



How Practicing Mindfulness and Understanding Self-Efficacy Foster Mindset Change in Pre-Service Teachers: The SEMs Study

Tiffany Nichole Gardner Bennett

West Chester University

ABSTRACT: This research study underscores the importance of transforming pre-service teachers' mindsets about academic courses and addressing anxiety to enhance their success as educators. Based on real-life experiences in four-year higher education programs, it is revealed that pre-service teachers pursuing dual certification in early childhood, elementary, and special education often experience anxiety, which hampers their ability to grasp academic concepts. The study employed a mixed-methods design to assess the effectiveness of the SEMS intervention through surveys, audio-recorded group discussions, and personal reflections with 4 pre-service teachers attending a four-year institution. Seven key themes emerged from the student experiences in the SEMs program. Pre-service teachers' critical tools for emotional regulation and mindset development to help reframe their academic experiences, reduce anxiety, and build confidence in their teaching. Research highlights the critical role of math and science in long-term academic success. Yet, pre-service teachers' anxiety and attitudes toward these subjects negatively impact their engagement and classroom performance. Teachers who experience math anxiety may inadvertently transmit this fear to their students, potentially hindering early success in mathematics. Additionally, high levels of math anxiety correlate with lower teaching efficacy among elementary pre-service teachers, resulting in diminished confidence and teaching proficiency.

Corresponding Author:

Tiffany Nichole Gardner Bennett

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INTRODUCTION

Pre-service teachers enter preparation programs at a time when the demands of teaching are increasingly complex, multifaceted, and emotionally intensive. Contemporary classrooms—particularly inclusive and culturally diverse learning environments—require educators to navigate academic differentiation, behavioral supports, social-emotional learning, and collaboration with families and multidisciplinary teams. As a result, pre-service teachers often experience heightened stress, self-doubt, and anxiety as they attempt to reconcile theoretical coursework with emerging professional identities (Jennings & Greenberg, 2009; Roeser et al., 2013).

These early experiences play a critical role in shaping teachers' beliefs about their capabilities and their long-term commitment to the profession. Teacher preparation programs serve as crucial environments for cultivating pedagogical skills, content knowledge, and professional dispositions. However, these programs often overlook the emotional and psychological barriers that hinder learning and growth. Many pre-service teachers experience academic anxiety—particularly around core subjects like mathematics and science—which impairs their ability to engage with content, reduces self-confidence, and impacts future instructional effectiveness.

Mindset has emerged as an important construct in understanding how educators interpret challenges, respond to feedback, and persist through difficulty. A growth-oriented mindset supports adaptive coping, reflective practice, and openness to professional learning, whereas fixed or deficit-oriented beliefs may limit instructional risk-taking and responsiveness to student needs (Dweck,

2006). For pre-service teachers, their mindset is not static but actively develops as individuals encounter coursework, field placements, and evaluative feedback. Supporting positive mindset development during preparation is essential for fostering resilience, confidence, and professional agency.

This study, the Self-Efficacy and Mindfulness Study (SEMS), is designed to examine how experiential and reflective practices grounded in mindfulness can reduce academic anxiety and increase self-efficacy among pre-service teachers. The study specifically targets students pursuing dual certification in early childhood, elementary, and special education. The primary goal was to provide strategies to foster emotional regulation, enhance metacognitive awareness, and promote a growth mindset among future educators.

Teacher self-efficacy, grounded in Bandura's social cognitive theory, refers to individuals' beliefs in their ability to organize and execute actions required to achieve desired outcomes (Bandura, 1997). According to Bandura, self-efficacy beliefs are shaped through four primary sources: mastery experiences, vicarious experiences, social persuasion, and physiological and emotional states. In teacher preparation programs, these sources are especially salient, as pre-service teachers continuously interpret early teaching experiences, observe mentor teachers, receive feedback, and manage emotional responses to instructional challenges.

Extensive research has demonstrated that higher levels of teacher self-efficacy are associated with stronger classroom management, greater instructional flexibility, increased persistence with struggling learners, and improved student outcomes (Tschannen-Moran & Hoy, 2001).

