

The Relationship between Teacher Preparedness and Teaching Self-Efficacy: Examining the Role of Classroom Goal Structures and Teacher Type

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Abstract—This study explores the relationship between teacher preparedness and Teaching Self-Efficacy (TSE) among 413 teachers (284 pre-service, 129 in-service) at a university in Huaibei, China. Using exploratory factor analysis and hierarchical regression analysis, the study found that teacher preparedness, particularly in teacher-student relationships, is a strong predictor of both TSE and Teaching Self-Efficacy for Equity (TSEE). Mastery-oriented classroom structures also positively influence TSE, though they do not mediate the effects of preparedness. In-service teachers demonstrated significantly higher preparedness in relational competencies. These findings underscore the importance of prioritizing relational pedagogy and mastery-focused instructional strategies in teacher education programs. Longitudinal research is recommended to further examine the development of TSE over time.

Keywords—teacher preparedness, teaching self-efficacy, teaching self-efficacy for equity, classroom goal structures, teacher education

I. INTRODUCTION

Teacher Self-Efficacy (TSE) significantly influences teacher performance, instructional effectiveness, and student outcomes [1]. Self-efficacious teachers excel in classroom management, student engagement, and innovative teaching, leading to higher student achievement [2]. Teacher preparedness plays a crucial role in shaping self-efficacy, as well-prepared teachers exhibit greater confidence in supporting student learning [3].

However, preparedness varies between pre-service and in-service teachers. Pre-service teachers, with limited experience, often struggle with classroom management and instructional adaptation [4], whereas in-service teachers gain confidence from practical experience [5]. Despite these differences, the extent to which teacher-student relationships, curriculum knowledge, and pedagogy affect TSE remains unclear.

Another factor influencing TSE is classroom goal structure, which emphasizes mastery goals (personal growth) or performance goals (competition and achievement) [6]. While mastery-oriented classrooms boost student motivation and academic success [7], their impact on teacher self-efficacy is underexplored. It remains uncertain whether learning-focused environments strengthen or weaken the influence of teacher preparedness on TSE.

Although prior research links goal structures to student motivation [8], few studies examine their interaction with teacher preparedness in shaping TSE. Additionally, teacher-student relationships, a key determinant of TSE, are often

overlooked despite evidence suggesting relational preparedness may outweigh instructional competence [9].

This study addresses these gaps by integrating teacher preparedness and goal structures into a unified model to predict TSE and Teaching Self-Efficacy for Equity (TSEE). Specifically, it examines:

- 1) How teacher preparedness (relationships, curriculum, pedagogy) affects TSE and TSEE.
- 2) How classroom goal structures (mastery vs. performance) moderate this relationship.
- 3) Differences in preparedness and TSE between pre-service and in-service teachers, considering gender influences.

A. Research Gaps and Problem Statement

While teacher preparedness is critical to self-efficacy, limited research explores how specific dimensions—teacher-student relationships, curriculum, and pedagogy—shape both TSE and TSEE. Teacher-student relationships strongly predict student success [10], yet their impact on teacher efficacy remains underexamined. Similarly, curriculum preparedness and pedagogical knowledge, essential for teaching effectiveness [11], require further validation.

Although mastery-oriented classrooms enhance student engagement and intrinsic motivation [12], their role in fostering or moderating teacher self-efficacy is unclear. It is unknown whether mastery goals amplify preparedness effects or independently boost instructional confidence.

Additionally, differences in TSE between pre-service and in-service teachers remain inconclusive. Some studies suggest self-efficacy increases with experience [13], while others highlight contextual challenges that weaken self-efficacy. Research on gender differences is mixed—some find higher efficacy in female teachers for student engagement, while others report no significant gender effects [14].

This study investigates how teacher preparedness influences TSE and TSEE, the moderating effects of classroom goal structures, and the role of teacher type (pre-service vs. in-service) and gender.

B. Theoretical Framework

This study is grounded in Bandura's Social Cognitive Theory [15], which posits that self-efficacy beliefs shape behavior, motivation, and performance. Individuals with high self-efficacy persist in challenges, adopt effective strategies, and achieve greater success [16]. In teaching, self-efficacious educators implement student-centered practices, foster

positive relationships, and manage classrooms effectively [17].

Additionally, Achievement Goal Theory [18] distinguishes mastery and performance goal structures. Mastery-oriented classrooms, emphasizing learning and self-improvement, are expected to enhance teacher self-efficacy by fostering a supportive, growth-focused environment [19]. However, whether mastery goals strengthen or moderate the effects of teacher preparedness remains uncertain.

