Conceptualizing the Mediating Role of Teachers' Innovative Leadership in PTL and TCPD

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ABSTRACT

Teachers play an irreplaceable role in schools, driving the growth of adolescents through creativity, knowledge, and perseverance, which is crucial for their future success. However, this responsibility often requires teachers to continuously adapt to developmental changes and pursue personal growth. This study, set against the backdrop of demonstrative high schools in China, explores how principals' transformational leadership (PTL) creates an environment that fosters teachers' innovative leadership. Such innovative leadership not only supports teachers' continuous professional development (TCPD) but is also essential for maintaining high levels of educational excellence and promoting school progress. Given the complexity of TCPD, this study introduces a conceptual framework that combines elements of transformational and innovative leadership, aiming to provide valuable insights for enhancing TCPD practices. This model not only underscores the importance of leadership in education but also offers practical references for policymakers and school administrators, laying the groundwork for further empirical exploration.

Keywords: Principal's transformational leadership, teachers' innovative leadership, teachers' continuing professional development, Chinese Demonstrative High Schools.

INTRODUCTION

Teachers' Continuing Professional Development (TCPD) is important not only for a teacher's personal growth but also for students' academic progress and the overall development of the school. Through TCPD, teachers can continuously update their professional knowledge and skills, thereby enhancing teaching effectiveness and job satisfaction (Alghamdi et al., 2020; Boeskens et al., 2020). Continuing professional development helps teachers adopt more effective teaching strategies, which not only significantly improves students' academic performance but also promotes their overall development (Alghamdi et al., 2020; Yang, 2021). Additionally, TCPD aids schools in building a high-quality teaching workforce, thereby raising the overall educational quality and level of school development (Kilag & Sasan, 2023; L. J. Zhang, 2021). However, teachers encounter numerous challenges when participating in TCPD, such as heavy workloads, time pressures, and administrative duties, which directly impact their motivation to participate and the effectiveness of their professional growth(Kim, 2019; X. Zhang et al., 2021).

In an increasingly competitive global context, the importance of TCPD extends beyond the educational field and has profound implications for national development and sustainable development of a nation. High-quality teacher training is the cornerstone of a nation's talent pool; the country's future depends on the cultivation of high-quality talents, and high-level teachers are essential to this process(R. Li et al., 2022). The Chinese government, recognizing the necessity of TCPD in its journey toward educational modernization, has implemented various policies and financial support initiatives, particularly focusing on training for teachers in rural and remote areas, to elevate the overall quality of the national education system (Scott et al., 2023). However, in practice, the execution of TCPD faces numerous challenges, including uneven resource distribution and insufficient policy implementation (J. Li & Xue, 2023). This situation calls for a deeper exploration of how resources and leadership can be optimized to maximize impact in the process of teacher development.

Principals' transformational leadership plays an indispensable role in supporting teachers' continuing professional development. Transformational leadership, characterized by moral

modeling, vision inspiration, leadership charisma, and individualized consideration, not only improves teachers' self-efficacy but also increases their engagement and satisfaction with their profession (Leithwood & Sun, 2012; Polatcan et al., 2023). By promoting innovation and cooperation, transformational leadership can create an environment conducive to teachers' continuing professional development. However, transformational leadership alone may not be enough to fully promote teachers' continuing development. Teachers' innovative leadership plays a key role in this process. Innovative leadership encourages teachers to apply creative thinking and practices in teaching and learning, helping them better adapt to the evolving educational environment. This approach not only drives teachers to explore new teaching strategies and tools but also improves their teaching quality and professional satisfaction (Al-Husseini et al., 2021; Žydžiūnaitė & Arce, 2021).

This study aims to propose a conceptual framework to examine the mediating role of teachers' innovative leadership between principals' transformational leadership and teachers' continuing professional development (TCPD). Although the existing literature widely discusses the direct impact of principals' transformational leadership on teachers' continuing professional development, research on the mediating role of teachers' innovative leadership remains limited. By proposing and analyzing this conceptual framework, this study hopes to provide new theoretical perspectives and practical insights to the field of educational management. This study will focus on teachers in Guangxi's demonstrative high schools and explore the unique dynamics between transformational leadership, innovative leadership, and TCPD. Given Guangxi's status as an underdeveloped region in China and the urgent need for teachers' professional development, this study aims to fill the gap in the existing literature by focusing on its unique educational context.

