

# Professional identity, skills, and engagement among education majors in Chinese Universities

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## Abstract

This study explores the role of profession identity, skills and engagement among education majors in Chinese university, focusing on how these factors affect the improvement of profession ability of students Among Education Majors. A descriptive quantitative method was employed to investigate 405 Chinese education majors. The results revealed no significant differences in the student responses regarding professional identity, vocational skills, and learning engagement. However, a significant correlation exists between students' professional identity, skills and engagement. This suggests that students with strong professional identity and high level of engagement are more likely to develop stronger professional skills during their studies and practice. This finding highlights the importance of an integrated approach to student development that focuses on role identity, emotional identity and value identity. Such an approach aims to foster a sense of belonging and achievement, preparing students for a successful transition to the teaching profession. Based on this research, the paper proposes suggestions for career development planning for Chinese education majors. This approach leverages the identified relationships between professional identity, skills and engagement to maximize students' profession skill, career confidence, and labor market prospects. By providing a comprehensive focus on these crucial areas, Chinese universities with education programs can better support students in achieving their academic and career goals while promoting their well-rounded development and workforce readiness.

**Keywords:** profession identity, professional skills, professional engagement

## Professional identity, skills, and engagement among education majors in Chinese Universities

### 1. Introduction

The fundamental purpose of education is to cultivate the talents needed by society in the future. The quality of education will directly affect the future development of society. It is the so-called century-long plan, education is the foundation, education is the foundation, teachers are the foundation. The teacher is not to encourage the growth of the child, nor simply and roughly infuse the knowledge to the students, but to find the students, guide the students, and illuminate the sky that the students are worth seeing. Therefore, only with a good heart, a wise mind and a full commitment to the feelings of the teacher, to be able to subtly affect the students. It is the spring breeze that melts the rain and moistens things silently.

In 2018, the Chinese government promulgated the Opinions of the CPC Central Committee and The State Council on Implementing the Strategy of Rural Revitalization, emphasizing that priority must be given to the development of rural education as an important part of rural revitalization. Rural revitalization is a huge systematic project. Although China's higher education has developed from elite education to mass education and realized the transformation from a population country to a human resource country, due to the current situation of uneven education development in eastern and western China and vast urban and rural areas, although the distribution of educational resources in China is more balanced than before, it does not mean that education development is balanced. The most effective way to develop rural education is to provide high-quality teachers for rural areas, improve the level of teachers, and help the central and western regions and the vast rural areas with relatively backward educational resources. As the source resource to support rural education and the cornerstone to revitalize rural education, the quality of education is the most important thing. The students of high-quality education majors have high teaching and professional level, educational ability, organizational ability, language expression ability. Training high-quality education majors to work in rural areas is conducive to improving the quality of rural education and contributing to the development of national education. Therefore, it is of great significance to improve the education quality of students majoring in education in Chinese universities (Lin,2019). Education majors students are the reserve army of basic education. A good professional identity of teachers plays an important role in the development of students majoring in education, which is directly related to teachers' career planning and future career adaptation. At the same time, it is also one of the important indicators to reflect the quality of education in normal colleges. As a psychological process, professional identity will govern the professional behavior of students majoring in education in an implicit way. The degree of recognition of the teaching profession among students majoring in education determines their enthusiasm in this profession in the future and their willingness to be a lifelong teacher (Yang,2019).

The higher the vocational identity of education majors, the more willing they are to prepare for work, and the more actively they will seek solutions to problems when they encounter pre-work doubts. Therefore, the gradual formation of teachers' professional identity by students of education majors through professional learning is one of the professional bases for them to adapt to the working environment after entering the profession, improving the quality of teachers' pre-service training, and building teachers' professional quality for students of education majors. It is also an important guarantee for basic education to transport new teachers with professional emotion, internal professional motivation, and can adapt to the needs of basic education reform.