By integrating these frameworks, this study explores how teacher preparedness and classroom goal structures interact to shape self-efficacy beliefs.

C. Literature Review

1) Definition and components of teacher preparedness

Teacher preparedness refers to teachers' confidence and readiness in managing classrooms, engaging students, developing curricula, and implementing instructional strategies [20]. Three critical dimensions identified in prior studies include teacher-student relationships, curriculum and assessment competence, and pedagogical knowledge [21]. Research consistently demonstrates that teachers who feel well-prepared report higher teaching self-efficacy, particularly in classroom management, student engagement, and instructional decision-making [22]. Additionally, preparedness in culturally responsive and inclusive teaching strategies significantly enhances Teaching Self-Efficacy for Equity (TSEE), improving educators' ability to serve diverse student populations [23]. While pre-service teachers typically have lower self-efficacy due to limited practical experience, in-service teachers gain confidence through experience, mentorship, and ongoing professional development [24]. However, sustained professional support remains essential, especially for teachers in challenging environments [25].

2) Classroom goal structures and self-efficacy

Classroom goal structures define whether a learning environment emphasizes personal mastery (understanding and improvement) or performance (competition and achievement). Mastery-oriented classrooms typically foster higher student motivation, persistence, and deeper learning, whereas performance-oriented classrooms often induce anxiety and disengagement despite possibly motivating short-term achievement. Research suggests mastery-focused environments support higher teacher self-efficacy by allowing teachers to concentrate on student growth rather than external performance pressures [26]. Conversely, performance-focused environments can undermine teacher confidence, especially under rigid performance demands such as standardized testing. However, the interaction between goal structures and teacher preparedness remains underexplored, particularly regarding how classroom goals moderate the effects of preparedness on teaching self-efficacy.

3) Gender and teacher type differences in self-efficacy

Existing research on gender differences in teaching self-efficacy presents mixed results. Some studies find female teachers report higher efficacy in student engagement and instructional strategies, while others report no significant differences or even higher male efficacy in classroom management [27]. Differences also emerge between pre-service and in-service teachers, with experience generally

correlating positively with self-efficacy. Nonetheless, factors such as mentorship quality, classroom autonomy, and early teaching experiences critically influence the trajectory of self-efficacy development. Thus, examining how gender, teacher experience, and classroom goal structures collectively affect teacher preparedness and efficacy addresses key gaps in the current literature.

II. METHODOLOGY

This study employed a mixed-method approach to investigate the relationships among teacher preparedness, classroom goal structures, and Teaching Self-Efficacy (TSE). The following sections outline the procedure, participants, instruments, and data analysis methods.

A. Procedure and Participants

A convenience sampling method was used to collect survey data from 413 teachers of university in Huaibei, China, consisting of 284 pre-service teachers (68.77%) and 129 in-service teachers (31.23%). The pre-service teachers were mostly first-year students engaged in coursework and supervised teaching practice, while in-service teachers had varying levels of experience. Huaibei was selected for its diverse teacher training programs and a balanced mix of pre-service and in-service educators, making it an ideal setting for studying teacher preparedness and self-efficacy. Ethical approval was obtained from the Institutional Review Board (IRB), and participants were assured of anonymity and voluntary participation. The survey, originally in Chinese, followed Brislin's [28] translation-back-translation procedure to ensure accuracy. A pretest with 56 teachers was conducted to verify clarity. Response rates were increased through personalized reminders, such as emails and phone calls [29]. The final sample included 71 males (17.19%), 287 females (69.49%), and 55 participants who did not disclose their gender (13.32%).

B. Measures

Teaching Self-Efficacy (TSE) Scale: TSE was measured using a well-established scale that assesses three dimensions: classroom management, student engagement, and instructional strategies. This scale has demonstrated high reliability across cultural contexts (Cronbach $\alpha = 0.91$), validating its use in assessing teacher confidence. It was specifically useful for comparing variations in self-efficacy between pre-service and in-service teachers.

Teaching Preparedness Scale: This scale assessed teachers' perceptions of their readiness in curriculum planning, student relationships, and assessment practices, reflecting critical aspects of teacher preparedness.

Demographic Information: Participants provided demographic data including gender, age, teaching level (kindergarten, elementary, middle, or secondary school), and preferred teaching location (urban, rural, or no preference). Additional factors such as parental education levels and Grade Point Averages (GPA) were also collected to contextualize the data.

