contain eight first-level indexes. The core of the accreditation standard is to ensure that when the pre-service teachers have the knowledge, ability and level of comprehensive quality meet standard requirements. Drawing lessons from the idea of engineering education professional accreditation, which has formed a professional accreditation system with Chinese characteristics and has achieved the international authorization after a decade of development, the development of teacher education professional accreditation is relatively rapid.

This part is compared with CAEP, which is the teacher education professional accreditation for secondary education (Level 2). This standard is based on national education law and middle school teachers' professional standard, the teacher education curriculum standard, professional teaching standards, is the country from "Educational Objectives, Graduation Requirements, Curriculum and Teaching, Cooperation and Practice, Teacher Team, Support Conditions, Quality Assurance, and Students' Development" first-level indexes, which are qualification requirements for middle school education. These eight first-level indexes form a system around the guiding ideology of "Student Center", which are similar with concept of CAEP accreditation. Among them, "Cultivation Objectives" are the direction and guidance of discipline development, "Graduation Requirements" are the behavior guide set to achieve the cultivation objectives, and "Curriculum and Teaching" are the basic approaches of talent cultivation. These three first-level indexes constitute the framework of educator preparation systems. The four external first-level indexes of "Cooperation and Practice, Teacher Team, Support Conditions and Quality Assurance" play a supporting role. "Student Development" is the cornerstone of TEPA standard.

The TEPA indexes runs through the concept of

continuous quality improvement. The core competence and quality requirements of pre-service teachers are emphasized, and the cultivation activities of professional talents are tracked and evaluated in all directions and the whole process. The evaluation results are applied to the improvement of talent cultivation, forming a closed-loop of "Evaluation-Feedback-Improvement". The TQGS of continuous improvement and the culture of pursuing excellence should be established to promote the continuous improvement of the quality of talent cultivation.

4 Comparison of Chinese and American standards

For the purpose of comparison, this study classifies and compares the eight first-level indexes of Chinese TEPA standard and the five first-level indexes of CAEP standard (Table 2) [7].

Table2. The group comparison of Chinese TEPA standard and CAEP standard

Group	TEPA standard	CAEP standard
I	Curriculum and Teaching	Content and Pedagogical knowledge
	Graduation Requirements	
II	Cooperation and Practice	Clinical partnerships and Practice
III	Student Development	Candidate quality, Recruitment, and Selectivity
IV	Cultivation Objective	Program Impact
V	Teacher team	Provider Quality Assurance and Continuous Improvement
	Support Conditions	
	Quality Assurance	

(1) The "Curriculum and Teaching" and "Graduation Requirements" are similar to CAEP's Standard 1: content and pedagogical knowledge.

The "Curriculum and Teaching" part is the requirement of the educator preparation systems and the teaching process. Because curriculum is the core element of discipline development, Chinese TEPA mainly focuses on three aspects.

1. How the curriculum system supports graduation requirements.
2. The implementation of graduation requirements in course teaching.
3. Evaluation and improvement of curriculum and teaching.

Specifically including curriculum setting, structure, content, implementation and evaluation of five secondary indexes.

The "Graduation Requirements" part is the quality requirements for the "Output" of talent cultivation, which is the core of accreditation. It mainly focuses on four aspects. Firstly, the support of professional graduation requirements for cultivation objectives. The second,

degree of coincidence for the eight general standards stipulated by the state for professional graduation requirements. The third, implementation of professional graduation requirements. The fourth, achievement of professional graduation requirements item by item. It includes four dimensions: ethical practice, learning to teach, learning to educate students and learning to develop. There are eight secondary indexes: norms of teachers' ethics, feelings of education, discipline literacy, teaching ability, class management and guidance, comprehensive education, learning to introspection, communication and cooperation.

Chinese TEPA standards are derived from the concept of Outcome Based Education (OBE) and focus on pre-service teachers' learning outcomes. In addition to the above knowledge, the subject knowledge and teaching ability of CAEP also include the ability to cultivate students' learning interest, the ability to communicate and cooperate with the educated guardians, and the knowledge and ability to guarantee educational fairness, which is more comprehensive than Chinese TEPA standards. The autonomous learning ability of primary and secondary school students is relatively poor, so communication and cooperation with guardians are also very important. It is also the critical stage of personality development for the students at primary and secondary schools, and how to achieve educational fairness is also an ability that primary and secondary school teachers must master. Therefore, Chinese TEPA standard should consider including these aspects of professional knowledge and ability, so that pre-service teachers can more fully play a leading role in learning.

(2) *The "Cooperation and Practice" are similar to CAEP's Standard 2: clinical partnerships and practice.* "Cooperation and Practice" is an important part of teaching and an important guarantee for the quality of talent cultivation, and plays an important role in supporting graduation requirements. Focus on three aspects.

1. The establishment and operation of the "Trinity" collaborative cultivation system.
2. The establishment and management evaluation of the practical teaching system.
3. Implementation of the "Double Tutor" system in educational practice.

Specifically, it includes five secondary indexes: cooperative education, development of cultivation base, practice teaching, mentor team and management evaluation.

The professional accreditation system has established a fixed channel of communication between professional education and the industry, so as to continuously improve the adaptability and foresight of talents to the industry.