Amid the global push to improve education quality, teachers' innovative leadership emerges as a critical factor in professional development, bearing significant theoretical and practical implications. By reviewing current literature and proposing a conceptual framework, this paper examines how the dual influence of principals' transformational leadership and teachers' innovative leadership can enhance teachers' motivation for professional growth and contribute

to the overall advancement of the education system. Through the findings of this study, we hope to provide new insights not only for educational management practices in China but also to contribute to the development of educational management theory on a global scale.

LITERATURE REVIEW AND THEORETICAL FOUNDATION

Transformational leadership

Since its introduction by Bernard Bass and other scholars in the 1980s, Transformational Leadership has gradually become a central topic of study in both organizational management and educational administration. Transformational leadership promotes growth and change among organizational members through motivation, vision-setting, and personalized support. Its core principle is that leaders go beyond simply completing tasks by inspiring the intrinsic motivation of employees, allowing them to reach their fullest potential (Bass, 1985, 1995; Bass & Riggio, 2006). In the education sector, the significance of transformational leadership has become increasingly prominent, particularly in addressing the growing complexity of educational reform demands. This leadership style creates a positive cultural environment within schools, effectively enhancing teachers' enthusiasm and fostering their professional development (Kareem et al., 2023; Litz & Blaik-Hourani, 2020; Sasan et al., 2023).

In educational settings, transformational leadership not only directly aids teachers in improving their teaching skills but also encourages them to explore and innovate in the classroom(Messmann et al., 2022; Sasan et al., 2023). By setting a clear vision, transformational leaders inspire teachers to understand the school's direction and overarching goals, thereby strengthening their sense of mission. This type of leadership grants teachers greater autonomy and responsibility in their teaching practices, empowering them to experiment with new teaching methods and technologies(Kareem et al., 2023; Pakalniņa et al., 2023; Sasan et al., 2023). With the support and encouragement of their leaders, teachers are more motivated to engage in professional development activities, using reflection and innovation to continuously improve teaching outcomes. This combination of motivation and empowerment not only enhances teachers' job satisfaction but also significantly advances their professional growth(Ansell et al., 2020b, 2020a; Pakalniņa et al., 2023).

Key practices of transformational leadership in education include, on one hand, establishing a shared vision within the school, enabling teachers to understand and identify with the school's long-term development goals. This shared vision fosters teachers' sense of belonging and mission(Sliwka et al., 2024). On the other hand, transformational leaders actively communicate and provide support, ensuring that teachers have access to necessary resources and development opportunities to address classroom challenges(Ansell et al., 2020a). Additionally, transformational leaders emphasize teachers' individual needs, offering personalized support so that teachers can achieve a sense of accomplishment and belonging in their professional development (Hughes et al., 2021). These leadership practices not only help cultivate teachers' innovative spirit but also significantly enhance their engagement in Continuing Professional Development (CPD)(Ansell et al., 2020a, 2020b).

Moreover, transformational leaders help build a positive school culture that fosters deep collaborative relationships among teachers, enabling them to learn from and support each other(Praharti et al., 2023; Sasan et al., 2023). This leadership style not only improves the overall quality of teaching within schools but also encourages teachers to make continual progress in their professional skills, ultimately achieving comprehensive improvements in educational quality (Anastasiadou & Anastasiadis, 2019; Praharti et al., 2023). In such a cultural environment, teachers can realize personal professional growth and take on key roles in educational reform, actively contributing to the ongoing improvement and development of school education. By establishing an innovative and collaborative culture within schools, transformational leadership further encourages teachers to reflect, share experiences, and effectively implement teaching innovations through team collaboration(Sliwka et al., 2024).

In summary, transformational leadership extends well beyond traditional management functions, emphasizing how leaders can inspire autonomy and creativity through vision-setting and cultural shaping. This leadership style significantly impacts teachers' professional development and overall educational quality. To align this study with the Chinese educational context, it will utilize the framework proposed by Li Chaoping and Shi Kan, which identifies four key dimensions of Principal Transformational Leadership (PTL): **Moral Modeling**,

Leadership Charisma, **Vision Inspiration**, and **Individualized Consideration** (Li & Shi, 2005). These dimensions have been widely referenced and adopted by other researchers studying transformational leadership within China, as they offer a culturally relevant framework that resonates with Chinese values and educational practices.

