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IMPACT OF LEARNING MOTIVATION, SELF-EFFICACY, AND PROFESSIONAL IDENTIFICATION ON TEACHERS' PEDAGOGICAL CONTENT KNOWLEDGE WITH COMPETENCY AS THE MEDIATOR AMONG PRESERVICE PRESCHOOL TEACHERS IN VOCATIONAL COLLEGES IN GANSU CHINA



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THESIS PRESENTED TO QUALIFY FOR A DOCTOR OF PHILOSOPHY

FACULTY OF HUMAN DEVELOPMENT
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2025



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ABSTRACT

This study investigates the impact of learning motivation, professional identity, and self-efficacy on the pedagogical content knowledge (PCK) of preservice preschool teachers and the mediating effect of competence in vocational colleges in Gansu, China. Specifically, it aims to assess the direct effects of these three factors on PCK and competence, determine the mediating role of competence in these relationships, identify the strongest predictors of PCK, and understand preservice teachers' perceptions of their training. A mixed-methods design was employed, whereby quantitative data were collected by administering 400 questionnaires, which yielded 382 valid responses from five vocational colleges. Conversely, qualitative data were gathered through semi-structured interviews with 15 respondents. Quantitative analysis was conducted using SPSS and Hayes' PROCESS macro, while the qualitative data was thematically analysed. The findings revealed that learning motivation, self-efficacy, professional identity, and competence significantly and positively affect PCK. Self-efficacy emerged as the strongest predictor of PCK ($\beta=0.412, p<.001$), followed by competence ($\beta=0.247, p<.001$). Similarly, professional identity had the greatest impact on competence ($\beta=0.278, p<.001$). Mediation analysis confirmed that competence significantly mediates the relationship between PCK and each of the three factors. Additionally, the qualitative findings indicate that training in less developed areas is generally effective for developing competence and PCK. It leads to the conclusion that learning motivation, professional identity, and self-efficacy have positive impacts on PCK and competence exerts a mediating effect. This study offers theoretical contributions to the self-determination theory, social identity theory, and self-efficacy theory in early childhood education psychology, highlighting how social identity and self-belief influence competence and PCK. Practical implications suggest strengthening partnerships between vocational colleges, education departments, and communities, enhancing mentorship, and integrating technologies to enrich the training of preservice preschool teachers in China.





**IMPAK MOTIVASI PEMBELAJARAN, EFIKASI KENDIRI, DAN IDENTITI
PROFESSIONAL TERHADAP PENGETAHUAN KANDUNGAN
PEDAGOGI GURU DENGAN KOMPETENSI SEBAGAI
MEDIATOR DALAM KALANGAN GURU
PRASEKOLAH PRA-PERKHIDMATAN
DI KOLEJ VOKASIONAL
DI GANSU CHINA**

ABSTRAK

Kajian ini menyiasat impak motivasi pembelajaran, identiti profesional, dan efikasi sendiri terhadap pengetahuan kandungan pedagogi (PCK) dalam kalangan guru prasekolah pra-perkhidmatan serta peranan mediasi kecekapan di kolej-kolej vokasional di Gansu, China. Secara spesifik, kajian ini bertujuan untuk menilai kesan langsung tiga faktor ini terhadap PCK dan kecekapan, menentukan peranan mediasi kecekapan dalam hubungan tersebut, mengenal pasti peramal terkuat PCK, dan memahami persepsi guru-guru pra-perkhidmatan terhadap latihan mereka. Reka bentuk kaedah campuran digunakan dimana data kuantitatif diperoleh melalui pengedaran 400 set soal selidik dan sebanyak 382 respons sah diterima daripada lima kolej vokasional. Manakala, data kualitatif dikumpulkan melalui temu bual separa berstruktur dengan 15 responden. Analisis kuantitatif dijalankan menggunakan SPSS dan Hayes' PROCESS macro, manakala data kualitatif dianalisis secara tematik. Dapatan menunjukkan motivasi pembelajaran, efikasi sendiri, identiti profesional, dan kecekapan mempunyai kesan signifikan dan positif terhadap PCK. Efikasi sendiri muncul sebagai peramal terkuat PCK ($\beta=0.412, p<.001$), diikuti oleh kecekapan ($\beta=0.247, p<.001$). Seterusnya, identiti profesional memberi kesan terbesar terhadap kecekapan ($\beta=0.278, p<.001$). Analisis mediasi mengesahkan bahawa kecekapan secara signifikan memediasi hubungan antara PCK dan ketiga-tiga faktor tersebut. Selain itu, dapatan kualitatif menunjukkan latihan di kawasan kurang maju secara umumnya adalah efektif dalam mengembangkan kecekapan dan PCK. Dapat disimpulkan bahawa motivasi pembelajaran, identiti profesional, dan efikasi sendiri memberi impak positif terhadap PCK dan kecekapan memainkan peranan mediasi. Kajian ini menawarkan sumbangan teoretikal kepada teori penentuan diri, teori identiti sosial, dan teori efikasi sendiri dalam psikologi pendidikan awal kanak-kanak, sekali gus menekankan pengaruh identiti sosial dan keyakinan diri terhadap kecekapan dan PCK. Implikasi praktikal mencadangkan bahawa terdapat keperluan untuk menguatkan kerjasama antara kolej vokasional, jabatan pendidikan, dan komuniti bagi meningkatkan bimbingan serta mengintegrasikan teknologi untuk memperkaya latihan guru prasekolah pra-perkhidmatan di China.



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LIST OF ABBREVIATIONS

AVE Average Variance Extracted

CR Composite Reliability

HTMT Heterotrait-Monotrait Ratio of Correlation

KMO Kaiser-Mayer-Olkin

M Motivation

PCK Pedagogical Content Knowledge

PI Professional Identification

SE Self-efficacy





LIST OF APPENDICES

- A Expert Validity Assessment Form for Interview
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CHAPTER 1

INTRODUCTION



1.1 Introduction

In recent years, the demand for highly skilled and qualified pre-service preschool teachers in China has been on the rise. However, there is a growing need to understand how preservice teachers' PCK was shaped in these vocational colleges to increase the effectiveness of the educational programs. Research attention must be paid to underdeveloped areas (Zhang et al., 2022). Gansu is a region rich in cultural diversity and socio-economic variations. These factors greatly influence PCK of pre-service preschool teachers and can have a significant impact on their learning outcomes. This research, by gaining insights into the preferences, strengths, and challenges faced by





learners, this study seeks to identify effective teaching strategies and framework that can maximize the learning experience and enhance the overall quality of preschool education in the region.

