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School Support, Teacher Self-Efficacy, And Inclusive Education Effectiveness: A Structural Equation Modeling Approach

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ABSTRACT: Inclusive education has become an important priority for educational systems seeking to ensure equitable learning opportunities for students with diverse educational needs. Previous studies have identified school support and teacher self-efficacy as important determinants of successful inclusive education; however, limited research has integrated these constructs into a comprehensive structural framework, particularly in developing countries. This study proposes a conceptual model grounded in Organizational Support Theory and Social Cognitive Theory to explain the relationships among school support, teacher self-efficacy, and inclusive education effectiveness. The proposed framework suggests that school support enhances teacher self-efficacy, which subsequently improves inclusive education effectiveness. Teacher self-efficacy is also expected to mediate the relationship between school support and inclusive education effectiveness. To validate the proposed model, the study recommends a quantitative research design using a questionnaire survey administered to teachers working in inclusive educational settings. Partial Least Squares Structural Equation Modeling (PLS-SEM) is proposed to examine the measurement and structural models. The proposed framework provides a theoretical foundation for future empirical research and offers practical guidance for strengthening institutional support and teacher capacity in inclusive education.

KEYWORDS: School Support; Teacher Self-Efficacy; Inclusive Education Effectiveness; PLS-SEM; Vietnam.

INTRODUCTION

Inclusive education has become a central priority in educational systems worldwide, reflecting the commitment to provide equitable learning opportunities for all students regardless of their physical, cognitive, social, or emotional differences. Guided by international frameworks such as the Salamanca Statement and the United Nations Sustainable Development Goal 4, educational institutions are increasingly expected to create learning environments that accommodate diverse student needs. Despite significant policy advancements, the successful implementation of inclusive education remains a persistent challenge in many countries, particularly in developing educational contexts. Previous studies have emphasized that the effectiveness of inclusive education is influenced by multiple organizational and individual factors. Among these factors, school support has been identified as a critical organizational resource that facilitates teachers' ability to implement inclusive practices. School support encompasses administrative encouragement, professional development opportunities, access to instructional resources, and collaborative working environments. Research suggests that teachers who perceive stronger support from their schools are more willing and capable of adopting inclusive instructional strategies. At the individual level, teacher self-efficacy has emerged as one of the most influential predictors of inclusive teaching effectiveness. Rooted in Social Cognitive Theory, teacher self-efficacy refers to teachers' beliefs in their capabilities to organize and execute actions required to successfully teach students with diverse learning needs. Teachers with higher self-efficacy tend to demonstrate greater persistence, instructional innovation, and commitment to inclusive practices.

Although existing studies have independently examined the roles of school support and teacher self-efficacy, limited research has investigated the integrated relationship among these variables within a single structural framework. Furthermore, empirical evidence regarding the mediating role of teacher self-efficacy in the relationship between school support and inclusive education effectiveness remains inconclusive. This gap is particularly evident in developing educational systems where institutional support structures for inclusive education are still evolving. To address these gaps, this study examines the relationships among school support, teacher self-efficacy, and inclusive education effectiveness using Structural Equation Modeling (SEM). Specifically, the study investigates whether teacher self-efficacy mediates the relationship between school support and inclusive education effectiveness. The findings are expected to contribute to both theoretical understanding and practical implementation of inclusive education. The study seeks to answer the following research questions:

RQ1: Does school support positively influence teacher self-efficacy?

RQ2: Does teacher self-efficacy positively influence inclusive education effectiveness?

RQ3: Does teacher self-efficacy mediate the relationship between school support and inclusive education effectiveness?

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THEORETICAL FOUNDATION AND HYPOTHESIS DEVELOPMENT

2.1 Social cognitive theory

This study is primarily grounded in Social Cognitive Theory (SCT) developed by Bandura (1997). SCT posits that human behavior is shaped through the reciprocal interaction of personal factors, environmental influences, and behavioral outcomes. Within educational settings, teacher self-efficacy represents a key personal factor that influences teachers' instructional behaviors and educational effectiveness. According to SCT, supportive environments provide mastery experiences, social persuasion, and emotional support that strengthen individuals' efficacy beliefs. Consequently, teachers who perceive strong organizational support are more likely to develop confidence in their ability to implement inclusive teaching practices successfully. Moreover, these organizational frameworks cultivate resilience, enabling educators to navigate the behavioral complexities and emotional demands inherent in inclusive classrooms (Shuakbayeva et al., 2025). Furthermore, organizational efficacy—comprising administrative backing and robust teamwork—interacts with individual professional confidence to optimize instructional outcomes (Qian et al., 2025). In this sense, resilience transcends individual psychological capacity and emerges as a socially situated process, where institutional culture provides the containment and collaborative norms necessary to sustain long-term engagement (Mieres-Chacaltana et al., 2025).