Innovative leadership

As an emerging leadership paradigm, innovative leadership has garnered widespread attention in academia and practice in recent years. Its theoretical foundation is rooted in various classic leadership theories, which have evolved and expanded over time. Burns (1978) and Bass (1985) were among the first scholars to explore this concept, introducing the idea of innovative leadership through transformational leadership theory(Milan Shrestha, 2020). They emphasized that leaders should not only manage the status quo but also inspire innovative thinking and behaviors within their teams to achieve higher organizational goals. These early theories laid a crucial foundation for research on innovative leadership, highlighting how leaders drive organizational development by breaking conventions and leading change. However, while existing theories such as transformational leadership, strategic leadership, and empowering leadership involve leadership behaviors related to innovation, they do not fully capture the complex role leaders play in innovation activities (Zhu et al., 2024). As a result, the theory of innovative leadership emerged to fill this gap.

In the study of innovative leadership, various scholars have interpreted and expanded upon this concept from multiple perspectives.Şen & Eren (2012) pointed out that innovative leaders must possess extensive knowledge, skills, and values, and be able to respond to challenges through innovative solutions in complex and dynamic environments. Their research laid the foundation for understanding the role of leaders in addressing global issues. Khalili (2017) further explored the relationship between innovative leadership and creative leadership behaviors, proposing core dimensions such as stimulating creativity, encouraging a shared vision, and providing personalized support, thereby validating the applicability of innovative leadership across different cultural contexts. Ariratana et al. (2019) applied the concept of innovative leadership to the field of education, introducing dimensions such as transformational vision, creative

thinking, and teamwork, emphasizing the significant role of leaders in fostering an innovative organizational atmosphere. Sarıoğlu & Öztürk (2022) developed a measurement tool for innovative leadership through research in the nursing field, highlighting the critical role in driving change, encouraging risk-taking, and advancing organizational learning. Contreras et al. (2022), through the development of the Innovative Leadership Scale (ILS-16), further confirmed the importance of innovative leadership in enhancing organizational innovation performance. Collectively, these studies provide substantial empirical support for the theory of innovative leadership.

Building on previous research, Zhu et al. (2024) proposed five core dimensions of innovative leadership: creative thinking, innovation willpower, tolerance for diverse perspectives and risk, establishment of innovation mechanisms, and implementation of innovative concepts. The Innovative Leadership Model (ILM) they developed was validated through a series of empirical studies, demonstrating its applicability and effectiveness across various organizational contexts, thereby further refining the theoretical framework of innovative leadership. Through systematic theoretical construction and empirical research, Zhu et al. provided a solid theoretical foundation for innovative leadership, clarifying the multiple roles leaders play in innovation management. This theoretical framework not only offers a new perspective on how leaders influence organizational and team innovation performance through personal innovative traits, role modeling for innovation, and building innovative teams, but also emphasizes the multifaceted role of leaders in fostering an innovation culture and executing innovative practices.

The theory of innovative leadership integrates various leadership styles and innovation management practices, forming a comprehensive and adaptable theoretical framework. The model proposed by Zhu et al. (2024), chosen as the primary framework for this study due to its robust theoretical foundation, comprehensive dimensions, and practical applicability, aids in understanding how leaders drive innovation across diverse organizational contexts. Additionally, it provides practical guidance and reference for managers. Future research could further explore the applicability of innovative leadership across different cultural and industry

contexts, as well as its long-term impact on organizational innovation.

Continuing Professional Development

Continuing Professional Development (CPD) is widely recognized as a critical means for teachers to enhance their instructional skills, stay updated with the latest educational knowledge, and effectively respond to the evolving demands within educational settings. Tailoring CPD activities to meet the specific needs of teachers has been shown to improve both instructional methods and student outcomes (Zhi et al., 2023). Beyond individual teacher growth, CPD plays a strategic role in improving school-wide quality and optimizing student learning outcomes(Fletcher-Wood & Zuccollo, 2020). The primary objective of CPD is to equip teachers with the skills necessary to meet current teaching and educational reform requirements through systematic and continuous training and development activities (Li et al., 2023).

In educational contexts, CPD encompasses a variety of activities, such as formal course training, workshops, peer collaboration, classroom observation, and self-reflection. These activities, asVries et al. (2013) categorize, fall into three main dimensions: **Updating Activities**, **Reflective Activities**, and **Collaborative Activities**. Updating Activities enable teachers to acquire new knowledge and skills, such as through reading professional literature, participating in training, and attending conferences. Reflective Activities focus on teachers analyzing their practices to deepen their understanding and improve their teaching effectiveness, often involving personal reflection or peer feedback to address classroom challenges. Collaborative Activities encourage teachers to engage with colleagues, fostering an exchange of ideas and co-creating teaching materials, which supports both individual and collective professional growth.