This chapter provides a brief description of the study, including the research background, problem statement, research objectives, research questions, conceptual framework, operational definition of terms, contribution of the study, and structure of the thesis.

1.2 Background of the Study



Preschool education in China has experienced significant growth and reform, reflecting the government's commitment to enhancing early childhood development through improved infrastructure, curriculum, and teacher training. However, disparities persist between developed and underdeveloped regions, such as Gansu Province, where limitations in resources, infrastructure, and qualified personnel continue to challenge the provision of equitable and high-quality preschool education. In this context, the training of pre-service preschool teachers, particularly in higher vocational institutions, plays a pivotal role in addressing these gaps. Yet, institutions in underdeveloped areas often struggle with outdated teaching methods, insufficient support, and limited alignment with the professional demands of the field. Therefore, this study explores the





broader background of preschool education in China, the current state in Gansu Province, and the complexities surrounding pre-service preschool teacher training, to provide a comprehensive understanding of the educational landscape and the need for targeted improvements in underdeveloped regions.

1.2.1 Background of Preschool Education in China

The development of preschool education in China has been characterized by remarkable growth and improvement (Luo et al., 2023; Sun & Wang, 2020). In both urban and rural areas, there has been a substantial increase in the number of preschools, as well as an upward trajectory in enrollment rates. The government has placed particular emphasis on the enhancement of infrastructure and teaching facilities, ensuring that preschools are equipped with appropriate resources to support effective learning and development (Fan, 2022; Hafer, 2022). This includes the establishment of modern classrooms, age-appropriate learning materials, and the provision of appropriate play areas conducive to children's physical, cognitive, and socio-emotional growth.

Notably, the curriculum for preschool education in China has undergone significant revisions in recent years, with a greater emphasis placed on holistic development (Son & Lee, 2021). This shift recognizes the importance of fostering children's cognitive abilities, language and literacy skills, as well as their social and





emotional competence. The curriculum framework incorporates a range of subjects, including language, mathematics, science, music, art, and physical education (Fan, 2022). It also emphasizes the integration of play-based learning activities, hands-on experiences, and group interaction to foster children's curiosity, creativity, and problem-solving skills.

The current situation of preschool education in China is one of ongoing progress and improvements. Efforts have been made to address existing disparities in access to preschool education, particularly in rural and underprivileged areas (Sun & Wang, 2020). The government has initiated multiple measures to enhance teacher training and professional development, aiming to ensure that educators possess the necessary knowledge, skills, and competencies to provide high-quality early childhood education. Additionally, partnerships between preschools, families, and communities have been forged to create a supportive and engaging learning environment for children, enabling them to thrive and reach their full potential (Tomasetto et al., 2021).

Preschool education in China has undergone remarkable development and transformation in recent years (Son & Lee, 2021). Through concerted efforts and supportive policies, the government is actively promoting equal access to high-quality early childhood education (Fan, 2022; Tomasetto et al., 2021). Continued investments in infrastructure, curriculum enrichment, and teacher training reflect the commitment





to cultivating a solid educational foundation and nurturing the holistic development of children across the nation.

1.2.2 The Current Situation of Preschool Education in Gansu

The current situation of preschool education in Gansu Province, China, showcases both advancements in expanding access to early childhood education and the unique characteristics and challenges faced in less developed regions like Gansu. Gansu, located in the northwest region of China, is defined by its predominantly rural landscape, ethnic diversity, and relatively lower level of socio-economic development (Fan, 2022).

This academic discussion aims to highlight the distinctive features of preschool education in Gansu and provide an overview of its current status.

Firstly, it is essential to acknowledge efforts made to enhance access to preschool education in Gansu, with particular attention to rural and remote areas. Government policies have been implemented to increase the number of preschools and encourage the enrollment of children from disadvantaged backgrounds (Zakariya & Wardat, 2024). These initiatives aim to bridge the educational opportunity gap between Gansu's urban and rural areas, ensuring greater access to early childhood education for more children in the province (Luo et al., 2023).



Preschool education plays a vital role in laying the foundation for a child's future academic success and overall development. However, in less developed regions like Gansu, unique challenges hinder the effective implementation of quality preschool education programs. Wang and Zhang (2018) identified key constraints that plague preschool education in Gansu, including limited financial resources, inadequate infrastructure, and a shortage of qualified teachers. These factors significantly impact the quality and availability of preschool education services in the region.

The scarcity of financial resources in Gansu poses a considerable challenge in ensuring that preschool education programs receive adequate funding for essential resources such as learning materials, facilities, and teacher training. Without sufficient financial support, schools struggle to maintain quality standards and provide enriching learning experiences for young children. Additionally, the lack of proper infrastructure, including well-equipped classrooms, play areas, and sanitation facilities, further diminishes the overall learning environment for preschool students in Gansu.

Moreover, the shortage of qualified teachers exacerbates the difficulties faced by preschool education in Gansu. Qualified early childhood educators play a crucial role in supporting children's development during their formative years. However, the inadequate number of trained teachers in Gansu limits the capacity to deliver personalized instruction and create a nurturing learning environment for young learners.



This shortage not only affects the quality of education but also hampers efforts to ensure equality in education for all children in the region.

In Gansu, the disparities in educational resources between less developed regions and more affluent areas create a significant barrier to providing equitable access to the high-quality education. Children in Gansu are at a disadvantage compared to their peers in wealthier regions, as they lack access to the same level of educational opportunities and resources. This inequity in resource distribution further widens the gap in educational outcomes and perpetuates social inequalities among children from different socio-economic backgrounds.



Furthermore, the ethnic diversity of Gansu adds to the distinctive characteristics of preschool education in the province. Gansu is home to multiple ethnic minority groups, including the Tibetan, Hui, Dongxiang, and Salar communities. Preschool education initiatives in Gansu strive to respect and incorporate the diverse cultural backgrounds of these ethnic groups, promoting inclusiveness and preserving cultural heritage within the early childhood education curriculum (Sun & Wang, 2020).