Teacher is a highly specialized profession with strong practicality. Qualified teachers should not only possess lofty professional ethics, reasonable knowledge structure and high professional identity, but also have a good ability structure, communication and expression ability, classroom teaching ability, coordination and management ability, and self-regulation ability. However, for a long time, China's normal universities attach importance to "academic" rather than "normal" in personnel training. As a result, graduates of education majors

cannot apply what they have learned when they enter the teaching job. Showed more maladaptation. Students majoring in education should have basic and perfect vocational ability at the early stage of entry and must adapt to the needs of employers and educational development. They should not be "semi-finished products", at least "finished products" or "qualified products" when they enter the job, that is, their educational vocational skills cannot be cultivated in the practice after taking the job. However, it should be formed through training in normal colleges before entering the workplace (Tian et al.,2019).

To cultivate a team of high-quality professional teachers, the Ministry of Education of China promulgated the Opinions of the Ministry of Education on Vigorously Promoting the Reform of Teacher Education Curriculum in 2020, hereinafter referred to as the Standards. The standard takes education as the foundation, practice orientation and lifelong learning as the basic concept. These new changes and requirements inform the direction of pre-service training for education majors. It puts forward specific goals and requirements in the aspect of teachers' professional ability, which is the weak link in the current normal university students' training. Before applying for a job, education majors should have the experience and experience of watching education, participating in education and researching educational practice. As future teachers, the level of professional identity of students in education majors will directly determine their attitude towards education and work effort in the future, and is also an important driving force for the growth of teachers' skills . Professional identity is conducive to teachers' self-growth, so only by enhancing the professional identity of students majoring in education can they fully devote themselves to teaching. College is the key period for the formation of professional identity of students majoring in education. On the one hand, a good professional identity can strengthen their confidence in the career of teachers in the future; on the other hand, driven by strong motivation, they will give more motivation and enthusiasm because they want to become a teacher in the future. To improve their professional skills and teaching ability. Learning input is a key factor that affects the learning harvest of students majoring in education, it is an indicator to measure the training quality of universities (Wang,2021).

Moreover, the study also found that mathematics normal college students lack the initiative to learn teaching skills (Chen et al., 2021), and are not serious about the learning and training of educational teaching courses, and the learning and training are formalized (Si,2019). This shows that the students of education majors have a low degree of learning involvement in teaching skills. Students' involvement in teaching skills not only has an important impact on their mastery of skills, but also has a profound impact on their professional development after entry. Therefore, in order to improve the teaching skills of students majoring in education, it is necessary to know the main factors that affect the engagement of students majoring in education, and then determine targeted measures to improve the engagement of education majors, so as to achieve the purpose of cultivating the teaching skills of education majors student. Therefore, it is very necessary to study the influencing factors of students' involvement in teaching skills. Some studies have pointed out that vocational identity of students majoring in education can significantly predict their learning engagement, and good learning engagement will enable students majoring in education to achieve better academic achievement (Wang,2019). The more they invest in learning, the more professional knowledge and skills they accumulate, and the stronger their teaching ability. To train students majoring in education, colleges and universities not only need to impart a solid theoretical foundation to students, but also need to make them master excellent skills and have strong teaching ability, which requires them to have a good degree of learning engagement, to really concentrate on the study of skills and theories, so as to improve their own comprehensive quality. In general, it is an important way to improve professional skills to enhance the professional identity and learning engagement of education majors.

**Objectives of the Study** - The purpose of this study is to determine the professional identity, skills and engagement of education majors in Chinese universities to propose a program for education majors. Specifically, determined the professional identity in terms of role identity, emotional identity and value identity; assessed professional skills in terms of instructional design, classroom instruction, communication and management; identified the respondents' level of engagement in terms of interest, attention, and energy; tested the significant relationship of students' professional identity, skills and engagement; proposed a program for education majors to improve students' professional engagement.

## 2. Method

**Research Design** - A quantitative correlational research design was employed to investigate the relationship between professional identity, skills and engagement among Education majors in Chinese universities. This design helped in establishing whether there is a statistically significant correlation between the variables mentioned in the statement of the problem.

