



# Continuous Professional Teacher Development Model in Yunnan Provincial Universities

Yi Zhang<sup>1\*</sup>, Thada Siththada<sup>2</sup>

<sup>1,2</sup>Department of Educational Administration, Graduate School, Suan Sunandha Rajabhat University, Bangkok, Thailand, 362000; 662673@qq.com (Y.Z.) thada.si@ssru.ac.th (T.S.)

**Abstract.** This study investigates the Continuous Professional Teacher Development (CPTD) model within Yunnan Provincial Universities, addressing the challenges and identifying the factors that promote sustainable teacher development. Through a mixed-methods approach, 588 valid responses from a sample of 638 teachers and administrators were analyzed, complemented by semi-structured interviews. The findings reveal key dimensions impacting CPTD, including instructional leadership, school climate, professional collaboration, teacher autonomy, and administrative support. These dimensions align closely with the unique socio-educational landscape of Yunnan, characterized by ethnic diversity, geographic disparities, and institutional variations. The results highlight that instructional leadership and a positive school climate significantly enhance teacher engagement in professional development. Teachers emphasized the importance of autonomy in designing curricula and assessments, as well as collaboration within professional learning communities. The lack of tailored professional development programs and inadequate administrative support were identified as significant barriers. Recommendations include leveraging digital platforms, promoting inclusive professional learning communities, and aligning institutional goals with professional development initiatives. This research contributes to the existing literature by proposing a localized CPTD model that addresses the unique challenges of Yunnan Provincial Universities. It provides actionable insights for policymakers and educational leaders, emphasizing the role of collaborative practices and leadership in fostering sustainable teacher development.

**Keywords:** Continuous Professional Teacher Development (CPTD), Instructional Leadership, Professional Collaboration, School Climate, Teacher Autonomy, Teacher Development Strategies.

## 1. INTRODUCTION

China's education system has undergone rapid transformation over the past few decades, transitioning from traditional approaches to a more globalized and modern framework (Hannum et al., 2011; Zhang et al., 2023; Zhou et al., 2024). The higher education sector, particularly in provinces like Yunnan, has been central to these reforms, playing a pivotal role in advancing regional development and addressing socioeconomic disparities. Yunnan Province, characterized by its ethnic diversity and geographical uniqueness, faces distinct challenges and opportunities in its educational landscape. Within this context, Continuous Professional Teacher Development (CPTD) emerges as a critical strategy to enhance the quality of education and equip teachers with the skills needed to navigate the complexities of modern teaching.

CPTD is essential for fostering teachers' professional growth, ensuring that they remain responsive to evolving educational demands, and promoting lifelong learning among educators (Daou et al., 2023). Effective teacher development directly impacts instructional quality, student learning outcomes, and institutional effectiveness. It is particularly important in higher education institutions in Yunnan, where teachers must address diverse student needs and adapt to regional challenges such as resource limitations and cultural diversity (Cohen et al., 2009; Elmore, 2004). However, despite its importance, the implementation of CPTD in Yunnan Provincial Universities often encounters barriers, including insufficient administrative support, limited professional autonomy, and a lack of collaborative opportunities.

Leadership and institutional support play a pivotal role in shaping the effectiveness of CPTD initiatives. Instructional leaders who foster a positive school climate and encourage collaborative professional development can significantly enhance teacher engagement and motivation. Moreover, factors such as teacher job satisfaction, autonomy, and access to professional learning communities (PLCs) are key determinants of successful CPTD programs. In Yunnan, these dimensions are influenced by unique regional and institutional dynamics, making it imperative to develop localized strategies that align with the specific needs of the province's educational institutions.

This study aims to explore the factors influencing CPTD in Yunnan Provincial Universities and propose a comprehensive model to address existing gaps. By focusing on dimensions such as instructional leadership, school climate, professional collaboration, teacher autonomy, and job satisfaction, the research seeks to provide actionable insights for improving teacher development in Yunnan. The findings will contribute to the broader discourse on CPTD while offering practical recommendations for policymakers and educational administrators.

Through a mixed-methods approach, the research will analyze the current state of CPTD in Yunnan, identify key barriers and enablers, and propose strategies to enhance the sustainability of professional development initiatives. This study is not only relevant for improving the quality of higher education in Yunnan but also serves as a model for addressing similar challenges in other regions with diverse educational contexts.