Despite facing numerous challenges, there have been significant advancements in the realm of preschool education within the province of Gansu. The local government has recognized the critical need for improvements and has implemented a series of measures to tackle the existing gaps in infrastructure and



teaching resources. One noteworthy step has been the allocation of funds towards the construction and refurbishment of preschool facilities across Gansu. This investment in the physical environment where early childhood education takes place is crucial in creating conducive learning spaces for young children. Moreover, the government has also focused on enhancing the quality of education by providing training programs for preschool teachers (Luo et al., 2023). By improving the skills and knowledge of educators, the authorities aim to elevate the overall standard of instruction in preschools throughout the province. Such initiatives not only benefit the teachers themselves but also have a direct impact on the learning outcomes and experiences of the children under their care.

In addition to these efforts, collaborative partnerships between governmental bodies and non-governmental organizations have been forged to bolster preschool education in the less developed regions of Gansu. These partnerships leverage the strengths and resources of both sectors to provide comprehensive support to preschools facing challenges such as limited access to resources and professional development opportunities. Through these collaborations, a more holistic approach to addressing the needs of preschool education in underserved areas has been established, fostering a more inclusive and equitable educational landscape.

The combined efforts of various stakeholders, including the government, NGOs, educators, and local communities, have contributed to the gradual but noticeable



improvement in the current state of preschool education in Gansu. While challenges remain, the ongoing commitment to enhancing infrastructure, teacher training, and collaborative initiatives signifies a positive trajectory towards providing quality early childhood education for all children in the province. By continuing to prioritize the development of the preschool education sector, Gansu is laying a strong foundation for the future well-being and educational success of its youngest citizens.

The preschool education in Gansu Province reflects a combination of progress in expanding access and the distinct challenges encountered in less developed areas (Wang et al., 2024). Efforts to improve access, address resource limitations, and promote cultural inclusiveness have played a significant role in advancing early childhood education in Gansu. By continuing to focus on these areas and implementing targeted policies, Gansu can further enhance the quality and availability of preschool education, ensuring that all children in the province have a solid foundation for their future development and learning.

1.2.3 The Training of Preschool Teacher in China

In the 21st century, early childhood education has gained much attention globally as it is considered to be the foundation for children's development and lifelong learning. In China, early childhood education has also received unprecedented attention as the state





continues to invest in education (Yu et al., 2025) However, despite the Chinese government's tremendous efforts in early childhood education, there are still gaps in the quality of training for pre-service preschool teachers in higher vocational institutions in underdeveloped regions (Son & Lee, 2021).

In China, the training of pre-service preschool teachers relies heavily on institutions of higher vocational education (Yu et al., 2025). However, research has shown that higher education institutions in underdeveloped regions face many challenges in teacher training, such as insufficient teachers, lack of teaching resources, and outdated teaching methods (Tomasetto et al., 2021). These issues may affect the learning characteristics and preparation patterns of pre-service preschool teachers, thus affecting the quality of their education in practice.

In addition, it was found that the learning characteristics and training patterns of pre-service preschool teachers in higher vocational institutions in underdeveloped regions are influenced by a variety of factors, such as learning motivation, learning styles, and educational background (Belle et al., 2022). Therefore, an in-depth understanding of the influence of these factors on the learning characteristics and training patterns of pre-service preschool teachers is important for improving the quality of pre-service early childhood teacher training in institutions of higher vocational education in underdeveloped regions (Blömeke et al., 2022; Tomasetto et al., 2021). Therefore, studying the learning characteristics and training patterns of pre-





service preschool teachers in higher vocational institutions in underdeveloped regions of China can help to reveal the challenges faced by this particular group in educational practice and provide policy makers and educators with targeted measures for improvement (Luo et al., 2023).

The "Action Plan for Improving the Quality and Excellence of Vocational Education (2020-2023)" issued by the Ministry of Education and other nine departments propose to implement the "Three Education" reform and assertive action in vocational education, with the objectives of "improving the quality of teachers", "strengthening the construction of vocational education teaching materials" and "improving the quality of teaching in vocational education majors and courses". The aim is to improve the quality of teaching and learning in higher education by "enhancing the quality of teachers", "strengthening the construction of vocational education teaching materials" and "improving the quality of teaching in vocational education majors and courses" (Ministry of Education, 2020). However, although higher education institutions have achieved remarkable results in internal construction, higher education in underdeveloped regions still faces many challenges.

In recent years, there has been noticeable progress in the expansion and enhancement of tertiary institutions in underdeveloped areas, as they have grown in size and undergone internal development (Wang et al., 2020). Despite these advancements, the quality of classroom teaching in these institutions has not experienced a significant





improvement. This observation, highlighted in the study by Wang et al., indicates that there is still room for further enhancement in the educational practices within these underdeveloped regions. Additionally, experts in the field of early childhood education, particularly those associated with underdeveloped higher education institutions, have voiced concerns regarding the preparedness of pre-service early childhood education students upon graduation. Some of these students continue to face difficulties in fully understanding and applying standard-compliant practices within their professional roles (Hafer, 2022; Luo, 2023). These findings indicate the need for increased focus on improving the quality of classroom teaching in underdeveloped tertiary institutions, particularly in the field of early childhood education. It is crucial to address the challenges faced by pre-service students and equip them with the necessary skills and knowledge to meet the standards and requirements of their profession (Hafer, 2022).

By doing so, these institutions can better prepare early childhood education graduates to excel in their careers, thereby contributing to the overall improvement of education in underdeveloped areas.

In the realm of Chinese education, the strategic importance of vocational training has been sharply underscored in the recent past. Recognizing its critical role in fueling economic growth and fostering a capable workforce, the country has increased the focus and investment in this sector. The "double-high plan," an ambitious initiative by the Chinese government, aims to create high-level professional clusters with a modernized curriculum designed to better prepare students for the requirements of the





workforce. By harnessing these high-quality resources, the plan seeks to develop an education system that is more closely in tune with the demands of various industry sectors (Ministry of Education of the People's Republic of China, 2019).

Despite the commendable progress China has made in revamping vocational education, there is an incongruity in the focus given to the training of pre-service preschool teachers. This niche area of vocational education has not quite kept pace with the broader advancements in the sector (Wang et al., 2024). Pre-service preschool teacher training is a specialized field that requires a curriculum tailored to the unique needs of early childhood education needs which include but are not limited to understanding child psychology, fostering emotional development, and employing pedagogical strategies that are appropriate for young learners. This gap in focus has implications for the quality of preschool education nationwide. Competent and well-trained educators play a pivotal role in shaping the formative years of children, and neglecting their preparation could result in a generation of teachers who are ill-equipped to meet the educational and developmental needs of preschoolers (Luo, 2023).