C. Data Analysis

Data analysis was conducted using SPSS 27.0. The reliability and validity of the key measurement scales—

Classroom Goal Structure Mastery Goals, Teaching Self-Efficacy (TSE), and Preparedness—were assessed through comprehensive statistical checks.

To explore differences in TSE and preparedness based on gender and teacher type (pre-service vs. in-service), one-way analysis of variance (ANOVA) was conducted. Hierarchical multiple regression analysis was employed to examine the relationships between demographic background, classroom goal structures, preparedness, and TSE, particularly in low socio-economic settings.

This methodology allows for a thorough examination of how teacher preparedness and classroom goal structures interact to influence teaching self-efficacy, providing valuable insights for teacher education and professional development.

III. RESULTS

A. Descriptive Statistics and Group Comparisons

Table 1. Descriptive statistics of key variables

Variable	Mean (M)	Standard Deviation (SD)
Teacher-Student Relationships	4.13	0.58
Curriculum & Pedagogy Preparedness	4.09	0.60
TSE - Classroom Management	6.93	1.39
TSE - Student Engagement	7.04	1.41

Table 2. ANOVA results comparing pre-service and in-service teachers

Variable	Overall M (SD)	Pre-service M (SD)	In-service M (SD)	F	η^2
Teacher-Student Relationships	4.13 (0.58)	4.09 (0.57)	4.20 (0.59)	3.32*	0.008
Curriculum & Assessment	4.09 (0.60)	4.08 (0.59)	4.13 (0.60)	0.74	0.002
Teaching & Pedagogy	4.09 (0.60)	4.08 (0.59)	4.13 (0.60)	0.74	0.002
TSE - Classroom Management	6.93 (1.39)	6.88 (1.40)	7.03 (1.36)	1.12	0.003
TSE - Student Engagement	7.04 (1.41)	6.70 (1.44)	7.15 (1.36)	1.21	0.003

* $p < 0.05$, ** $p < 0.01$.

B. Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was performed to assess the factor structure of teacher preparedness and classroom goal structures. The analysis revealed two distinct factors: **Factor 1**, representing teacher-student relationships, and **Factor 2**, encompassing curriculum and pedagogy. Table 3 illustrates the factor loadings from the EFA, showing high loadings for items related to teacher-student relationships (e.g., “I make an effort to listen to my students” and “I encourage my students to learn from mistakes”) and for curriculum and pedagogy items (e.g., “I inject variety into my teaching content” and “I provide students with interesting work”).

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.86, indicating that the data were suitable for factor analysis, and Bartlett’s Test of Sphericity was significant ($\chi^2 = 1245.23$, $p < 0.001$), confirming the factorability of the data. These findings highlight that teachers perceive student relationships as a distinct aspect of

Descriptive statistics and group comparisons were conducted to examine differences in teacher preparedness and Teaching Self-Efficacy (TSE) across key dimensions. As summarized in Table 1, teachers reported moderate to high levels of preparedness and self-efficacy overall.

To further explore group-level differences, a one-way ANOVA was conducted comparing pre-service and in-service teachers on five key dimensions: teacher-student relationships, curriculum and pedagogy, classroom management efficacy, student engagement efficacy, and teaching strategy efficacy. As shown in Table 2, in-service teachers reported significantly higher preparedness in teacher-student relationships compared to pre-service teachers ($F = 3.32$, $p < 0.05$, $\eta^2 = 0.008$), consistent with prior research emphasizing the role of teaching experience in developing relational competencies [30]. However, no significant differences were found in curriculum and pedagogy preparedness ($F = 0.74$, $p = 0.39$), classroom management efficacy ($F = 1.12$, $p = 0.29$), student engagement efficacy ($F = 1.21$, $p = 0.27$), or teaching strategy efficacy.

These findings suggest that teacher-student relationships are the primary distinguishing factor between in-service and pre-service teachers, while other areas of preparedness appear to be similarly developed across both groups through formal teacher education. This underscores the importance of providing early, authentic classroom experiences to pre-service teachers to strengthen relational skills and enhance their overall teaching self-efficacy.

preparedness, while curriculum knowledge and instructional strategies are more integrated. This supports the idea that strong relational interactions with students are critical to effective teaching, while pedagogical knowledge functions as a complementary construct.