Conversely, low self-efficacy has been associated with stress, burnout, and attrition, particularly in the early stages of teaching. Because pre-service teachers' efficacy beliefs are still forming, teacher preparation programs represent a critical intervention point for intentionally strengthening self-efficacy through structured, reflective, and supportive experiences.

Mindfulness, commonly defined as present-moment awareness with an attitude of openness and nonjudgment, has gained increasing attention within educational research as a mechanism for supporting emotional regulation, stress reduction, and reflective capacity (Kabat-Zinn, 2003).

For educators, mindfulness practices have been associated with reduced emotional reactivity, improved attention, and enhanced relational presence with students (Jennings et al., 2017). These outcomes are particularly relevant for pre-service teachers, who frequently report feeling overwhelmed by the cognitive and emotional demands of teaching.

Importantly, mindfulness aligns closely with Bandura's emphasis on physiological and emotional states as a source of self-efficacy. By cultivating awareness of internal experiences and reducing stress responses, mindfulness may positively influence how pre-service teachers interpret challenges and assess their own competence. Rather than viewing setbacks as evidence of inadequacy, mindful awareness can support more adaptive appraisals that reinforce efficacy beliefs and promote persistence.

Although research has examined mindfulness and teacher self-efficacy independently, fewer studies have explored their combined influence on mindset development among pre-service teachers. The intersection of these constructs suggests a promising pathway: mindfulness supports emotional regulation and awareness, self-efficacy strengthens confidence and agency, and together they foster adaptive mindset shifts that support professional growth. Addressing this gap is particularly important in teacher preparation programs seeking to promote sustainable, inclusive, and reflective teaching practices.

The purpose of this study is to examine the impact of a mindfulness- and self-efficacy-based intervention on mindset development among pre-service teachers. Grounded in Bandura's self-efficacy theory and informed by contemplative pedagogy frameworks, this study explores how structured mindfulness practices and reflective experiences influence pre-service teachers' self-efficacy beliefs and perceptions of professional capability. By investigating the interaction between mindfulness, self-efficacy, and mindset, this study seeks to contribute to a more holistic understanding of teacher preparation programs that support both professional competence and well-being.

THEORETICAL FRAMEWORK

The Self-Efficacy and Mindfulness (SEMS) intervention is grounded in Albert Bandura's Social Cognitive Theory, which provides a comprehensive framework for understanding how individuals develop beliefs, motivation, and behaviors within social contexts. His theory centers on self-efficacy, defined as individuals' beliefs in their ability to organize and execute the actions required to manage prospective situations (Bandura, 1977). Self-efficacy influences how individuals think, feel, self-motivate, and process information, which is especially critical for educators who must navigate complex learning environments, adapt to diverse student needs, and persist in the face of professional challenges.

Bandura's earlier Social Learning Theory further informs the SEMS intervention by emphasizing that learning occurs not only through direct experience but also through observation, modeling, and reflection. Individuals construct knowledge and skills by observing others' behavior and the consequences of that behavior within social settings. This principle is embedded in the SEMS model through collaborative group discussions and reflective dialogue, which enable pre-service teachers to learn from peers and mentors, co-construct meaning, and develop shared professional understanding.

Bandura later expanded Social Learning Theory into Social Cognitive Theory (Bandura, 1986), highlighting the concept of *reciprocal determinism*, where personal cognitive factors, behavioral patterns, and environmental influences interact dynamically

to shape human functioning. Within SEMs, this interaction is evident in that pre-service teachers' internal beliefs (e.g., confidence and self-awareness), instructional behaviors, and learning environments mutually influence their professional growth and emotional resilience in the classroom (Koutroubas & Galanakis, 2022; Nickerson, 2025).

Complementing Social Cognitive Theory, contemplative pedagogy provides an additional theoretical lens that emphasizes the role of introspection and inner awareness in learning.