2.2 Organizational support theory

According to Organizational Support Theory, employees tend to reciprocate favorable treatment from their organization through enhanced work engagement, stronger organizational commitment, and improved job performance (Eisenberger et al., 1986). In the educational sector, teachers who perceive high levels of support from school leadership are more likely to develop confidence in their professional capabilities and demonstrate greater willingness to adopt innovative teaching practices. Such support may include administrative assistance, access to instructional resources, mentoring programs, professional development activities, and emotional encouragement from school leaders and colleagues. These forms of support are particularly important in inclusive education settings, where teachers are expected to address diverse learning needs and implement individualized instructional strategies.

Previous studies have shown that supportive school climates positively influence teachers' self-efficacy, job satisfaction, and instructional effectiveness (Collie et al., 2012; Skaalvik & Skaalvik, 2014). When teachers perceive that their schools recognize their efforts and provide adequate resources, they are more likely to persist in overcoming challenges associated with inclusive classrooms and maintain positive attitudes toward students with disabilities. Consequently, school support serves not only as an organizational resource but also as a critical mechanism for enhancing teacher competence and fostering successful inclusive education outcomes. Therefore, Organizational Support Theory provides a robust theoretical foundation for explaining the relationship between school support, teacher self-efficacy, and inclusive education effectiveness.

2.3 Developing research hypotheses on the effectiveness of inclusive education.

Inclusive education effectiveness refers to the extent to which educational systems successfully provide equitable learning opportunities, participation, and achievement for students with diverse educational needs. Effective inclusive education requires not only institutional resources but also teachers who possess the confidence and competence to adapt instruction and create inclusive classroom environments. School support has consistently been recognized as a significant antecedent of teacher self-efficacy. Supportive leadership, professional development programs, mentoring systems, and collaborative cultures provide teachers with opportunities to develop competencies and confidence in handling diverse classroom challenges. Previous studies have reported positive associations between organizational support and teacher efficacy in inclusive educational settings. When teachers perceive that adequate resources and institutional support are available, they are more likely to believe in their ability to successfully implement inclusive practices. Therefore, the following hypothesis is proposed:

H1: School support positively influences teacher self-efficacy.

Teacher self-efficacy is widely regarded as a key determinant of instructional quality and educational outcomes. Teachers with higher efficacy beliefs are more willing to adopt innovative teaching methods, differentiate instruction, and persist in addressing students' diverse learning needs. Research has demonstrated that teacher self-efficacy positively affects classroom management, student engagement, and learning achievement in inclusive educational settings. Consequently, teachers who possess strong efficacy beliefs are expected to contribute more effectively to inclusive education outcomes. Therefore, the following hypothesis is proposed:

H2: Teacher self-efficacy positively influences inclusive education effectiveness.

School support directly contributes to the successful implementation of inclusive education by providing resources, professional learning opportunities, and collaborative structures. Schools that prioritize inclusion typically establish supportive environments that facilitate effective teaching and learning practices. Empirical evidence suggests that institutional support is positively associated with the quality of inclusive educational practices and student outcomes. Therefore, the following hypothesis is proposed:

H3: School support positively influences inclusive education effectiveness.

Based on Social Cognitive Theory, environmental factors influence behavioral outcomes through individual cognitive mechanisms. School support may enhance teachers' efficacy beliefs, which subsequently improve their ability to implement effective inclusive practices. Accordingly, teacher self-efficacy is expected to serve as an important mediating mechanism through which school support influences inclusive education effectiveness. Therefore, the following hypothesis is proposed:

H4: Teacher self-efficacy mediates the relationship between school support and inclusive education effectiveness.

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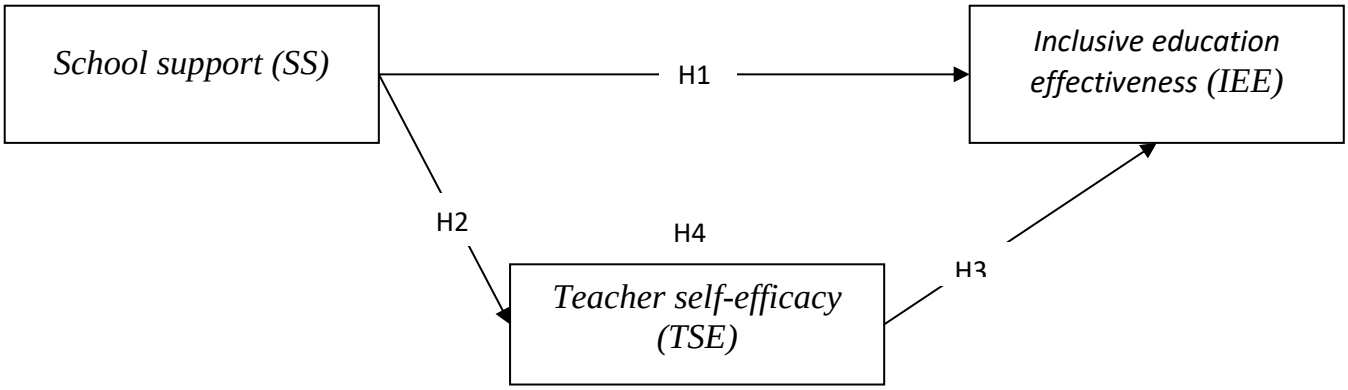