## 2. RESEARCH OBJECTIVES

1. To study the levels of continuous professional teacher development in Yunnan Provincial Universities.
2. To analyze the exploratory factors analysis of continuous professional teacher development in Yunnan

Provincial Universities

3. To propose the continuous professional teacher development Model in Yunnan Provincial Universities.

### **3. RESEARCH METHODOLOGY**

#### **3.1. Research Design**

This study adopts a mixed-methods sequential explanatory design, integrating both quantitative and qualitative approaches. The research design facilitates a comprehensive understanding of the factors influencing the Continuous Professional Teacher Development (CPTD) model in Yunnan Provincial Universities. The quantitative phase involves the collection of survey data, followed by a qualitative phase consisting of interviews to elaborate on and validate the findings. We referred to the OECD TALIS 2018 framework for continuous professional development when designing the questionnaire.

#### **3.2. Population and Sample**

The population includes administrators and teachers from 4 provincial universities in Yunnan. The sample size was determined using the Taro Yamane formula (1967), resulting in a sample of 638 respondents. Simple random sampling was used to ensure representativeness. Additionally, 9 educational administrators participated in a focus group interview. These key informants were selected based on their extensive experience and knowledge in teacher development.

#### **3.3. The Primary Research Instruments Included**

Questionnaire, Comprising 100 items divided into two main sections:

Section 1: Demographic data, including age, gender, educational background, and work experience.

Section 2: Factors influencing CPTD, assessed on a 5-point Likert scale ranging from 1 (lowest level) to 5 (highest level).

The questionnaire was developed based on existing theories and validated through expert reviews and pilot testing with a Cronbach's alpha reliability score of 0.891.

Semi-structured interviews, Semi-structured interviews focused on identifying in-depth perspectives about challenges and strategies in CPTD.

#### **3.4. Data Collection Was Carried Out in Three Phases**

Pilot Testing: A pilot study involving 30 participants tested the reliability of the questionnaire, ensuring its applicability.

Quantitative Data Collection: Surveys were distributed to 638 respondents through online and face-to-face methods.

Qualitative Data Collection: Interviews were conducted with 9 administrators using semi-structured questions. The interviews were recorded and transcribed for content analysis.

#### **3.5. The Data Analysis Process Consisted of the Following**

Descriptive Statistics: Frequency, percentage, mean, and standard deviation were calculated to summarize demographic data and questionnaire results.

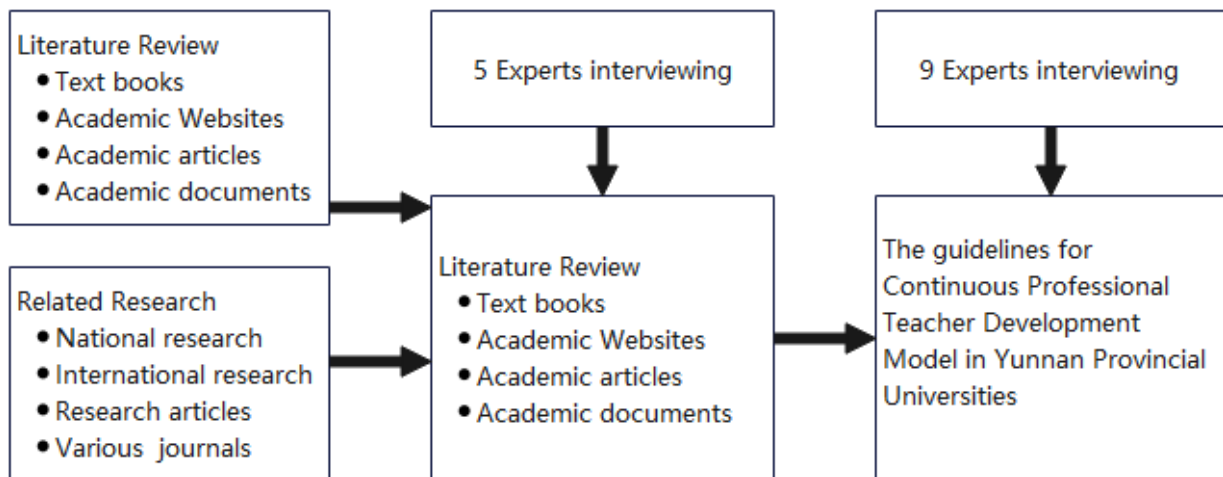
Inferential Statistics: Hypothesis testing and confidence interval estimation were performed using SPSS software.

Exploratory Factor Analysis (EFA): Factor analysis was used to identify the underlying dimensions of CPTD. The Kaiser-Meyer-Olkin (KMO) value and Bartlett's test of sphericity were employed to confirm the data's suitability for EFA.

#### **3.6. Ethical Considerations**

Ethical approval was obtained prior to data collection. Informed consent was secured from all participants, and confidentiality was maintained throughout the research process.