Education policymakers need to consider ways to close this gap by taking measures such as introducing specialized courses that cater specifically to the training of pre-service preschool teachers, much like the "double-high plan" that is applied to other vocational fields. Curriculum reform in this area would involve a detailed analysis





of the specific competencies pre-service preschool teachers need and a redesign of courses and teaching methodologies to support these requirements (Hu et al., 2020).

While substantial strides have been made in enhancing vocational education in China through targeted curriculum construction and continuous reform, the domain of pre-service preschool teacher training remains somewhat overlooked. Bridging this gap is essential for ensuring that the youngest learners receive the highest standard of education from teachers who are comprehensively trained and prepared for the complexities of early childhood education. It requires a deliberate extension of strategies similar to those employed in the "double-high plan" and an emphasis on the unique needs of early childhood education within the ongoing vocational education reforms (Ministry of Education of the People's Republic of China, 2019; Hu et al., 2020).

Despite the ongoing reforms in higher vocational colleges to improve classroom teaching quality through changes in teachers, teaching materials, and teaching methods, the specific needs of pre-service preschool teachers have not been adequately addressed (Alqahtani & Almassaad, 2024). Given the unique challenges and requirements of preparing future preschool teachers, it is essential to prioritize their learning and professional development (Fowler, 2024). By focusing on the specific needs of pre-service preschool teachers, vocational education programs can better equip them with the knowledge, skills, and practical experience necessary to excel in their





roles. This may involve tailored training programs, mentorship opportunities, collaborative projects, and ongoing support systems to ensure their success in the field.

Furthermore, incorporating best practices from early childhood education into vocational teacher training programs can help bridge the existing gap and ensure that pre-service preschool teachers receive comprehensive and relevant instruction (Pazilah et al., 2024). By integrating theoretical knowledge with practical skills and emphasizing hands-on learning experiences, vocational education institutions can better prepare pre-service preschool teachers for the challenges they will face in their future careers. While significant progress has been made in the development of vocational education in China, there is a clear need to enhance the support and learning opportunities for pre-service preschool teachers. Addressing this gap and prioritizing the specific needs of this group, vocational education programs can better fulfill their mission of preparing skilled and effective educators for the future.

In the study of learner characteristics and training methods of pre-service preschool teachers in higher education institutions in underdeveloped areas, we need to focus on the trend of learning-centered teaching and learning reform (Wang et al., 2020). In this process, teachers and students work together and teach together to achieve student-centeredness by paying attention to students' differences and learning characteristics; learning for teaching through higher Vocational college teachers' understanding of students and students' learning characteristics to truly improve





teaching quality and achieve students' full development (Wang et al., 2024). Obviously, the lack of attention to students' learning by teachers in higher Vocational colleges has brought difficulties to the improvement of the quality of higher vocational teaching in underdeveloped areas.

Therefore, in studying the learner characteristics and training methods of pre-service preschool teachers in higher education institutions in underdeveloped regions, we need to focus on the learning needs and characteristics of students and how to improve the quality of teaching through the professional development of teachers and the improvement of teaching methods in higher education schools (Sun & Wang, 2020).

This will help to address the challenges facing higher vocational education in underdeveloped regions and lay a solid foundation for the training of technically skilled personnel.

In 2018, there are various other policies related to the preschool education have also explicitly stated that the early childhood teacher training colleges to specifically train preservice teachers should be set up, and teacher training colleges should be supported to set up and run preschool education majors to educate teachers with sufficient professional knowledge (Purniningtyas et al., 2024; Yu et al., 2025), and many other policy documents on education planning mention the development of preschool education from different perspectives. This not only reflects the high importance the state attaches to the training of preschool teachers, but also responds to





the current social needs and expectations for the development of preschool education majors in vocational education (Zhang, 2019).

Preschool teachers are the key to the current reform and development of preschool education, and the professionalism of teachers is crucial to the success or failure of national education reform (Son & Lee, 2021). Talent cultivation is the core of talent competition, and as an important part of vocational education, higher vocational education focuses on the development of students' practical skills and establishes a practical teaching system that meets the requirements of vocational jobs, which is the key to cultivating high-quality talents and the focus of teaching reform in higher vocational preschools (Wang et al., 2024). Therefore, a complete set of early childhood teacher training programs will have a profound impact on the development of higher preschool education, and training high-quality preschool teachers is the primary task in the current development of preschool education in China (Son & Lee, 2021).

Although China has given great attention and support to preschool education in recent years, and has achieved great results, many universities have revised their personnel training programs and increased the proportion of credits (Luo et al., 2023). The current method of training personnel in Chinese higher education preschool education still suffers from unclear positioning of training objectives, lack of a scientific and thorough practical teaching system and operational mechanism, and inadequate





quality management (Li, 2019). Therefore, to improve the quality of preschool education teaching and learning, it is necessary to adjust and reconstruct the personnel training method of preschool education majors.

Education is the fundamental way to improve one's quality and competitiveness and to break poverty (Akram et al., 2021; Baier et al., 2019). Preschool education is the foundation of the national education system and affects the future development of people. However, the economic base in underdeveloped regions is weak, the education level is low and people lack sufficient attention to preschool education (Fan, 2022). As national education reform continues to progress, preschool education policies in China's underdeveloped regions are being developed through continuous adjustments and are gradually being standardized and constructed in terms of institutions, funding, teachers and quality. In recent years, although China has made great efforts to make up for the shortcomings in the development of preschool education in underdeveloped regions (Wang et al., 2024), the implementation of policies has lagged behind, teachers are extremely lacking in both quality and quantity, the localized teacher training system is not perfect, the training system is not sound, and it is difficult to bring in talents, resulting in a situation where it is difficult to bring in people and impossible to retain them (Kang & Deng, 2019).

To investigate and study the characteristics of learners and talent cultivation method of pre-service preschool teachers in higher vocational colleges in





underdeveloped regions, and to draw on the advanced experience of developed regions in talent cultivation with high adaptability to underdeveloped regions on the basis of the law of regional development, in order to propose optimized countermeasures for underdeveloped regions (Son & Lee, 2021). The study also proposes measures to optimize the talent training method of pre-service preschool teachers in higher education institutions in underdeveloped regions.