Table 3. Factor loadings from exploratory factor analysis (only high-loading items shown for clarity)

Item	Factor 1: Teacher-Student Relationships	Factor 2: Curriculum & Pedagogy
I make an effort to listen to my students	0.857	
I explain the reasons for rules	0.730	
I inject variety into my teaching content		0.823
I provide students with interesting work		0.925
I encourage my students to learn from mistakes		0.890

C. Correlation Analysis

Correlation analysis examined the relationships among teacher preparedness, Teaching Self-Efficacy (TSE), Teaching Self-Efficacy for Equity (TSEE), and classroom goal structures (mastery vs. performance orientation). Table 4 presents the correlation matrix, indicating that teacher preparedness was significantly correlated with all three dimensions of self-efficacy (TSE and TSEE) ($r = 0.39$ to 0.41 , $p < 0.01$), suggesting that teachers who feel more prepared demonstrate greater confidence in managing classrooms, engaging students, and implementing instructional strategies effectively.

Mastery goal orientation showed a significant positive correlation with both teacher preparedness and self-efficacy ($r = 0.35$ to 0.44 , $p < 0.01$), reinforcing previous research that

emphasizes the role of intrinsic motivation and skill mastery in enhancing teacher confidence. In contrast, performance goal orientation had only a weak correlation with self-efficacy, indicating that teaching confidence is less influenced by competitive, performance-driven environments.

These results suggest that teachers who perceive themselves as better prepared are more likely to develop strong self-efficacy beliefs, particularly in classroom management, student engagement, and instructional strategies. Furthermore, mastery goal orientation supports self-efficacy development by fostering continuous professional learning and resilience. However, the weak correlation between performance goals and self-efficacy suggests that classroom environments focusing on competition and external validation may not significantly contribute to teachers' sense of instructional effectiveness.

Table 4. The correlations among key study variables (correlation matrix)

	1	2	3	4	5	6	7	8
1. Teacher Types (Pre-Service/In-Service)		-0.114*	0.155**	0.024	0.090	0.042	0.066	0.064
2. Gender			-0.092	-0.128**	-0.145**	-0.127**	-0.065	-0.096
3. Mastery Goal				0.438**	0.353**	0.349**	0.294**	0.351**
4. Performance Approach and Performance Avoidance Goals					0.266**	0.278**	0.225**	0.284**
5. Preparedness of Teacher-Student Relationships						0.873**	0.616**	0.697**
6. Preparedness of Curriculum and Assessment, and Teaching and Pedagogy							0.594**	0.696**
7. Teaching Self-Efficacy in Classroom Management, instructional strategy, and student engagement								0.503**

* $p < 0.05$, ** $p < 0.01$.

D. Hierarchical Regression Analysis

Hierarchical regression analysis was conducted to examine the predictive effects of teacher preparedness and classroom goal structures on Teaching Self-Efficacy (TSE) and Teaching Self-Efficacy for Equity (TSEE), controlling for demographic variables such as gender and teaching experience. The results, shown in Table 5, revealed that teacher preparedness, particularly teacher-student relationships ($\beta = 0.397$, $p < 0.01$), was the strongest predictor of TSE and TSEE. This reinforces the importance of relational preparedness in shaping teachers' confidence and effectiveness in the classroom, in line with prior research that emphasizes the role of relational skills in fostering effective teaching.

Mastery goal orientation had a significant but smaller effect on TSE ($\beta = 0.240$, $p < 0.01$), indicating that while a mastery-focused classroom environment contributes to higher self-efficacy, it does not replace the foundational role of teacher preparedness. In contrast, performance goal orientation had a marginal effect on self-efficacy ($\beta = 0.116$, $p > 0.05$), supporting previous findings that performance-driven environments have a limited impact on teachers' instructional confidence.

Taken together, these findings suggest that teacher preparedness, particularly in relational domains, is the most significant determinant of self-efficacy, while mastery goal orientation provides additional but secondary benefits. Performance goal orientation plays a minimal role in shaping teacher self-efficacy. These results underscore the need for

teacher education programs to prioritize relational preparedness, integrate structured experiences that enhance teacher-student interactions, and embed mastery-oriented pedagogical strategies to further support teaching self-efficacy.

Table 5. Predictors of teaching self-efficacy

Predictor	(Model 1)	(Model 2)	(Model 3)
Gender	-0.065	-0.028	0.031
Mastery Goal		0.240**	0.065
Performance Goals			0.116*
Teacher-Student Relationships			0.397**
Curriculum & Pedagogy			0.220**
R ²	0.004	0.098	0.400

* $p < 0.05$, ** $p < 0.01$.