Figure 1. Research model

RESEARCH METHOD

3.1 Research Design

This study employed a quantitative research design using a cross-sectional survey approach to examine the relationships among School Support (SS), Teacher Self-Efficacy (TSE), and Inclusive Education Effectiveness (IEE). Quantitative methods are considered appropriate for testing theoretically derived causal relationships among latent constructs and for assessing mediation effects within a structural model. The study adopted Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 4.0. PLS-SEM is particularly suitable when the primary objective is prediction and theory development, especially in studies involving complex relationships among latent variables. Furthermore, PLS-SEM can effectively handle non-normal data distributions and moderate sample sizes while simultaneously evaluating measurement and structural models (Hair et al., 2022; Hair & Alamer, 2022).

Based on the theoretical framework, School Support was specified as an exogenous construct, Teacher Self-Efficacy as a mediating construct, and Inclusive Education Effectiveness as an endogenous construct.

3.2 Sample

The target population comprised teachers currently working in inclusive educational settings at primary and secondary schools in Vietnam. Data were collected through an online questionnaire distributed between January and March 2026. A stratified convenience sampling technique was employed to ensure representation from different educational levels and geographical regions. According to Hair et al. (2022), the minimum sample size in PLS-SEM should satisfy both the "10-times rule" and statistical power requirements. More recently, Hair et al. recommend that researchers conduct power analysis and collect samples substantially larger than the minimum threshold to ensure model stability and predictive accuracy. A total of 320 questionnaires were collected. After data screening and removal of incomplete responses, 286 valid questionnaires were retained for analysis.

3.3 Measurement Instruments

All measurement items were adapted from previously validated scales and modified to fit the context of inclusive education in Vietnam. A five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to measure all constructs.

School Support (SS): School Support was conceptualized as teachers' perceptions of organizational support provided by their schools for implementing inclusive education. The scale was adapted from Organizational Support Theory literature and previous educational studies examining administrative support, professional development, and resource availability.

Teacher Self-Efficacy (TSE): Teacher Self-Efficacy refers to teachers' beliefs regarding their ability to successfully teach students with diverse educational needs. The measurement was adapted from the Teacher Sense of Efficacy Scale developed by Tschannen-Moran and Hoy (2001), which has been extensively validated in inclusive education research.

Inclusive Education Effectiveness (IEE): Inclusive Education Effectiveness refers to the extent to which inclusive teaching practices facilitate participation, engagement, and learning outcomes for students with diverse needs.

The measurement items were adapted from Sharma et al. (2012), Forlin et al. (2014), and subsequent inclusive education studies.

3.4 Data analysis procedures

Data analysis followed the two-stage approach recommended by Hair et al. (2022).

Stage 1: Measurement Model Assessment

The measurement model was evaluated through:

• Indicator reliability (Outer Loadings)

• Internal consistency reliability:

Cronbach's Alpha (CA)

Composite Reliability (CR)

• Convergent validity:

Average Variance Extracted (AVE)

• Discriminant validity:

Fornell-Larcker Criterion

Heterotrait-Monotrait Ratio (HTMT)

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According to Hair et al. (2022), indicator loadings should exceed 0.708, CR values should range between 0.70 and 0.95, and AVE values should exceed 0.50. HTMT values below 0.85 indicate adequate discriminant validity.

Stage 2: Structural Model Assessment

After confirming measurement quality, the structural model was evaluated using:

- Collinearity assessment (VIF)
- Path coefficients (β)
- Coefficient of determination (R^2)
- Effect size (f^2)
- Predictive relevance (Q^2)
- Bootstrapping (5,000 resamples)
- Mediation analysis

Hair et al. (2022) recommend bootstrapping procedures to evaluate the significance of path coefficients and indirect effects because PLS-SEM does not assume normal data distribution. The significance of hypotheses was assessed using t-values, p-values, and 95% confidence intervals.