Participation in these three types of activities not only enhances teachers' self-efficacy but also leads to a greater sense of job satisfaction and achievement. Regular engagement in CPD allows teachers to more accurately identify and address challenges in the classroom, thereby improving instructional quality. Furthermore, by staying current with educational policies, teaching technologies, and methodologies, CPD empowers teachers to adapt to various changes

and challenges. This adaptability supports school administrators' broader goals for elevating educational quality across the institution (EPI, 2020).

Effective CPD implementation depends heavily on the relevance of its content and the systematic structure in which it is delivered. High-quality CPD programs are tailored to teachers' specific needs and incorporate mechanisms for continuous feedback and improvement, with school support. This approach allows CPD to drive both individual teacher improvement and cultural transformation within the school, where continuous learning and growth become central to school development (Maggioli, 2020). Additionally, school leaders play a crucial role in promoting CPD, particularly through transformational and innovative leadership styles, which are essential for establishing a supportive learning environment that encourages teacher participation (Musadad et al., 2022; Wilson Heenan et al., 2023).

In conclusion, CPD is a vital element of teacher professional development and student success. By fostering a culture of lifelong learning and professional growth, CPD enables teachers to maintain adaptability and responsiveness in an ever-changing educational environment. Consequently, CPD not only strengthens teachers' individual competencies but also serves as a strategic tool for advancing overall educational quality. This research will adopt Vries et al. (2013)'s framework to evaluate TCPD through its three aspects: updating, reflective, and collaborative activities, offering a comprehensive basis for understanding and supporting teacher professional development.

Gaps in Existing Research

While existing literature on Continuing Professional Development (CPD) and leadership has extensively explored the roles of Transformational Leadership (TL) and Innovative Leadership (IL) in various contexts, there remains a lack of research on how these two leadership styles collaborate to promote teacher professional growth. On the one hand, the positive effects of transformational leadership on teacher job satisfaction and self-efficacy are well recognized (Lin et al., 2022; Tian et al., 2022). On the other hand, innovative leadership is considered crucial for enhancing a school's capacity to adapt to change by fostering teacher creativity and

professional development(Çoban & Atasoy, 2020). However, the literature has yet to systematically verify how these two leadership styles work together to support teacher professional development and whether such synergy can more effectively facilitate sustained CPD for teachers.

Existing research often examines the independent effects of either transformational leadership or innovative leadership on teacher professional development from a single perspective, but there is insufficient exploration of the interaction between the two. (Rahmatika & Saragih, 2023) indicates that transformational leadership promotes professional development by motivating teachers' innovative behaviors. However, it remains unclear how this motivational mechanism is further enhanced by the involvement of innovative leadership, as empirical evidence on this interaction is lacking. Similarly, a study by (Hu, 2024) finds that transformational leadership can increase teachers' work motivation and innovative behaviors, thereby significantly contributing to their professional growth, yet the underlying mechanisms remain undefined.

It is worth noting that existing research on the influence of leadership on teachers' continuing professional development often overlooks the applicability of transformational and innovative leadership across different cultural and educational contexts. (Jones et al., 2020) suggest that innovative leadership is particularly prominent in culturally diverse environments. However, the interaction between these two leadership styles in countries with unique educational and cultural backgrounds, such as China, has not yet been sufficiently discussed in the literature. This gap limits educational administrators' ability to understand and apply these leadership strategies within specific contexts, thus hindering their potential to maximize the impact on teachers' continuous professional development(Day et al., 2023).

Furthermore, the potential mediating role of innovative leadership between transformational leadership and teacher professional development has not yet been thoroughly explored. Although existing research indirectly suggests that innovative leadership acts as a driving force for teacher development and professional innovation, there is a lack of concrete evidence supporting its mediating role. The literature often indicates that transformational leadership can

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promote teacher professional development by encouraging innovative behaviors (Rahmatika & Saragih, 2023).

However, further research is needed to understand how innovative leadership serves as a bridge in this process, effectively linking transformational leadership with ongoing teacher professional development. Thus, while current literature provides solid theoretical support for the individual roles of transformational and innovative leadership, it remains insufficient in addressing how these two leadership styles can be integrated to more effectively promote continuing teacher professional development. Based on this, the present study aims to develop a comprehensive framework to systematically examine the synergistic effects of transformational and innovative leadership in teacher professional development, thereby offering more concrete theoretical and empirical support for educational management practices.