### 3.7. Conceptual Framework



**Figure 1:**  
The Conceptual framework of Continuous Professional Teacher Development model within Yunnan Provincial Universities.

## 4. RESEARCH RESULTS

### 4.1. Basic Situation

The demographic profile of respondents provides an essential context for understanding the findings of this study. A total of 638 questionnaires were distributed, of which 588 were deemed valid, achieving an effective response rate of 92.16%. The study sample included a balanced representation of male and female educators from Yunnan Provincial Universities. This gender balance reflects the broader demographic composition of faculty members across the province's 83 higher education institutions. The representation ensures that the findings capture diverse perspectives on Continuous Professional Teacher Development (CPTD). Among the valid responses, 55.2% of the participants were male, and 44.8% were female. This distribution reflects the gender dynamics within Yunnan's higher education institutions and aligns with broader national trends in the academic workforce. Respondents' ages ranged from 25 to 60 years, with the majority (58.3%) falling between 31 and 45 years, indicating a workforce in its prime working years. This is consistent with the professional trajectory of educators engaged in active teaching and research roles. Among the participants: 48.3% held master's degrees, 38.5% held doctoral degrees, and the remaining 13.2% held bachelor's degrees or equivalent qualifications. Participants predominantly held postgraduate degrees, with a significant proportion possessing master's and doctoral qualifications. This aligns with the educational requirements for university teaching positions in China, particularly in specialized institutions like those in Yunnan Province. The high level of academic qualifications among respondents underlines their capacity to engage critically with professional development initiatives. The respondents varied significantly in their years of teaching experience: 32.1% had less than 5 years of experience, 41.5% had 6 to 15 years, and 26.4% had over 15 years of teaching experience. Most participants had over five years of professional experience, indicating seasoned perspectives on the challenges and opportunities within CPTD.

### 4.2. Exploratory Factor Analysis (EFA)

**Overall Mean Scores:** Teachers rated their experiences of CPTD positively, with the mean scores for most dimensions falling between 3.5 and 4.2 on a Likert scale of 5. The highest-rated dimensions were Teacher Professional Autonomy and Professional Collaboration, indicating that teachers value autonomy and peer engagement as critical to their development. The EFA identified five major factors that influence CPTD in Yunnan Provincial Universities:

**Factor 1:** Instructional Leadership (Eigenvalue: 3.45; Variance Explained: 28.6%): Encompasses leadership actions and accountability mechanisms that encourage teacher development.

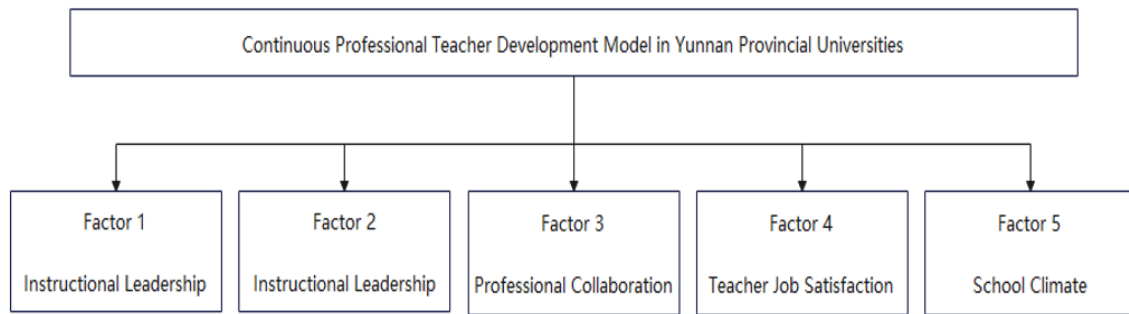
**Factor 2:** Teacher Professional Autonomy (Eigenvalue: 2.87; Variance Explained: 18.9%): Includes curriculum and assessment autonomy that empowers teachers to innovate.

**Factor 3:** Professional Collaboration (Eigenvalue: 2.14; Variance Explained: 12.7%): Highlights the importance of peer learning, shared resources, and joint problem-solving.

**Factor 4:** School Climate (Eigenvalue: 1.65; Variance Explained: 8.3%): Reflects the impact of a supportive and inclusive institutional environment.

**Factor 5:** Teacher Job Satisfaction (Eigenvalue: 1.23; Variance Explained: 6.5%): Relates to working conditions, career advancement opportunities, and administrative support.

The cumulative variance explained by these factors is 74.0%, indicating a robust model for CPTD. Consult this template and journal's archive to ensure correct headings and sub-headings format.