To sum up, as society's requirements for the quality of preschool teachers increase, so do the requirements for the training of preschool education professionals (Luo, 2023). As the main training ground for high-quality preschool teachers, the current method of training preschool education professionals is poorly matched with the requirements of kindergartens for the professional competence of teaching staff, making it difficult to meet realistic needs. This requires the development of the region's talent cultivation characteristics and the learning of advanced experiences in the cultivation of higher vocational preschool education professionals in developed regions. The study therefore aims to analyze the current situation and problems of the characteristics of learners and talent training methods of pre-service preschool teachers in higher education institutions in underdeveloped regions, as well as to summarize the advanced experiences of developed regions (Sun & Wang, 2020), so as to provide reference and guidance for the development of underdeveloped regions in terms of theoretical experience, and ultimately help underdeveloped regions in China to realize the rapid development strategy of vocational education.





1.3 Problem Statement

In the realm of early childhood education, the professional knowledge and skills of preschool teachers are of utmost importance for the holistic development of young learners. Pedagogical Content Knowledge (PCK) is crucial, enabling them to effectively teach specific subject matter to students (Hafer, 2022; Tomasetto et al., 2021). In China, especially in Gansu province, vocational colleges play a significant role in training preschool teachers. However, the factors influencing the development of PCK among these teachers remain relatively under-explored.

Motivation is a driving force that can significantly affect teachers' efforts and commitment in enhancing their professional knowledge. Teachers with high motivation are more likely to engage in continuous learning and improvement, which in turn may positively impact their PCK. self-efficacy, which refers to an individual's belief in their ability to successfully perform a particular task, also plays a vital role in teachers' professional development. This confidence can contribute to the improvement of their PCK as they are more willing to engage in reflective practice and learning from experiences (Pazilah et al., 2024; Wang et al., 2024).

Professional identification, the degree to which teachers identify with their profession, can influence their attitudes and behaviors towards teaching. Teachers with a strong professional identification are more likely to be committed to their work, take





pride in their profession, and invest in their professional growth. A positive professional identification can lead to increased efforts in enhancing PCK, as teachers see themselves as an integral part of the teaching community and are motivated to meet the high standards of the profession (Abdullah & Nadia, 2019).

Moreover, competency can act as a mediator in the relationships between motivation, self-efficacy, professional identification, and PCK (Esto, 2024; Zakariya & Wardat, 2024). Competency encompasses a range of skills, knowledge, and attitudes that are required for effective teaching. Teachers' overall competency level may determine how well they can translate their motivation, self-efficacy, and professional identification into actual improvements in PCK. For example, a teacher with high motivation and self-efficacy may not be able to enhance their PCK if they lack the necessary competencies to implement new teaching strategies (Son & Lee, 2021).

In the context of vocational colleges in Gansu, China, there is a lack of comprehensive research on how motivation, self-efficacy, and professional identification interact with each other and how they are mediated by competency to influence preschool teachers' PCK. Existing studies have mainly focused on general teacher populations or other regions, and the specific situation of preschool teachers in vocational colleges in Gansu may be different due to factors such as local educational policies, cultural background, and the unique nature of vocational education (Luo et al., 2023; Zhang et al., 2019). Therefore, understanding these relationships is crucial for





developing targeted strategies to enhance the PCK of preschool teachers in vocational colleges in Gansu, which will ultimately improve the quality of early childhood education in the region (Fatimah & Fakhriyyah, 2019).

Preservice teacher training programs in China, including those in Gansu's vocational colleges for preschool teachers, often prioritize theoretical knowledge and practical skills acquisition. However, they may neglect to foster intrinsic motivation among trainees. Teachers' motivation is a key factor in their professional development and the enhancement of Pedagogical Content Knowledge (PCK). Without a strong sense of intrinsic motivation, such as a genuine love for teaching young children, preservice teachers may lack the drive to continuously improve their PCK (Martins & Baptista, 2024). For example, training curricula may not include activities or courses that help trainees discover the joy and significance of early childhood education, leading to a lack of long-term commitment to the profession (Yu et al., 2025). The training systems sometimes rely too heavily on external incentives like grades or certificates. While these can provide short-term motivation, they may not be sufficient to sustain long-term enthusiasm for teaching. In a vocational college setting, where the focus is often on meeting certain educational standards and obtaining qualifications, preservice teachers may view training to an end rather than a process of self-improvement and professional growth. This overemphasis on external rewards can undermine the development of a deep-seated motivation that is essential for effective teaching and PCK development (Martins & Baptista, 2024; Puspitasari et al., 2024).





Preservice teacher training may not offer enough opportunities for trainees to gain practical teaching experience in real preschool settings. Without hands-on experience, it is difficult for them to develop a realistic sense of their teaching abilities, which is crucial for building self-efficacy. Moreover, when practical training is provided, the feedback from mentors may be limited or not specific enough. Trainees need detailed and constructive feedback to understand their strengths and weaknesses, and to improve their teaching skills. Without this support, their self-efficacy may remain low, and they may be hesitant to try new teaching methods, which can impede the development of their PCK (Pendergast et al., 2025; Purniningtyas et al., 2024).

Training programs may set unrealistic expectations for preservice teachers, such as mastering a large amount of complex theoretical knowledge and teaching skills within a short period. When trainees fail to meet these expectations, it can lead to a decrease in self-efficacy (Pendergast et al., 2025). For example, if they are expected to handle various challenging classroom situations without adequate preparation, they may feel overwhelmed and doubt their ability to become effective teachers. This lack of self-confidence can have a negative impact on their willingness to engage in activities that enhance PCK (Martins & Baptista, 2024; Puspitasari et al., 2024).

There may be a lack of effective role models in the training process. Experienced and successful preschool teachers are not always actively involved in the training, which means preservice teachers have limited exposure to positive examples





of the profession. Additionally, the training environment may not foster a strong professional culture that emphasizes the values and importance of preschool teaching. Without these elements, preservice teachers may struggle to develop a sense of belonging and pride in the profession, which is essential for building professional identification and ultimately enhancing PCK (Zhao et al., 2017).

The training programs may not have a comprehensive and well-defined competency framework that clearly outlines the skills, knowledge, and attitudes required for preschool teachers (Pazilah et al., 2024). This lack of clarity can make it difficult for preservice teachers to understand how their motivation, self-efficacy, and professional identification relate to the development of PCK. For example, they may not be aware of the specific competencies needed to effectively apply their motivation and self-efficacy in improving their PCK, such as the ability to design developmentally appropriate teaching materials (Zakariya & Wardat, 2024).