Theoretical Framework

In the field of education, particularly within the context of Chinese high school education, it is crucial to gain an in-depth understanding of the impact that transformational and innovative leadership have on Teacher Continuing Professional Development (TCPD). TCPD enhances teachers' job satisfaction and teaching capabilities while simultaneously contributing to improved student academic performance and the overall development of the school, thereby elevating educational quality (Messmann et al., 2022; Scott et al., 2023). As the educational environment continues to evolve, exploring how to effectively integrate these theories to support teacher professional growth has become an important research topic. These theories provide a solid foundation for understanding the essential elements needed to build a dynamic school environment. Therefore, this paper identifies several supportive theories that establish the foundation for this research, as illustrated in Figure 1.1.
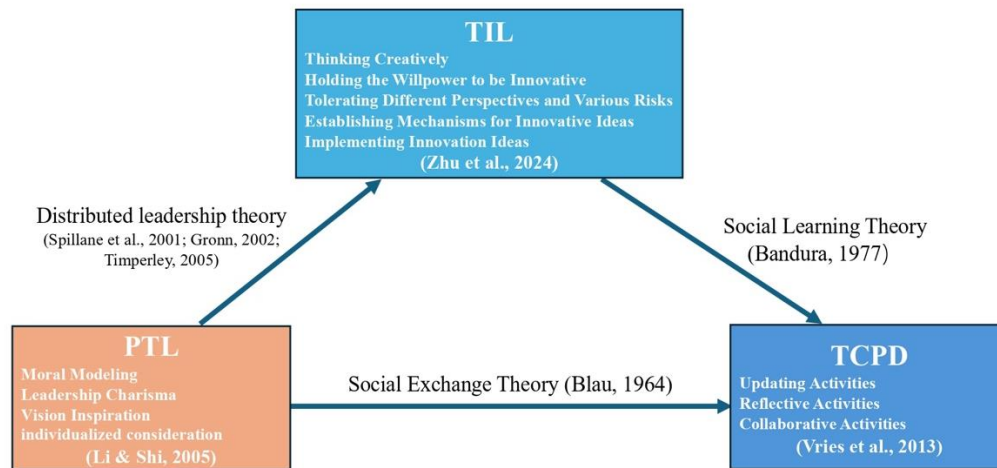
Note.
PTL=Principal's Transformational Leadership ; **TIL**=Teachers' Innovative Leadership; **TCPD**=Teacher Continuing Professional Development

Figure 1. 1. Theoretical Framework

The principal's transformative leadership style is grounded in Transformational Leadership Theory. Bass, (1985) argued that transformational leadership inspires and motivates followers to transcend self-interest for the sake of achieving organizational goals. This style of leadership encompasses four key dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. In the context of Chinese education, Li and Shi (2005) provided further validation for transformational leadership theory, identifying a framework of transformational leadership that is consistent with the Chinese cultural context.

The study of teachers' innovative leadership ability is based on the Theory of Innovative Leadership. Zhu et al. (2024) suggested that innovative leadership includes creative thinking, maintaining innovative mindsets, tolerating diverse perspectives and risks, establishing innovation mechanisms, and implementing innovative ideas. The theory of teachers' sustained professional development primarily relies on Adult Learning Theory. Knowles (1968) posited that adult learners have a self-directed learning orientation, preferring to learn skills and knowledge closely related to their work and life. Teachers' continuing professional development includes renewal activities, reflective activities, and collaborative activities that enhance teaching ability and professional qualities.

In social science research, latent constructs must be theoretically grounded to be relevant (Netemeyer et al., 2003). Therefore, identified theories are deliberately incorporated into the conceptual framework to provide a realistic overview of the actual interaction processes. Distributed Leadership Theory provides a theoretical foundation for exploring the impact of principals' transformative leadership on teachers' innovative leadership ability. (Spillane et al., 2001)emphasized that distributed leadership highlights the dispersal of leadership functions and responsibilities across the organization, rather than concentrating them in a few leaders. This decentralized leadership model facilitates cooperation and interaction among teachers. (Gronn, 2002) further highlighted that distributed leadership is a dynamic process, generating leadership effects through collective interactions and collaborative efforts, allowing organizations to flexibly respond to challenges and changes. (Timperley, 2005) noted that distributed leadership theory evolved through actual leadership practices, emphasizing the situational and interactive nature of leadership behaviors. This helps principals flexibly apply various strategies in different contexts to support and motivate teachers. According to Distributed Leadership Theory, the principal's transformative leadership not only includes collaboration and teamwork and shared leadership responsibilities but also encompasses empowering and motivating teachers to engage in innovative activities. This leadership approach encourages teachers to take more proactive and creative roles in daily teaching and school management, thereby enhancing their innovative leadership ability.