RESEARCH IMPLICATIONS

The proposed conceptual framework offers several important implications for theory, educational practice, and future research. First, from a theoretical perspective, this study extends Organizational Support Theory and Social Cognitive Theory by integrating organizational and psychological determinants of inclusive education into a single structural framework. While previous studies have generally examined school support, teacher self-efficacy, and inclusive education effectiveness independently, the proposed model explains how institutional support may influence educational outcomes both directly and indirectly through teachers' efficacy beliefs. This integrated perspective contributes to a more comprehensive understanding of the mechanisms through which organizational environments shape teachers' instructional behaviors in inclusive educational settings.

Second, the proposed framework provides practical implications for school leaders, educational administrators, and policymakers. Inclusive education requires more than legislative support; it depends on teachers having sufficient resources, professional development opportunities, administrative guidance, and collaborative working environments. The proposed model suggests that strengthening school support may enhance teachers' confidence in implementing inclusive instructional strategies, thereby improving the quality of inclusive education. Educational institutions may therefore consider investing in continuous professional development, mentoring programs, collaborative learning communities, and accessible teaching resources to strengthen teachers' capacity for inclusive practice.

Finally, this study provides a foundation for future empirical research. The proposed hypotheses may be tested using quantitative methods, particularly Partial Least Squares Structural Equation Modeling (PLS-SEM), to examine both direct and indirect relationships among the constructs. Future studies may also extend the framework by incorporating additional organizational variables, such as inclusive school climate, transformational leadership, organizational culture, or teachers' professional resilience, as mediating or moderating factors. Moreover, comparative studies across different educational levels, school ownership types, or national contexts would further improve the generalizability of the proposed framework and contribute to the growing body of knowledge on inclusive education.

CONCLUSION

This study proposes a conceptual framework to explain the relationships among school support, teacher self-efficacy, and inclusive education effectiveness. Grounded in Organizational Support Theory and Social Cognitive Theory, the proposed model suggests that school support strengthens teachers' self-efficacy, which in turn enhances the effectiveness of inclusive education. By integrating organizational and psychological perspectives, the framework provides a more comprehensive understanding of the mechanisms supporting successful inclusive educational practices.

The proposed model offers both theoretical and practical contributions. Theoretically, it extends previous research by combining Organizational Support Theory and Social Cognitive Theory into a unified framework for inclusive education. Practically, it highlights the importance of strengthening school leadership, professional development, and collaborative school environments to improve teachers' confidence and capacity to implement inclusive teaching practices.

As a conceptual study, this paper has not yet been empirically validated. Future research is encouraged to test the proposed hypotheses using quantitative methods, particularly Partial Least Squares Structural Equation Modeling (PLS-SEM), with data collected from teachers in inclusive educational settings. Further studies may also incorporate additional variables, such as school climate, transformational leadership, or teacher resilience, to enhance the explanatory power of the proposed framework across different educational contexts.

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APPENDIX A. MEASUREMENT SCALES

Section A. Demographic Information (Classification Questions)

Please select the option that best describes you.

Code	Classification Question	Response Options
D1	Gender	□ Male □ Female □ Prefer not to say □ Other: _____
D2	School Ownership Type	□ Public School □ Private School □ Other: _____

Section B. Research Measurement Scales

Response Scale

Please indicate your level of agreement with each statement using the following five-point Likert scale.

Scale Point	Description
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

School Support (SS)

Adapted from Eisenberger et al. (1986), Rhoades and Eisenberger (2002), Sharma et al. (2012), and Woodcock et al. (2022).

Code	Measurement Item
SS1	My school provides sufficient resources for inclusive education.
SS2	My school offers adequate professional development opportunities related to inclusive education.
SS3	School leaders actively support inclusive teaching practices.
SS4	Teachers receive necessary guidance when facing challenges in inclusive classrooms.
SS5	Collaboration among staff is encouraged to support students with diverse needs.

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Code	Measurement Item
SS6	The school creates a positive climate for inclusive education.

Teacher Self-Efficacy (TSE)

Adapted from Tschannen-Moran and Hoy (2001) and Sharma et al. (2012).

Code	Measurement Item
TSE1	I can effectively teach students with different learning abilities.
TSE2	I can adapt instructional methods to meet diverse student needs.
TSE3	I can manage inclusive classrooms successfully.
TSE4	I can motivate students with special educational needs.
TSE5	I can collaborate effectively with parents and specialists.
TSE6	I feel confident implementing inclusive instructional strategies.

Inclusive Education Effectiveness (IEE)

Adapted from Sharma et al. (2012), Forlin et al. (2014), and Loreman et al. (2015).

Code	Measurement Item
IEE1	Students with special educational needs actively participate in classroom activities.
IEE2	Inclusive teaching improves student engagement.
IEE3	Inclusive practices contribute to positive learning outcomes.
IEE4	Students demonstrate improved social interaction in inclusive classrooms.
IEE5	Inclusive education promotes equal learning opportunities.
IEE6	Overall, inclusive education is effectively implemented in my school.

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