1.4 Research Objectives

The specific objectives of the study are listed below.

1. To determine the impacts of learning motivation, professional identity, and self-efficacy on preservice teachers' PCK.



2. To determine the impacts of learning motivation, professional identity, and self-efficacy on preservice teachers' competence.
3. To determine the mediating effect of competence in the relationship between PCK and learning motivation, professional identity, self-efficacy.
4. To determine the best predictors (learning motivation, professional identity, and self-efficacy) of PCK.
5. To understand the perception of preservice teachers' training in vocational colleges in Gansu, China.

1.5 Research Questions

The specific research questions are as follows:

1. What are impacts of learning motivation, professional identity, and self-efficacy, on preservice teachers' PCK?
2. What are impacts of learning motivation, professional identity, and self-efficacy, on preservice teachers' competence?



3. Does competence mediate the relationship between PCK and learning motivation, professional identity, self-efficacy?
4. What is the best predictors (learning motivation, professional identity, and self-efficacy) of PCK?
5. What is the perception of preservice teachers' training in vocational colleges in Gansu, China?

1.6 Research Hypotheses



This study proposes the following hypotheses:

- H1a. There is a significant relationship between learning motivation and preservice teachers' PCK.
- H1b. There is a significant relationship between professional identification with teaching career and preservice teachers' PCK.
- H1c. There is a significant relationship between self-efficacy and preservice teachers' PCK.





H2a. There is a significant relationship between learning motivation and preservice teachers' competence.

H2b. There is a significant relationship between professional identification with teaching career and preservice teachers' competence.

H2c. There is a significant relationship between self-efficacy and preservice teachers' competence.

H3a. Competence mediates the relationship between learning motivation and preservice teachers' PCK.



H3b. Competence mediates the relationship between self-efficacy and preservice teachers' PCK.

H3c. Competence mediates the relationship between professional identification and preservice teachers' PCK.





1.7 Conceptual Framework of the Study

The conceptual framework of this study illustrates the hypothesized relationships among key variables influencing pre-service preschool teachers' pedagogical content knowledge (PCK). As shown in Figure 1.1, the framework is grounded in established theories of teacher development and learning motivation, integrating cognitive, affective, and identity-based components to explore how internal learner characteristics shape professional competence and ultimately influence teaching knowledge.

In this model, motivation, self-efficacy, and professional identification function as the independent variables. These constructs represent essential internal drivers that affect how pre-service teachers engage with their training and professional development. Motivation captures the learners' drive and interest in becoming effective educators; self-efficacy refers to their belief in their ability to succeed in teaching tasks; and professional identification relates to the extent to which they perceive themselves as future teachers and align with the values of the profession.

Competence is introduced as a mediating variable, reflecting the degree to which learners have developed the necessary skills, knowledge, and attitudes to perform effectively in teaching-related contexts. It serves as a bridge between the independent variables and the outcome variable, suggesting that while motivation, self-efficacy, and



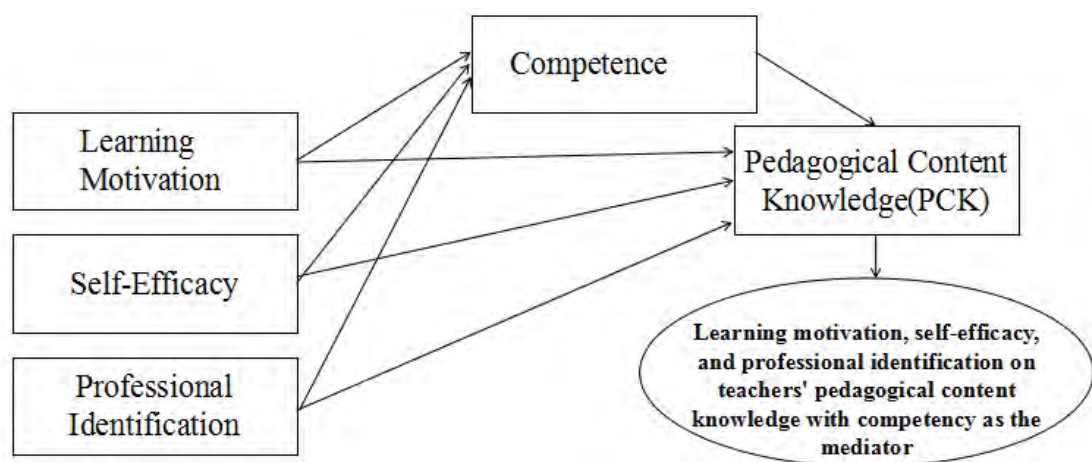
professional identity may directly influence PCK, they also exert an indirect effect by enhancing the teacher's competence.

Finally, the dependent variable, Pedagogical Content Knowledge (PCK), represents the core teaching capability that integrates subject matter expertise with appropriate pedagogical strategies tailored to early childhood education. The framework posits both direct and indirect paths leading to PCK, emphasizing the dynamic interplay between cognitive, emotional, and professional factors in shaping pre-service teachers' instructional readiness. This model guides the research in testing the relationships among variables and provides a structured lens through which to analyze how internal attributes contribute to effective teacher preparation in

underdeveloped regions.

Figure 1.1

Research Framework





1.8 Operational Definition

Below are the terms that are commonly used in this study. Some terminologies are prevalently used in the field of education, whereas some others are specifically applicable in this study.

1.8.1 Learning Motivation

Learning motivation refers to the internal drive, desire, or interest that individuals have to engage in learning activities or pursue knowledge (Teixeira et al., 2020). It encompasses the willingness and enthusiasm to learn, set goals, and persist in the face of challenges. In the case of pre-service preschool teachers, learning motivation pertains to their personal reasons and aspirations for entering the teaching profession and their eagerness to acquire the necessary knowledge and skills to become effective educators.

In this study, learning motivation of pre-service teachers includes the intrinsic and extrinsic factors that drive and influence their engagement, interest, and enthusiasm towards their own learning and professional development as they prepare to become teachers. It involves the internal drive, goals, and aspirations that push pre-service teachers to acquire knowledge, skills, and competencies necessary for their future teaching careers.





1.8.2 Self-Efficacy

Self-efficacy is an individual's belief in their own ability to effectively perform specific tasks or accomplish goals in a particular domain (Vasconcellos et al., 2020). In the context of pre-service preschool teachers, self-efficacy relates to their confidence in their teaching abilities and their belief that they can effectively carry out tasks related to instruction, classroom management, and student engagement.