Since almost all relationships between leaders and followers involve an exchange process, Social Exchange Theory (Blau, 1964) is employed to explore the potential mechanisms through which principal transformative leadership influences teachers' sustained professional development. Social Exchange Theory is an essential framework for understanding workplace behaviors, particularly apt for studying the impact of leadership on organizational members, such as teachers' behavior in participating in professional development activities (Cropanzano & Mitchell, 2005). The relationship between leaders and followers is a trust-based social transaction, where reciprocity is a prevailing norm (Levinson, 1965). In the complex emotional workplace of schools, Social Exchange Theory is especially applicable (Cropanzano & Mitchell, 2005; Hargreaves, 2000; Price & Collett, 2012). By addressing followers' emotional

and psychological needs, principals can build trust, thus motivating teachers to invest more effort in their work (Elstad et al., 2011; Shore et al., 2006). Although economic exchanges, such as salary, are significant, social exchanges, such as trust, are more effective in determining teachers' continuous engagement in professional development activities (Kuvaas & Dysvik, 2009). According to Social Exchange Theory, the relationship between the principal's transformative leadership and teachers' sustainable professional development can be viewed as a trust- and reciprocity-based social exchange process. In this process, principals create an environment that encourages teacher participation in professional development by empowering and providing support. This supportive environment enhances teachers' job satisfaction and self-efficacy while simultaneously fostering their loyalty and professional commitment to the school, thereby facilitating their sustained professional development. Through this theoretical deduction, the principal's transformative leadership style significantly impacts teachers' professional growth, providing theoretical and empirical support for educational leadership practices.

Social Learning Theory is suitable for exploring the dynamic relationship between teachers' innovative leadership abilities and their sustained professional development. This theory emphasizes that individuals learn behaviors and skills through observation, imitation, and interaction (Bandura, 1977). Bandura (1977) highlighted that social learning depends not only on direct experience but also on observing others' behaviors and their outcomes. In an educational setting, teachers can enhance their leadership and professional skills by observing and emulating the innovative practices and professional development activities of their colleagues (Schunk, 1995). Social Learning Theory also stresses the importance of self-efficacy, which means that teachers' confidence and motivation are boosted after seeing others successfully implement innovations and pursue continuous development (Bandura, 1986). Through social learning, teachers not only acquire new knowledge and skills but also continuously reflect and improve their practices during interactions, thus achieving sustained professional development (Jaquith, 2013; L. C. Li et al., 2009). According to Social Learning Theory, teachers' innovative leadership abilities significantly impact their sustainable professional development. This influence arises from teachers learning and emulating

innovative skills by observing their colleagues' successful practices. This not only boosts their self-efficacy but also motivates them to explore more professional development opportunities and implement these innovative strategies in their teaching and leadership practices.

CONCEPTUAL FRAMEWORK

Based on the above literature review on related topics, this study identified and determined the latent variables and their influencing factors that constitute the overall framework of this research. In brief, the study focuses on three main latent variables and their respective 12 constituent factors, as follows:

(i) Latent Variable 1 (Independent Variable): Principal Transformational Leadership (PTL), measured by four factors: Moral Modeling, Leadership Charisma, Vision Inspiration, and Individualized Consideration (Li & Shi, 2005).

(ii) Latent Variable 2 (Mediating Variable): Teachers' Innovative Leadership Abilities (TIL), measured by five factors: Thinking Creatively, Holding the Willpower to be Innovative, Tolerating Different Perspectives and Various Risks, Establishing Mechanisms for Innovative Ideas, and Implementing Innovation Ideas (Zhu et al., 2024).

(iii) Latent Variable 3 (Dependent Variable): Teachers' Continuing Professional Development (TCPD), measured by three factors: Updating Activities, Reflective Activities, and Collaborative Activities (Vries et al., 2013).