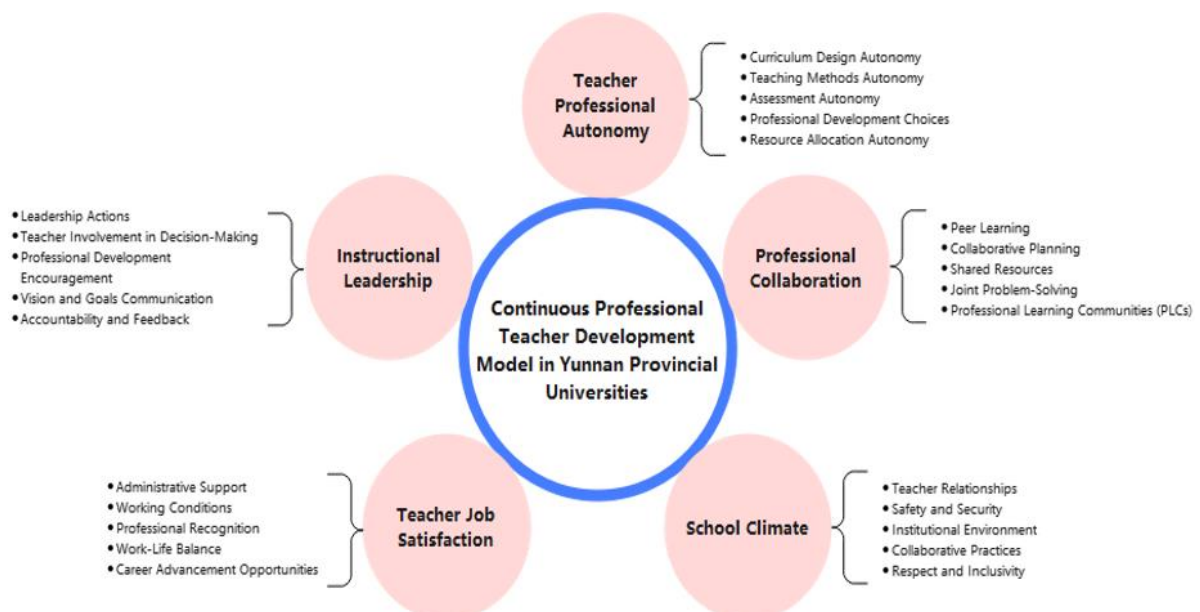


**Figure 2:** Continuous Professional Teacher Development based on EFA.

#### 4.3. Semi-Structured Interview

The semi-structured interview results provide qualitative insights into the Continuous Professional Teacher Development (CPTD) model in Yunnan Provincial Universities. Nine experts, representing various academic and administrative positions across diverse institutions in Yunnan, were interviewed to supplement the quantitative findings. Our quantitative findings are supported by the results of semi-structured interviews with 9 experts. The semi-structured interviews highlight the complex challenges and opportunities in implementing effective CPTD programs in Yunnan Provincial Universities. Addressing these factors—such as administrative support, practical training, and technological integration—can significantly enhance the impact and sustainability of teacher professional development initiatives. By aligning CPTD programs with both institutional goals and individual teacher needs, Yunnan universities can cultivate a robust environment for continuous learning and professional excellence.

#### 4.4. Factors and the Functioning Model



**Figure 3:** Names of six Factors and the Functioning Model.

## 5. DISCUSSION

### 5.1. Research Objectives

This study aimed to investigate the factors influencing Continuous Professional Teacher Development (CPTD) in Yunnan Provincial Universities. Specifically, the objectives included identifying key dimensions such as instructional leadership, teacher autonomy, and professional collaboration, analyzing their impacts on CPTD, and proposing a sustainable model tailored to the unique socio-educational context of Yunnan.

### 5.2. Research Results

The results highlighted five key factors influencing CPTD: instructional leadership, school climate, teacher autonomy, professional collaboration, and administrative support. Exploratory Factor Analysis (EFA) revealed that these factors cumulatively explained 74.0% of the variance, emphasizing their significance in shaping teacher development. Teachers rated professional collaboration and autonomy as the most impactful, while administrative support and alignment with institutional goals were identified as critical areas for improvement.

### 5.3. Reflection

The findings underscore the importance of localized strategies to address the diverse challenges in Yunnan.

Instructional leadership emerged as a transformative factor, aligning with previous studies that emphasize its role in fostering teacher engagement and creating positive school climates (Zhou & Hu, 2024). Similarly, professional collaboration, through platforms such as Professional Learning Communities (PLCs), proved essential for peer learning and shared problem-solving.