**Participants of the Study** - To explore the interplay of professional identity, skills and engagement among Education majors in Chinese universities, the author conducted research on this topic education majors students in Neijiang Normal University. All of the Education majors in four grades in the university were taken as samples, about 405 Education majors as participants of this research.

**Data Gathering Instrument** - The research instruments consisted of three questionnaires, each designed to collect specific data related to the research objectives. Relevant background information of the participants, including sex, grades, majors were collected before the questionnaires.

**Professional Identity Questionnaire:** The Professional Identity Questionnaire for university students developed by Ren (2020) was used, which has good reliability in previous studies and has been used many times in the literature of core journals. A total of 21 entries are scored on a 4-point scale, and the higher the score, the higher the professional identity. The questionnaire was divided into three dimensions: role identity (7 questions), emotion identity (7 questions) and value identity (7 questions). **Skills Questionnaire:** Students' Vocational Skills in Normal University developed by Tian (2016) was used, which consisted of a total of 21 questions including three dimensions. There were seven questions measuring teaching design, seven questions measuring classroom teaching, and seven questions measuring communication and management, and the scale was scored on a 4-point scale, with higher scores indicating education majors gain more skills during university. **The study engagement Questionnaire** was adapted from the study on the relationship between professional identity and learning engagement developed by Zou (2022), whose research focus is largely similar to that in this study in terms of professional identity and learning engagement. All items were rated on a four-point Likert scale, ranging from 1 (strongly disagree) to 4 (strongly agree). The questionnaire consists of 21 items, which are classified into three dimensions, comprising Interest, Concentration and Vitality.

These questionnaires were modified to reflect the information, and their validity and reliability were assessed. The questionnaire was tested on 30 students as part of a pilot study, which allowed the researchers to verify its effectiveness. Cronbach's alpha was used to measure the validity and reliability of the questionnaire. The results of the reliability test were satisfactory. The reliability test was used to evaluate the internal consistency of the scale used in the questionnaire. Cronbach's Alpha values of all dimensions reached the level of "Good" or "Excellent", which ensured the internal consistency and reliability of the questionnaire. Based on this, the researchers further expanded the sample size to verify the applicability of the questionnaire on a larger scale. In the process of data collection, the researchers fully considered the diversity and representativeness of the samples, and selected students majoring in education from different grades and different professional directions as the survey objects. At the same time, to ensure the quality of questionnaire filling, the researchers carried out detailed guidance and supervision during the data collection process to ensure that participants could accurately understand the questionnaire content and truly reflect their own situation.

**Data Gathering Procedure** - After collecting the relevant background information of the participants, the questionnaires were distributed to them for completion. Each questionnaire was carefully designed to ensure clarity and ease of understanding, with clear instructions provided at the beginning. For the Professional Identity Questionnaire, the participants were asked to reflect on their professional identity in relation to their roles, emotions, and values. They were instructed to rate each statement on a 4-point scale, indicating the degree to which they identified with the described aspects of professional identity. The questionnaire's structure allowed for a comprehensive assessment of the participants' professional identity across the three dimensions. The Skills

Questionnaire was administered to assess the participants' vocational skills. They were asked to evaluate their skills in teaching design, classroom teaching, and communication and management using a similar 4-point scale. The questionnaire provided a detailed breakdown of the participants' skills in each area, allowing for a thorough analysis of their professional capabilities. The Study Engagement Questionnaire was distributed to measure the participants' level of engagement in their studies. The questionnaire explored three dimensions of study engagement: Interest, Concentration, and Vitality. The participants were asked to rate their level of agreement with statements related to each dimension, providing insights into their approach to learning and their overall engagement in their academic pursuits.