In this study, self-efficacy of teachers refers to a teacher's belief in their ability to successfully perform the tasks and responsibilities related to their profession. It is a belief in one's own competence and capacity to effectively teach and positively impact student learning outcomes.



1.8.3 Professional Identification

Professional identification refers to the process by which individuals identify and determine their desired career path or professional direction. It involves the recognition and understanding of one's skills, interests, values, and goals, as well as an exploration of various career options and opportunities (Wang et al., 2020). Career identification is a dynamic process that involves self-reflection, self-assessment, and exploration of different career paths. It involves considering one's strengths, weaknesses, and personal





preferences to identify a career that aligns with their skills, interests, and values (Wang et al., 2020). Additionally, career identification may involve researching different occupations, seeking career guidance, and gaining practical experience to make informed decisions about one's professional trajectory.

In this study, identification with teaching as a career refers to the extent to which individuals identify themselves as part of the teaching profession and view it as a meaningful and fulfilling long-term occupation (Asplund, 2020; Wang et al., 2020). It involves a sense of professional identity, commitment, and connection to the role of being a teacher. For pre-service preschool teachers, identification with teaching as a career reflects their dedication to imparting knowledge and shaping young minds, as well as their willingness to contribute to the education sector (Wang et al., 2020).

1.8.4 Competence

Competence in teacher training is of utmost importance as it equips educators with the necessary skills, knowledge, and attitudes to effectively facilitate student learning.

In this study, there are four dimensions of competence. The first is subject-matter competence. Teachers must have a thorough understanding of the subjects they teach. In a history class, a teacher should not only know the facts and events but also





be able to analyze historical trends, different perspectives, and the significance of historical events. The second is assessment competence. Teachers need to be proficient in using both formative and summative assessment methods. Formative assessment, such as quizzes, class discussions, helps teachers monitor students' learning progress during the instructional process and make timely adjustments to their teaching. The third is technological competence. Teachers need to be familiar with various educational technologies, such as learning management systems interactive whiteboards, and educational apps. They should be able to use these tools to enhance teaching and learning. The fourth is social and emotional competence. Teachers should be empathetic towards their students, understanding their feelings, needs, and challenges. They need to build positive relationships with students based on trust and respect.



1.8.5 Teacher PCK

PCK stands for Pedagogical Content Knowledge. It is defined as the specialized knowledge that the teachers have about how to teach specific content to students and how to make that content understandable and accessible. PCK encompasses not only knowledge of pedagogy (teaching methods) but also understanding of the specific content being taught. In the context of pre-service preschool teachers, teacher competence refers to their proficiency in areas such as curriculum planning, child





development, fostering positive learning environments, and promoting students' intellectual and social development (Karlen et al., 2024).

In this study, teacher PCK refers to the pedagogical knowledge, specific content and teaching skills that enable a teacher to effectively carry out their role and responsibilities in the classroom. It encompasses a wide range of qualities and abilities that contribute to successful teaching and positive student outcomes.

1.8.6 Pre-service Preschool Teachers



Pre-service preschool teachers are individuals who are currently undergoing training or education to become qualified teachers specifically for preschool or early childhood education settings. They are in the stage of preparing for their professional career and have not yet gained practical experience in a teaching role. The pre-service training for preschool teachers typically includes coursework on child development, curriculum planning, teaching methodologies, classroom management, and assessment strategies, among others (Zhang et al., 2019).

In this study, pre-service preschool teachers are students majoring in education in normal vocational colleges. They are students in the fifth and sixth semesters who





major in preschool education. The participants in this study will be students who had finished coursework and has internship experiences.

1.8.7 Vocational Colleges

Vocational colleges, also known as technical colleges or trade schools, are educational institutions that offer specialized vocational and technical training programs to prepare students for specific careers or industries (Ministry of Education, 2020). These colleges focus on providing practical, hands-on training and skills development that directly align with the needs of the workforce. Unlike traditional four-year colleges or universities that offer broad-based academic programs, vocational colleges typically offer shorter-term programs ranging from several months to a few years in duration.

These programs often lead to diplomas, certificates, or associate degrees.

In this study, vocational colleges are educational institutions that provide specialized vocational and technical education to students. These colleges primarily focus on equipping students with practical skills and knowledge that are directly applicable to specific industries or professions (Ministry of Education, 2020). This study will focus on vocational colleges that offer normal majors that train teachers.





1.9 Limitations of the Study

While this study contributes meaningfully to the body of research on pre-service preschool teacher training in China, particularly within the context of vocational education in underdeveloped regions, several limitations must be acknowledged. Firstly, the study employed a cross-sectional research design, capturing data at a single point in time. Although this approach provides valuable insights into the current relationships between motivation, self-efficacy, professional identification, competence, and pedagogical content knowledge (PCK), it does not account for changes that may occur over time. A longitudinal design would be better suited for tracking the developmental trajectory of teacher competence and PCK as students progress through their training and into professional practice. Such an approach could yield more robust evidence regarding causality and the sustainability of observed patterns.

Secondly, the research was geographically limited to a single province—Gansu, which, while providing critical insight into the challenges faced by underdeveloped regions in China, may limit the generalizability of the findings to other provinces. China is a vast and culturally diverse country, and regional differences in educational policy implementation, resource allocation, institutional structures, and socioeconomic development can significantly influence pre-service teacher training outcomes. Therefore, future studies should consider a multi-regional or even national





comparative approach to better understand the variation and applicability of findings across different educational landscapes.

Moreover, the scope of variables examined in this study—motivation, self-efficacy, professional identification, and competence—while important, does not encompass all potential influences on pre-service teachers' development. For instance, peer influences, mentorship quality, institutional support systems, family background, and even digital learning experiences could play substantial roles in shaping teaching competence and PCK. Incorporating these variables in future models would allow for a more holistic understanding of the ecosystem that supports teacher preparation.



Finally, the reliance on self-reported data through questionnaires and interviews may introduce biases such as social desirability or inaccurate self-assessment. Although triangulation methods and validity checks were employed, future research could benefit from incorporating direct observational methods, teaching simulations, or performance-based assessments to gain a more objective picture of teacher competence and PCK application.