#### **5.4. Consistent/ Inconsistent Findings**

The results align with earlier literature, such as Bryson et al. (2020), which highlighted the significance of inclusive professional development programs and administrative support. However, the limited focus on digital transformation in Yunnan's CPTD initiatives contrasts with global trends advocating for technology integration in professional learning (Zhang & Hu, 2023). Moreover, the lack of alignment between CPTD goals and institutional missions reflects inconsistencies with findings from Qian et al. (2024), who stressed the importance of clear communication and strategic alignment.

#### **5.5. Conclusion**

This study bridges the gap between theory and practice by proposing a CPTD model tailored to Yunnan's unique context. The model integrates instructional leadership, professional collaboration, and teacher autonomy while addressing challenges such as administrative inefficiencies and lack of digital transformation. By aligning CPTD programs with institutional and teacher goals, universities can foster sustainable professional development, ultimately enhancing educational quality and student outcomes.

#### **5.6. Broader Implications**

The findings have practical implications for policymakers and educational administrators in Yunnan and similar regions. By emphasizing the interplay of leadership, autonomy, and collaboration, the study provides a roadmap for designing effective CPTD initiatives. Future research could explore the longitudinal impacts of the proposed model on teacher and student outcomes. The semi-structured interviews highlight the complex challenges and opportunities in implementing effective CPTD programs in Yunnan Provincial Universities. Addressing these factors—such as administrative support, practical training, and technological integration—can significantly enhance the impact and sustainability of teacher professional development initiatives. By aligning CPTD programs with both institutional goals and individual teacher needs, Yunnan universities can cultivate a robust environment for continuous learning and professional excellence.

### **6. RECOMMENDATIONS**

Based on the findings and analyses presented, the following recommendations are proposed to promote continuous professional teacher development (CPTD) in Yunnan Provincial Universities. These recommendations aim to address identified gaps, enhance institutional support, and foster sustainable teacher development:

#### **6.1. Enhance Administrative Support**

Universities in Yunnan must strengthen administrative mechanisms to provide consistent and reliable support for CPTD initiatives. This includes offering funding for professional development programs, reducing bureaucratic barriers, and ensuring the alignment of institutional policies with teacher development needs. Evidence from previous studies highlights that strong administrative support fosters a conducive environment for professional learning and teacher retention.

#### **6.2. Develop Tailored Professional Development Programs**

Institutions should create professional development programs tailored to the specific needs of teachers in different disciplines and regions. This is particularly important for teachers in remote areas of Yunnan who face unique challenges, such as limited access to resources and training. Providing flexible, context-specific development opportunities can help bridge gaps in skill levels and ensure equitable access to CPTD initiatives.

#### **6.3. Promote Professional Learning Communities (PLCs)**

Establishing and sustaining professional learning communities within universities can enhance collaboration and peer learning among teachers. PLCs provide a platform for knowledge sharing, joint problem-solving, and reflective practice. Encouraging the formation of PLCs has proven to increase teachers' engagement and professional growth while mitigating feelings of isolation, particularly in geographically dispersed institutions.

#### **6.4. Invest in Digital Learning Platforms**

To overcome geographic and infrastructural challenges in Yunnan, universities should leverage digital platforms to deliver professional development content. Online learning systems can enable teachers to access high-quality training and resources regardless of their location, making CPTD more inclusive and scalable. Additionally, integrating technology in teacher training aligns with global trends in education and ensures that teachers remain competitive in an increasingly digital landscape.

### **6.5. Empower Teachers through Autonomy**

Empowering teachers to take ownership of their professional development enhances motivation and engagement. Universities should encourage teacher participation in decision-making processes, particularly in designing their professional growth plans. This empowerment not only increases the relevance of CPTD activities but also fosters a sense of responsibility and investment in professional outcomes.

### **6.6. Foster Inclusive and Collaborative Environments**

Creating a culture of inclusivity and respect is essential for teacher development. Universities should actively promote diversity in professional development programs and ensure that teachers from all backgrounds feel supported. Collaborative initiatives such as joint research projects, interdisciplinary workshops, and mentorship programs can help foster a supportive professional community.

### **6.7. Align CPTD with Institutional Goals**

Universities need to align their CPTD initiatives with broader institutional missions and goals. Clear communication of these objectives ensures that professional development activities contribute to the institution's vision while meeting teachers' individual needs. This alignment can lead to more cohesive and impactful teacher development strategies.

### **6.8. Enhance Leadership Capacity**

Strengthening instructional leadership at universities can play a transformative role in fostering CPTD. Leaders must be trained to provide strategic guidance, manage resources effectively, and create an environment that values continuous learning. Leadership development programs should be integrated into institutional policies to build a strong foundation for sustainable teacher development.

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