**Data Analysis** - The collected data from the questionnaires were carefully analyzed using statistical software to ensure accurate and reliable results. For the Professional Identity Questionnaire, descriptive statistics were employed to summarize the participants' responses across the three dimensions of Interest, Concentration, and Vitality. The mean scores and standard deviations were calculated to assess the overall level of agreement with each statement, revealing patterns and trends in the participants' professional identity. Similarly, the Skills Questionnaire data were analyzed using descriptive statistics to assess the participants' self-reported skills in teaching design, classroom teaching, communication, and management. The mean scores provided a quantitative measure of the participants' capabilities in each area, while standard deviations indicated variability in their responses. This analysis allowed for a comprehensive understanding of the participants' professional skills and their relative strengths and weaknesses. For the Study Engagement Questionnaire, the data were analyzed to explore the participants' level of engagement in their studies. Descriptive statistics were used to summarize the participants' responses across the three dimensions of Interest, Concentration, and Vitality. The mean scores provided insights into the overall level of engagement, while the standard deviations indicated the variability in the participants' responses. This analysis allowed for a deeper understanding of the participants' approach to learning and their level of commitment to their academic pursuits.

**Ethical Considerations** - All student-participants were informed of the purpose of the study and assured that their identities remain confidential. Consent forms were signed prior to the actual data gathering. The researcher ensured that participation was voluntary, and respondents can withdraw at any point without any repercussions.

### 3. Results and discussion

**Table 1**

*Summary Table on Professional Identity*

Indicators	Weighted Mean	Verbal Interpretation	Rank
Role Identity	3.30	Agree	1
Emotion Identity	3.15	Agree	3
Value Identity	3.20	Agree	2
Composite Mean	3.22	Agree	

*Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree*

Table 1 summarizes the findings related to professional identity, focusing on role identity, emotional identity, and value identity. The comprehensive average of 3.22 further emphasizes the degree of identification in all aspects of professional identity. Students' professional identity has an important impact on their vocational skills and learning engagement.

The summary table provides information on respondents' professional identification in three important areas: role identification, emotional identification, and value identification. While respondents' professional identity varied slightly across fields, respondents' identification was overwhelmingly consistent across all fields. Interestingly, role identity comes first, and students have a clear plan for their career orientation, goals and career development, which means students can quickly adapt to their jobs after graduation. Value identification ranks second, and human life is the process of pursuing self-value. Sentimental value, on the other hand, ranks slightly lower, indicating that while most students are excited about their future careers, there may be areas for

improvement or areas to focus on. The comprehensive average shows the consensus of all categories, college and education teachers should not only emphasize students' hard work, but also encourage students to participate in social practice, especially the real step into the classroom of primary and secondary schools.

The weighted average of role identification was 3.30, ranking first in the three categories. This showed that, on average, respondents tended to identify most strongly with statements related to the occupation they identified with in the role. The weighted average value identification was 3.20, ranking second in the three categories. The weighted average of emotional identification was 3.15, ranking third among the three categories.

This showed that, on average, respondents tended to identify more strongly with statements related to their professional identification in terms of role identification compared to value identification, but they identified more strongly with value compared to emotional identification. Universities and internship units can use these findings to design interventions to support professional identity in different fields. For example, teachers who have been teaching in primary and secondary schools for a long time are invited to give lectures in universities, and students are arranged to practice in primary and secondary schools for two weeks each semester, so as to further improve the identification degree of students majoring in education in these fields. The results of the study showed that respondents' overall perception of professional identity was positive. The composite average in the "agreement" range indicates that agreement across the board emphasizes the overall agreement of statements related to role identification, emotional identification, and value identification. The difference in average scores across the three categories provides nuanced insights. While respondents showed approval in all areas of professional identity, role identification received the highest degree of approval, with a weighted average of 3.30. This may indicate that they have strong confidence in themselves to learn and succeed in their educational practice.