In summary, while this study lays a strong foundation for understanding the interplay between psychological and professional variables in teacher education, it also highlights areas for methodological and contextual enhancement. Addressing these limitations in future research will be essential for developing more comprehensive,





evidence-based strategies to improve teacher training in China and similar educational settings globally.

1.10 Significance of the Study

The significance of this research lies in its dual contribution to both theoretical understanding and practical application within the field of early childhood education, particularly in underdeveloped regions like Gansu, China. By investigating the interrelationships between motivation, self-efficacy, professional identification, competence, and Pedagogical Content Knowledge (PCK) among pre-service preschool teachers, the study provides a comprehensive perspective on the psychological and professional factors influencing teacher preparedness. It addresses gaps in the existing literature by introducing competence as a mediating variable, thereby deepening insights into how internal and contextual factors interact to shape PCK. Additionally, the findings offer valuable implications for teacher training programs, curriculum designers, and policymakers, supporting the development of more targeted, culturally responsive, and effective approaches to enhance the quality of preschool education in vocational college settings.





1.10.1 Theoretical Significance

This study expands the existing body of knowledge in teacher education by specifically examining the relationships between motivation, self-efficacy, professional identification, competence, and Pedagogical Content Knowledge (PCK) among preschool teachers in vocational colleges in Gansu (Yu et al., 2025; Zakariya & Wardat, 2024). These factors have been studied in isolation in many previous works, but this research explores their combined influence, which helps to develop a more comprehensive theoretical framework for understanding how motivation, self-efficacy, professional identification, and competence shape PCK.



It also adds to the literature on the role of competencies as mediators in educational contexts. By demonstrating how competencies mediate the relationships between the aforementioned factors and PCK, it offers new insights into the complex mechanisms that drive the development of PCK in pre-service teachers.

Focusing on Gansu province in China provides a unique cultural and regional perspective. Different regions have distinct educational, social, and economic characteristics that can influence teacher development (Martins & Baptista, 2024; Wang et al., 2024). This research contributes to adapting and refining teacher education theories to better suit the specific context of less-developed regions in China. It can





serve as a reference for other regions with similar characteristics to understand how local factors interact with global educational concepts.

1.10.2 Practical Significance

The findings of this research can directly inform the design and improvement of preschool teacher training programs in vocational colleges in Gansu. For example, if motivation is found to have a strong impact on PCK development, training programs can be adjusted to incorporate more motivational strategies, such as goal-setting activities, rewards for achievements, and inspiring teaching examples.



Understanding the role of self-efficacy and professional identification can also guide the development of training modules aimed at enhancing these aspects (Polat et al., 2025; Zakariya & Wardat, 2024). Training could include self-reflection exercises, mentorship programs, and exposure to successful preschool teaching cases to boost self-efficacy and strengthen professional identification.

Since PCK is crucial for effective teaching, improving the PCK of preschool teachers in vocational colleges will ultimately lead to better-quality preschool education in Gansu. Teachers with higher levels of PCK are more likely to design engaging and developmentally appropriate teaching activities, which can have a positive impact on





the cognitive, social, and emotional development of preschool children (Alqahtani & Almassaad, 2024).

The results of this study can provide valuable information for educational policymakers in Gansu. They can use the findings to formulate policies that support the development of preschool teachers, such as providing incentives for teachers to enhance their motivation, self-efficacy, and professional identification. In terms of resource allocation, policymakers can direct resources towards areas that are identified as critical for PCK development. For example, if cooperation ability (a type of competency) is found to be an important mediator, resources can be allocated to training programs that focus on improving teachers' cooperation skills.



For individual preschool teachers in vocational colleges, the research offers self-improvement guidance. Teachers can use the insights to reflect on their own motivation, self-efficacy, and professional identification levels and take steps to enhance them. They can also understand the importance of developing various competencies to improve their PCK, which is beneficial for their long-term professional growth.





1.11 Research Structure

This thesis is organized into five chapters, each serving a distinct purpose in addressing the research objectives. Chapter 1 introduces the study by outlining the research background, problem statement, research questions, objectives, significance, definitions of key terms, and the conceptual framework. It establishes the foundation of the research by contextualizing the issue under investigation and justifying the need for the study.

Chapter 2 presents a comprehensive literature review that critically examines previous research and theoretical perspectives relevant to the study. This chapter synthesizes existing findings on key constructs such as motivation, self-efficacy, professional identification, competence, and pedagogical content knowledge (PCK). It also highlights gaps in the literature, thereby laying the theoretical groundwork for the research model and guiding the development of hypotheses and research instruments.

Chapter 3 details the research methodology employed in this study. It describes the research design, participant selection, sampling techniques, instrument development, data collection procedures, and statistical analysis methods. This chapter ensures transparency and rigor by providing a clear account of how the study was conducted and how data were analyzed to address the research questions.





Chapter 4 presents the results of the study. It reports the findings derived from both descriptive and inferential analyses, including the examination of relationships among variables and the testing of mediation effects. This chapter is structured around the research questions and provides empirical evidence that supports or refutes the hypotheses.

Finally, Chapter 5 offers a discussion of the key findings in relation to the existing literature and theoretical framework. It outlines the practical and theoretical implications of the study, acknowledges its limitations, and proposes recommendations for future research. This concluding chapter synthesizes the overall contributions of the dissertation and emphasizes its relevance to educational practices, particularly in the context of teacher training in underdeveloped regions.

1.12 Summary

Chapter One serves as the introductory foundation of this study, presenting the essential components that guide and structure the research. It begins by offering a comprehensive background to situate the study within its broader educational and socio-cultural context, particularly focusing on preschool teacher education in vocational colleges in underdeveloped regions of China. The chapter outlines the research problem, objectives,





and questions that frame the scope of the investigation, thereby clarifying the direction and purpose of the study.

In addition, this chapter underscores the theoretical and practical significance of the research, emphasizing its potential contributions to the field of teacher education and vocational training. The definitions of key terms are provided to ensure conceptual clarity and consistency throughout the dissertation. Collectively, these elements establish a strong platform upon which the subsequent chapters are built.

The next chapter, Chapter Two, will present a critical literature review. It will explore existing research and theoretical frameworks related to the key variables in this study, including China's educational system, professional identification, self-efficacy, learning motivation, teacher competence, and teacher training frameworks. By synthesizing current scholarly discourse, Chapter Two will further contextualize the study, highlight research gaps, and support the development of the conceptual framework used in this investigation.