CAEP accreditation standards are listed on separate "Cooperation and Practice", as one of the standard, the standard from the establishment of cooperative relations, to guide the scheme determination of teachers' selection, practice management and evaluation in the process. The establishment of a complete accreditation standard system, to ensure the education practice can effectively promote students' ability of teaching practice. From the perspective of graduation quality, the pre-service teachers should not

only accept the examination and evaluation of the EPP, but also accept the inspection of the employers. The cultivation quality of graduates can be judged according to the satisfaction of the employers. For example, CAEP standards will "Employer Satisfaction" as one of the accreditation objectives. Its basic requirements are EPP to use evidence to show that employers are very satisfied with the professional ability of pre-service teachers [6].

(3) *The "Student Development" is similar to CAEP's Standard 3: candidate quality, recruitment, and selectivity.*

The part of "Student Development" reflects the concept of "Student-Centered", which emphasizes following the law of pre-service teachers' development, paying attention to their needs and achieving graduation requirements. Focus on three aspects:

1. The quality of students to support the graduation requirements.
2. Students' development guidance and academic monitoring to ensure the degree of completion required for graduation.
3. The situation of pre-service teachers' service to society.

Specifically, it includes six secondary indexes: Student Quality, Student Demand, Development Guidance, Academic Monitoring, Employment Quality and Social Reputation.

The teacher cultivation program of the whole process, including recruitment, admissions, cultivation, and obtain the certificate, have the responsibility of the long-term, sustainable in CAEP's standard. In the process of accreditation, EPP submit evidence must also be involved in the whole process of cultivation records, and for each cultivation link to reach the standard and need to submit evidence made a clear requirement.

(4) *The "Cultivation Objective" is similar to CAEP's Standard 4: Program Impact.*

The "Cultivation Objective" part is the key to the discipline development, is the basis of the talent cultivation, and plays a leading role in the rest part. Focus on three aspects:

1. Accuracy of cultivation objective.
2. The scientific definition for the connotation of cultivation objectives.
3. Evaluation and revision of cultivation objectives.

Specifically including target, target connotation and evaluation, three secondary indexes.

It is whether pre-service teachers have acquired the knowledge and skills that an educator should possess, whether they can effectively use these knowledge and skills in teaching, and whether EPP have evidence to prove that students have acquired these knowledge and skills, become the focus of attention in CAEP standard. From Standards 1 through 4, all involve the evaluation of students' learning results. In particular, the "Professional Knowledge and Skills" in Standard 1 and the "Internship Experience Acquisition" in Standard 2 are typical result evaluation dimensions. Compared with other accreditation standards, there are several advantages to focus on the evaluation of results. Firstly, the evaluation of students' learning results, rather than courses, is about the knowledge, skills and professionalism acquired by students, rather than the grades obtained for the courses.

The second, focusing on results can focus the attention of EPP and clinical practice partners on student learning outcomes.

(5) *The "Teacher Team", "Support Conditions" and "Quality Assurance" are similar to CAEP's Standard 5: Provider Quality Assurance and Continuous Improvement.*

"Teacher Team" is an important factor to achieve the cultivation goal and ensure the quality of teaching operation, discipline development and talent cultivation, and has a supporting role in the graduation requirements. Focus on three aspects:

1. The basic situation of the teacher team.
2. Quality and ability requirements of the teacher team.
3. The cultivation, evaluation and professional development of the teacher team.

Specifically including quantity, quality and ability, practical experience, sustainable development of four secondary indexes.

"Support Condition" is the material guarantee, is the influence factor to achieve the cultivation goal and ensure the quality of teaching operation, discipline development and talent cultivation. We will focus on three aspects:

1. Guaranteed funds for professional education.
2. Guarantee of professional education and teaching facilities.
3. Guarantee of various educational and teaching resources.

Include fund guarantee, facility guarantee, resource guarantee, three two level index specifically.

"Quality Assurance" reflects the national requirements for dynamic monitoring of talent cultivation process and results, and plays an important role in guaranteeing graduation requirements. Focus on three aspects:

1. The quality standards of the main teaching links support the graduation requirements.
2. Monitoring of the quality of teaching process to ensure the achievement of graduation requirements.
3. Continuous improvement of cultivation quality of pre-service teachers and application of evaluation results.

Specifically including the security system, internal monitoring, external evaluation, continuous improvement of the four secondary indexes.

CAEP also specifies in Standard 5 that EPP should establish TQGS supported by effective data to continuously monitor pre-service teachers' development. CAEP does not make a final judgment, but rather makes recommendations or comments for improvement during the accreditation process. This "Formative" feedback and accreditation mode promotes joint participation in the accreditation process. Accreditation is no longer an independent assessment by external organization; all stakeholders within the teacher cultivation programs are encouraged to continuously explore how to improve the quality of teacher cultivation programs.

5 Conclusion

Through comparison and research, it is of great significance to improve Chinese Teacher Education Professional Accreditation (TEPA) for the development of teacher education and to cultivate more outstanding

teachers. As the first country to complete the universalization of teacher education in America, its teacher education accreditation system has good reference significance for China. Combining with Chinese situation and learning from CAEP's experience, we can better develop China's teacher education and related institutions and cultivate more high-quality teachers.

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