**Table 2**

*Summary Table on Skills*

Indicators	Weighted Mean	Verbal Interpretation	Rank
Teaching Design	3.23	Agree	1.5
Classroom Teaching	3.23	Agree	1.5
Communication and Management	3.19	Agree	3
Composite Mean	3.22	Agree	

*Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree*

Table 2 summarizes the findings related to vocational skills, focusing on instructional design skills, classroom teaching skills, and communication and management skills. The composite average of 3.22 indicates that students generally agree on their degree of confidence in mastering various aspects related to vocational skills.

Among the surveyed students, the comprehensive average of vocational skills shows that their overall performance of vocational skills is good, and they all show agreement. In order to solve the problem of obtaining vocational skills for students majoring in education, some intervention measures can be adopted to narrow the differences in various fields of vocational skills. Universities and internships can help students improve their vocational skills through lectures, teacher-student activities and exchange learning.

Instructional design skills and classroom teaching skills were tied for first place with an average score of 3.25. This shows that, for the respondents, they are equally inclined to instructional design skills and classroom teaching skills. The highest average indicates that, on average, respondents feel confident in their instructional design skills and classroom teaching skills. Communication and management skills had a weighted average of 3.19, with specific aspects ranking third across the three categories. This showed that, on average, respondents tended to agree less with statements related to communication and management skills than instructional design skills and classroom teaching skills.

The survey results show that respondents have a generally positive attitude towards professional competence.

In the "agree" range, respondents agreed on all aspects, indicating that they agreed on instructional design skills, classroom teaching skills, and communication and management skills. Compared with communication and management skills, respondents felt confident in their instructional design skills and classroom teaching skills, and universities and internship units could use these performances to develop some vocational skills upgrading measures.

By watching teaching videos of first-line primary and secondary schools, students were arranged to choose teaching content they were interested in and demonstrate their understanding of skills through micro-teaching training. Combined with the feedback information provided by self-evaluation, other evaluation and teacher evaluation, it is constantly adjusted and modified. Through such practical training, it continuously strengthens the professional skills of teachers needed in the future teaching of primary and secondary schools. Through simulation teaching, students can strengthen their cognition and perception of future career while exercising their skills, enhance their motivation for learning, and make them actively seek ways to improve teaching and even innovate teaching. Teachers also use the learning outcome evaluation data to improve the teaching effect of the course. This is a reverse design process that is constantly modified and iterated, always oriented by learning results. In this process, students majoring in education have an understanding and experience of the teaching methods they should have for their future work as teachers, and actively apply what they learn into teaching practice. While promoting the improvement of curriculum teaching quality, they can also improve the quality of teaching. Students' teaching skills are also improved and developed.

**Table 3**

*Summary Table on Engagement*

Indicators	Weighted Mean	Verbal Interpretation	Rank
Interest	3.18	Agree	3
Concentration	3.19	Agree	2
Vitality	3.21	Agree	1
Composite Mean	3.19	Agree	

*Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree*

Table 3 summarizes the findings on engagement in learning, with particular attention to interest, concentration, and vitality. The composite average of 3.19 further highlights the overall consistent trend across all aspects of learning engagement.

When it comes to the three key indicators of learning engagement - interest, concentration and energy - respondents generally show a high degree of agreement. In terms of interest, the average score was 3.18, and respondents generally held a positive attitude towards learning, believing that learning was interesting and meaningful. This positive learning attitude helps to stimulate learners' learning motivation and make them more actively involved in the learning process.

In terms of concentration, respondents also gave a high rating, with an average score of 3.19. They generally believe that they can maintain a high degree of concentration during the learning process and are not easily affected by external interference. This kind of concentration is an important manifestation of learning engagement and one of the key factors to improve learning results.

In terms of vitality, respondents showed the highest degree of agreement, with an average score of 3.21. They generally believe that they can maintain sufficient physical strength and vigorous energy during the learning process and can cope with various learning challenges. This vitality not only helps learners to maintain the persistence of their learning, but also improves their learning efficiency and creativity.