Based on the variables defined in the research framework above, four main research hypotheses were developed to address the research objectives.

- **H1:** Principal's Transformational Leadership is significantly related to Teacher Continuing Professional Development.
- **H2:** Principal's Transformational Leadership is significantly related to Teachers' Innovative Leadership.
- **H3:** Teachers' Innovative Leadership is significantly related to Teacher Continuing Professional Development.

- **H4:** Teachers' Innovative Leadership mediate the relationship between Principal's Transformational Leadership and Teacher Continuing Professional Development.
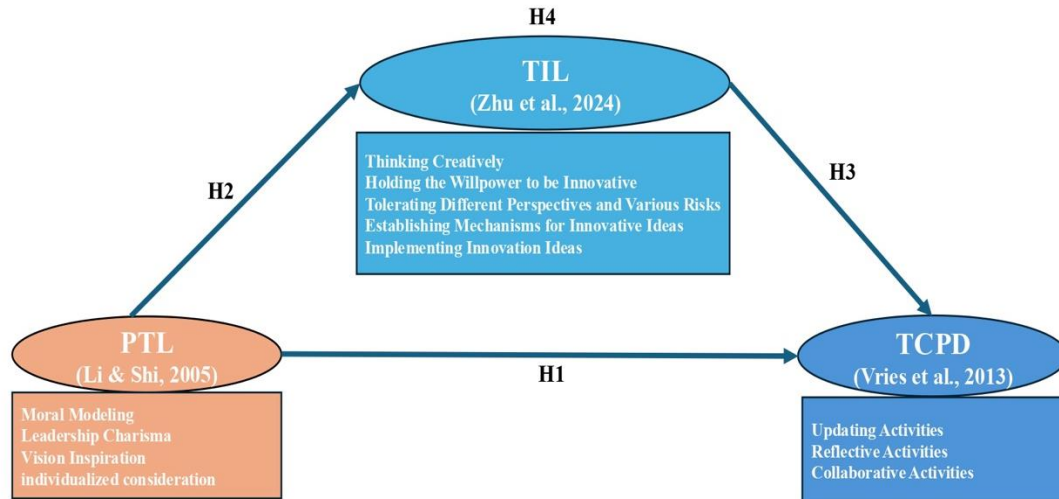

Figure 1.1: Proposed Conceptual Framework

METHODOLOGY

This study aims to explore the mediating role of teacher innovative leadership between principal transformational leadership and Teacher Continuing Professional Development (TCPD). To achieve this research objective, a quantitative research method will be employed, collecting data through a survey to thoroughly analyze the relationships among transformational leadership, teacher innovative leadership, and TCPD. The research subjects will be teachers from the first cohort of demonstrative high schools in a province in China, selected using combination of stratified sampling and quota sampling method. The anticipated sample size is 700 teachers, which is sufficient to meet the data requirements for Structural Equation Modeling (SEM) analysis (Kline, 2016).

Table 1: *Data Collection Procedure*

Target Population	6,337 from the first batch of 20 demonstrative high schools
Sample size	700

Sampling Method	A combination of stratified sampling and quota sampling
Data Collection Method	Distribution of Survey Instrument

This study will use a structured questionnaire as the primary data collection tool, which will be distributed through the online platform Questionnaire Star. The questionnaire design consists of the following sections:

Table 2: *Sources of measurement items in the questionnaire*

Constructs		Number of Measurement Items		Sources
PTL	Moral modeling	7	24	Li & Shi (2005)
	Vision inspiration	5		
	Leadership charisma	6		
	Individualized consideration	6		
TIL	Thinking creatively	5	23	Zhu et al., (2024)
	Holding the willpower to be innovative	5		
	Tolerating different perspectives and various risks	5		
	Establishing mechanisms for innovative ideas	4		
	Implementing innovation ideas	4		
TCPD	Update activities	6	22	Vries et al., (2013)
	Reflection activities	6		
	Collaboration activities	10		

THEORETICAL AND CONTEXTUAL CONTRIBUTION OF THE RESEARCH

This research contributes to educational leadership theory by emphasizing the role of teacher innovative leadership as a mediator between principal transformational leadership and Teacher

Continuing Professional Development (TCPD). In the context of Chinese educational institutions, where cultural values and rapid reforms drive a need for adaptive and creative responses, this study underscores teacher innovative leadership as a critical pathway for fostering sustained professional growth among teachers. Teacher innovative leadership is conceptualized here through five dimensions: Thinking creatively, Holding the willpower to be innovative, Tolerating different perspectives and various risks, Establishing mechanisms for innovative ideas, and Implementing innovation ideas (Zhu et al., 2024).