IV. DISCUSSION

This section discusses the findings relative to existing literature, emphasizing their theoretical and practical implications, and suggests future research avenues. Guided by three research questions, the findings offer significant insights into the dynamics between teacher preparedness, classroom goal structures, and Teaching Self-Efficacy (TSE) and Teaching Self-Efficacy for Equity (TSEE).

A. Key Findings

Firstly, hierarchical regression analysis revealed teacher

preparedness—particularly in teacher-student relationships—as the most critical predictor of TSE and TSEE. Preparedness in building effective relationships significantly impacts teachers’ ability to manage classroom dynamics, tailor instruction, and promote inclusive environments. This supports Bandura’s Social Cognitive Theory, emphasizing mastery experiences and intrinsic preparedness as essential drivers of self-efficacy over external environmental factors.

Secondly, findings indicated classroom goal structures, specifically mastery goal orientations, positively influence TSE, enhancing teacher confidence. Nevertheless, mastery goals alone cannot fully mediate the link between preparedness and self-efficacy, underscoring preparedness as a fundamental requirement. These results extend Achievement Goal Theory, highlighting that mastery goal environments support but do not replace the need for adequate teacher preparedness.

Finally, ANOVA results showed significant differences in preparedness between pre-service and in-service teachers, with in-service teachers demonstrating stronger preparedness in managing teacher-student relationships. This aligns with existing literature suggesting practical teaching experience fosters relational skills necessary for effective classroom management. No substantial differences were noted in curriculum and pedagogical preparedness, indicating that formal teacher education primarily builds these aspects rather than relational competencies.

In conclusion, enhancing teacher preparedness, particularly relational competencies, alongside supportive mastery-oriented goal structures is crucial. Future research could further explore gender influences on preparedness and self-efficacy to offer more nuanced implications for teacher education.

B. Theoretical and Practical Implications

This study supports Bandura’s Social Cognitive Theory by reaffirming that Teacher Self-Efficacy (TSE) is influenced by personal preparedness and classroom goal structures, highlighting the role of mastery experiences. It also extends Achievement Goal Theory, demonstrating that classroom goal structures moderate TSE development, shifting focus from students to teachers. A key finding is that mastery-oriented environments enhance TSE but do not replace the necessity of teacher preparedness, thus emphasizing the combined benefit of both factors.

Practically, teacher training should emphasize interpersonal skills due to their strong influence on TSE and teacher-student relationships (TSEE). Professional development must focus on emotional intelligence and culturally responsive teaching to better engage diverse student populations. Schools and programs should promote mastery-oriented environments, prioritizing learning and growth over competition, and provide training in formative feedback and portfolio assessments. To address pre-service teachers’ lower preparedness in relationships, structured mentoring, extended field experiences, and reflective practice are recommended to bridge theory and practice effectively.

C. Limitations and Future Research

A key limitation of this study is its cross-sectional design, which prevents causal inferences about how teacher

preparedness and self-efficacy evolve over time. Future research should adopt longitudinal designs to track changes in preparedness and self-efficacy from pre-service training to in-service teaching.

Additionally, this study was conducted in a specific geographic and educational context, limiting the generalizability of the findings. Future research should examine teacher preparedness and self-efficacy in diverse cultural and policy settings to determine whether the findings hold across different teacher education systems.

While this study provides quantitative evidence on the relationship between preparedness and TSE, qualitative research is needed to explore teachers’ lived experiences and perceptions. Future studies could use interviews, focus groups, or case studies to understand how teachers navigate challenges related to preparedness, goal structures, and self-efficacy in real-world classrooms.

V. CONCLUSION

This study contributes to educational psychology and teacher training research by demonstrating that teacher preparedness—especially teacher-student relationships—is the strongest predictor of self-efficacy, while mastery goal structures provide additional but not substitutive support. The findings underscore the importance of fostering positive teacher-student relationships, mastery-oriented classrooms, and targeted interventions for pre-service teachers. Addressing these areas in teacher education programs can lead to higher teacher confidence, better student outcomes, and a more effective educational system overall.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Yue Zhou conceived the research idea, designed the study, conducted the literature review, collected and analyzed the data, and drafted the manuscript; Ravinder Koul provided theoretical guidance, contributed to the refinement of the research framework, and offered critical feedback on the manuscript; Mongkhon Narmluk assisted with methodological design, data analysis, and the organization of research findings; Yuwarat Srisupawong supervised the overall project, provided academic mentorship, and revised the manuscript critically for important intellectual content; all authors had read and approved the final version of the manuscript.

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