According to the above three indicators, the respondents showed a high level of learning engagement. They not only have a positive attitude towards learning, but also maintain a high level of concentration and energy. This state of learning engagement is of great significance for improving the learning effect and promoting the all-round development of students.

Yang (2024) pointed out that teachers should pay attention to the cultivation of students' learning interest, concentration and vitality. Through the design of interesting and challenging learning tasks, provide a variety of learning resources and environments to stimulate students' learning motivation and improve their learning engagement. At the same time, teachers should also pay attention to students' learning status, provide timely guidance and support, and help them better cope with learning challenges and achieve all-round development.

**Table 4**

*Relationship Between Professional Identity and Skills*

Role Identity	r-value	p-value	Interpretation
Teaching Design	.392**	0.000	Highly Significant
Classroom Teaching	.482**	0.000	Highly Significant
Communication and Management	.414**	0.000	Highly Significant
<b>Emotion Identity</b>			
Teaching Design	.494**	0.000	Highly Significant
Classroom Teaching	.467**	0.000	Highly Significant
Communication and Management	.402**	0.000	Highly Significant
<b>Value Identity</b>			
Teaching Design	.411**	0.000	Highly Significant
Classroom Teaching	.501**	0.000	Highly Significant
Communication and Management	.385**	0.000	Highly Significant

*Legend: Significant at p-value < 0.01*

Table 4 shows the relationship between occupational identity and occupational skills. The R-value indicates a strong direct correlation, and the P-value is less than the alpha level. This suggests a significant correlation and implies that the stronger the respondents' occupational identity, the better their occupational skills. The results show that there is a significant relationship between the two, and individuals with better vocational skills tend to have stronger professional identity. The data reveals the close relationship between occupational identity and occupational skills. From the perspective of teaching design, classroom teaching, communication and management, emotional identity and other dimensions, professional identity and vocational skills show a significant positive correlation. This means that as teachers' professional identity increases, their skill performance in various aspects of teaching and management will also improve accordingly.

In terms of teaching design, teachers who highly identify with their professional role are more likely to devote more energy to elaborate teaching design, to ensure the pertinence, practicality and interest of teaching content. They are better at making teaching plans according to students' actual needs and interest points, so that teaching activities are more in line with students' learning characteristics, to improve the teaching effect. In the classroom teaching process, teachers with a strong professional identity are usually more confident and more comfortable controlling the pace of the class, and effectively stimulate students' interest in learning and participation. Teachers are good at using various teaching methods and means to create a positive learning atmosphere, so that students can master knowledge in a relaxed and pleasant atmosphere. In terms of communication and management, teachers with strong professional identity usually have good communication skills and team spirit, and can establish a good interactive relationship with students, colleagues and parents. They are good at listening to the opinions and suggestions of others and can properly deal with various contradictions and problems in teaching and management, so as to maintain a good teaching order and atmosphere. As an important part of teachers' professional identity, emotional identity also has a non-negligible impact on teachers' professional skills. When teachers are full of love and awe for their profession, they are more likely to see teaching as a mission and responsibility, so that they are more committed to the work of education and constantly improve their professional skills and literacy.

Vocational skills are a key indicator to measure individual occupational psychological characteristics and development level, as well as an important standard to evaluate school vocational education work and human resources unit management (Cheng et al. 2018). Therefore, it is of great significance to understand the current situation of college students' vocational skills, investigate the factors affecting college students' vocational skills



and their action mechanisms, and help them improve their vocational skills to promote successful employment. Career is future-oriented, and individuals' emotional cognitive preference for future time and volitional action tendency are included in the concept of future orientation (Liu et al., 2011). In the longitudinal interviews of 28 young people on the formation of professional identity, it is found that individuals who are more concerned about the future are more independent in career choice and show higher pursuit in career (Yang, 2019).