Theoretical Contributions: By positioning teacher innovative leadership as a mediator, this study extends existing leadership theories by focusing on the active role of teachers in driving professional development. The five dimensions of teacher innovative leadership provide a framework through which teachers can shape their professional growth and respond to new challenges in the classroom. For example, Thinking creatively encourages teachers to develop novel solutions to classroom challenges, while Holding the willpower to be innovative sustains their commitment to continuous improvement. These qualities enable teachers to engage in TCPD in a way that is proactive and impactful. Furthermore, Tolerating different perspectives and various risks fosters a culture of openness and adaptability, which is particularly valuable in the rapidly changing Chinese educational landscape (Du & Chang, 2023). Establishing mechanisms for innovative ideas allows teachers to institutionalize innovation within their practices, and Implementing innovation ideas transforms conceptual improvements into tangible classroom outcomes. These dimensions create a structured pathway through which teachers can contribute to and benefit from TCPD, positioning them not only as followers but as leaders within their professional contexts (Zhu & Ren, 2023).

Contextual Contributions: In the context of China's education system, teacher innovative leadership is especially significant due to the cultural emphasis on collective growth, adaptability, and pragmatism. Chinese schools, operating in a context of ongoing reform, face unique challenges that require teachers to be both resilient and inventive. This framework encourages principals to create environments that support teacher-led innovation by recognizing and nurturing teachers' creativity and problem-solving capabilities. For example, by promoting a culture of risk tolerance and openness to diverse perspectives, principals can

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help teachers develop solutions that align with local needs and respond to national reform initiatives. Additionally, the focus on establishing mechanisms for innovation encourages schools to adopt policies and practices that institutionalize teachers' innovative contributions, which is essential in a highly structured educational system like China's (Mullen & Browne-Ferrigno, 2018).

This research framework provides practical insights for Chinese educational administrators and policymakers by highlighting the need to foster teacher autonomy and empowerment. In such an environment, teacher innovative leadership can bridge the gap between top-down transformational leadership and bottom-up professional development, making TCPD a more organic and integrated part of teachers' daily work. By emphasizing the five dimensions of teacher innovative leadership, this study offers a culturally aligned model that equips teachers to be adaptive leaders, enhancing both their own professional development and the school's overall responsiveness to change.

FUTURE RESEARCH DIRECTIONS

Future studies should further investigate the relationship between transformational leadership, innovative leadership, and teachers' current professional development, especially within different cultural and educational contexts. Although this study provides an initial conceptual framework, it still requires deeper exploration and validation to expand the framework. Future studies could employ various data collection methods, including in-depth interviews and surveys, combined with advanced data analysis techniques like Structural Equation Modeling (SEM) and Hierarchical Linear Modeling (HLM). This combination of multiple methods and techniques can enhance the scientific rigor and practical relevance of the conceptual framework, providing more detailed theoretical support for educational practice.(Luyten & Bazo, 2019).

Cross-cultural research is an important direction for future studies. Different cultural backgrounds may significantly impact the acceptance and effectiveness of leadership styles(Messmann et al., 2022; Mitchell, 2019). Conducting comparative studies on transformational and innovative leadership theories across educational systems in various

countries and regions not only helps to reveal the important role of culture in educational leadership but also clarifies the influence of cultural indicators on leadership effectiveness. By comparing these leadership styles across diverse cultures, researchers can better understand their applicability on a global scale, thereby providing empirical insights from a global perspective for educational policymakers and laying the foundation for the further development of educational management theory(Kılınç et al., 2022).

Additionally, longitudinal research holds great potential for revealing the long-term impact of leadership dynamics on teachers' professional development. The effects of transformational and innovative leadership often accumulate gradually over time, making it difficult for short-term studies to capture these changes. Future research could design a longitudinal framework to track the trends in teachers' professional development under the influence of different leadership behaviors. Through systematic longitudinal observation, researchers can more comprehensively uncover the relationship between leadership behaviors and teacher growth, providing stronger theoretical support for sustained professional development within the educational system (Messmann et al., 2022). Moreover, individual and organizational moderating factors—such as teachers' work environment and personal motivation—should also be explored in-depth across various educational roles, which will aid in a more precise understanding of the applicability and impact of leadership.

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