**Table 5***Relationship Between Professional Identity and Engagement*

Role Identity	r-value	p-value	Interpretation
Interest	.446**	0.000	Highly Significant
Concentration	.479**	0.000	Highly Significant
Vitality	.485**	0.000	Highly Significant
<b>Emotion Identity</b>			
Interest	.488**	0.000	Highly Significant
Concentration	.471**	0.000	Highly Significant
Vitality	.459**	0.000	Highly Significant
<b>Value Identity</b>			
Interest	.442**	0.000	Highly Significant
Concentration	.478**	0.000	Highly Significant
Vitality	.472**	0.000	Highly Significant

Legend: Significant at  $p$ -value < 0.01

Table 5 shows the relationship between professional identity and learning engagement. The R-value indicates a strong direct correlation, and the P-value is less than the alpha level. This suggests a significant correlation and implies that the stronger the respondents' professional identity, the more engaged they are in learning. The findings suggest that there is a significant relationship between the two, and that individuals who are more invested in learning also tend to have a stronger professional identity.

In terms of interest, teachers with a strong professional identity are more likely to maintain a high level of enthusiasm and interest in learning and development. They are eager to constantly update their knowledge and skills to better adapt to the needs of educational work. This strong interest in learning enables them to actively explore new teaching methods and concepts, actively participate in various training and seminar activities, and constantly improve their professional quality. In terms of concentration, teachers with a strong professional identity were generally able to stay focused and engaged in their learning for longer. They are not easily affected by external interference and can concentrate on learning and research. This focus enables them to gain a deeper understanding of educational theory and practice, making them more comfortable in teaching and management. In terms of vitality, teachers with strong professional identity often show higher work enthusiasm and vitality. They are enthusiastic about teaching and are willing to invest more time and energy to improve their teaching results. This vitality is not only reflected in the classroom, but also in their daily learning and life, allowing them to continuously improve and grow. As an important part of teachers' professional identity, emotional identity has an important impact on learning engagement. When teachers are filled with love and awe for their profession, they are more likely to see learning as a process of self-improvement and growth, and thus become more actively engaged in learning. Xia (2024) pointed out that professional identity reflects the inner motivation of teachers in the process of career development, and provides beneficial enlightenment for improving teachers' professional quality and learning input. We should attach importance to the cultivation of teachers' professional identity and promote their continuous growth and development in study and work by stimulating their learning interest, improving their concentration and vitality.

Table 6 shows the relationship between vocational skills and learning engagement. The calculated R-value indicates a strong direct correlation, resulting in a p-value less than the alpha level. This suggests a significant correlation and implies that the more skilled they are in their profession, the more engaged they are in their learning. The main findings show that there is a strong direct relationship between the two, meaning that there is a significant relationship and that individuals who are more invested in learning also tend to have stronger

occupational skills.

**Table 6**

*Relationship Between Skills and Engagement*

Teaching Design	r-value	p-value	Interpretation
Interest	.487**	0.000	Highly Significant
Concentration	.402**	0.000	Highly Significant
Vitality	.369**	0.000	Highly Significant
<b>Classroom Teaching</b>			
Interest	.474**	0.000	Highly Significant
Concentration	.481**	0.000	Highly Significant
Vitality	.534**	0.000	Highly Significant
<b>Communication and Management</b>			
Interest	.358**	0.000	Highly Significant
Concentration	.366**	0.000	Highly Significant
Vitality	.443**	0.000	Highly Significant

*Legend: Significant at p-value < 0.01*

In terms of teaching design, teachers with excellent professional skills can often have a deeper understanding of students' needs and learning characteristics, to design more targeted and effective teaching programs. They are good at using various teaching resources and means to create rich and diverse learning situations to stimulate students' learning interest and motivation. The advantages of this kind of teaching design enable students to better absorb and master knowledge, but also improve the teaching effect and satisfaction of teachers. In terms of interest, teachers with strong vocational skills usually maintain a high level of enthusiasm and interest in learning and development. They not only pay attention to their own professional development, but also pay attention to cultivating students' comprehensive quality and ability. This keen interest in learning enables them to constantly pursue new knowledge and skills and to continuously improve their teaching level and ability. In terms of concentration, teachers with strong vocational skills were able to stay focused and engaged in their studies and work longer. They have solid professional basic knowledge and practical skills and can quickly respond to various problems and challenges in teaching. This focus enables them to study the content and methods of teaching more deeply, thus providing better teaching services. In terms of vitality, teachers with strong vocational skills often show higher work enthusiasm and vitality. They are good at innovating teaching methods and means, and constantly exploring teaching models and strategies suitable for students. This vitality is not only reflected in the classroom, but also in their daily learning and work, allowing them to continuously improve and grow.

Zhu (2023) emphasized that there is a close relationship between vocational skills and learning engagement. This relationship not only reflects the professional quality and ability of teachers in the process of professional development, but also provides beneficial enlightenment for improving the teaching effect of teachers and the learning outcome of students. Universities should attach importance to the cultivation and development of teachers' professional skills and help students to continuously improve their teaching level and ability by providing training, communication and practical opportunities, so as to better serve the growth and development of students.

**Table 7**

*Proposed Professional Career Development Program for Education Majors*

Key Results Area	Strategies	Persons Involved	Expected Outcome
1. Enhance students' role identification, emotional identification and value identification of the teaching profession	Strengthen teachers' support in the process of education practice	Student Tutors, Teachers, Students	Enhance students' professional identification with teachers
1.1 Improve students' emotional identification with the teaching profession	Implement individualized counseling and emotional identity support programs		
Strengthen students' confidence in becoming a qualified teacher			Full of expectations for the teaching

2. Improve the vocational skills required for students to transition into teachers. 2.1 Help students improve their skills in class management and working with colleagues Provide skills support for students to work in the workplace	Provide personalized guidance for students majoring in education, and form a support group with famous teachers in primary and secondary schools  Internship opportunities and industry networking activities are available	Industry Experts, Teachers, Students	profession Proficient in all kinds of classroom teaching skills, can use a variety of teaching equipment  Communicate well with students, parents, leaders and colleagues
3. Increase students' willingness to devote energy and time to learning 3.1 Create a supportive learning environment to enhance students' interest in learning	Create learning interest groups where members can collaborate and learn together Carry out the second class and role play	Student Tutors, Teachers, Students	Students are interested in learning, optimistic, cheerful and full of positive energy Actively participate in teaching practice

#### 4. Conclusion and recommendations

Respondents generally hold the same views on students' professional identification, especially on role identification, followed by value identification and emotional identification. Respondents generally agreed on skills, especially instructional design skills and classroom teaching skills, followed by communication and management skills. Respondents generally have the same views on engagement, especially on vitality, followed by concentration and interest. There is a highly significant correlation between students' professional identity, skills and engagement. This means that if students have a high degree of identification with what they study at university and at the same time invest a lot of time, energy and interest in their studies, then their vocational skills will reach a high level. Based on the results of the study, the author formulated a career development plan with suggested actions to take for Chinese university students majoring in education.

The government can further strengthen its support to improve the social status and treatment level of teachers in basic education, ensure that the teaching profession becomes a career choice that is respected by the society and coveted by everyone, and attract more students to apply for education majors. At the university level, scientific and reasonable training programs for education majors can be formulated to combine theory with practice. Organize a variety of teaching activities, stimulate students' enthusiasm for learning, create a relaxed and positive learning atmosphere, and improve the professional skills of students majoring in education. Universities should actively cultivate students' interest in learning and strengthen the construction of the second classroom, such as holding micro-class teaching competitions, courseware making, teaching skills competitions, etc., to enrich students' extracurricular life and cultivate students' professional skills. Universities should attach importance to students' internship and employment, and fully recognize that internship is an important way to enhance their professional identity and vocational skills. Some students attach more importance to theory than practice. Universities may strengthen cooperation with internship institutions to ensure that students are fully trained and improved in practice.

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