Contemplative pedagogy advocates for integrating reflective and mindfulness-based practices into educational settings to promote deeper engagement, emotional regulation, and holistic development (Zajonc, 2013). Through mindfulness exercises, grounding practices, and structured self-reflection, the SEMs intervention supports pre-service teachers in cultivating personal resilience, emotional self-regulation, and a reflective teaching identity.

Together, Social Cognitive Theory and Contemplative pedagogy form an integrated theoretical foundation for SEMs, positioning learning as both socially mediated and internally reflective.

This framework underscores the value of self-efficacy, observational learning, and contemplative practice in preparing pre-service teachers to develop confidence, adaptability, and sustained well-being in their professional roles.

Conceptual Overview and Rationale-Mindfulness-Based Approaches

Teacher preparation is a high-demand developmental period in which candidates are expected to acquire pedagogical knowledge, demonstrate professional dispositions, and perform in authentic classroom contexts, often while navigating financial strain, competing coursework, and identity shifts associated with becoming a teacher. Research indicates that stress during teacher education is patterned and structurally linked to coursework intensity, evaluation pressure, practicum responsibilities, and role ambiguity (Núñez-Regueiro, Vallejo, and Núñez 2024). In parallel, resilience-focused scholarship emphasizes that teacher preparation is a critical window for cultivating coping and adaptive skills that may buffer later occupational stress and attrition (Mu, Zhang, and Cho 2024).

Mindfulness-based approaches have increasingly been introduced in educational contexts to strengthen attentional control, emotion regulation, and stress coping. Mindfulness is commonly conceptualized as purposeful, present-centered awareness characterized by openness and nonjudgment (Kabat-Zinn, 2003; Bishop et al., 2004). This attentional and attitudinal training may be particularly relevant for pre-service teachers, whose stress is often amplified by evaluative demands and uncertainty during professional formation.

Key mindfulness facets frequently used in empirical research include observing, describing, acting with awareness, nonjudging of inner experience, and nonreactivity to inner experience (Baer et al. 2006). For SEMs, these facets translate into practical skills: noticing stress responses early (observing), labeling internal states accurately (describing), staying task-focused while teaching (acting with awareness), reducing self-criticism after setbacks (nonjudging), and pausing rather than reacting impulsively during challenging moments (nonreactivity).

A useful framework for integrating Bandura's work is the IAA model—Intention, Attention, and Attitude—which conceptualizes mindfulness as a process that begins with purposeful intention, cultivates attentional stability, and is sustained by an attitude of openness and compassion toward experience (Shapiro, Carlson, Astin, and Freedman 2006). In teacher education, IAA is practical because it aligns with professional learning goals (intention), improves performance-relevant focus during instruction (attention), and shifts evaluative self-talk toward a learning stance (attitude).

This literature review integrates pre-service teacher stress, mindfulness practice, and self-efficacy within Bandura's theoretical framework, in which self-efficacy beliefs are central determinants of motivation, coping, and performance (Bandura, 1977, 1997). Mindfulness training may support the development of self-efficacy by improving self-regulatory capacity, reducing maladaptive reactivity, and shaping how candidates appraise stress and instructional challenges.

Mindfulness Practice for the Development of Self-Efficacy Skills

While mindfulness has been widely examined as a stress-reduction and attentional regulation practice, its relevance in teacher education extends beyond emotional well-being. The mechanisms cultivated through mindfulness—attentional control, emotional regulation, metacognitive awareness, and non-reactive appraisal—align closely with the psychological processes that undergird the development of self-efficacy. Thus, mindfulness may function not merely as an intervention for stress, but as a foundational scaffold for strengthening pre-service teachers' efficacy beliefs.

Bandura (1977, 1997) conceptualized self-efficacy as individuals' beliefs in their capabilities to organize and execute courses of action required to produce desired outcomes. These beliefs influence effort, persistence, resilience in the face of setbacks, and vulnerability to stress. In the context of teacher preparation, efficacy beliefs shape how candidates interpret classroom challenges, respond to behavioral disruptions, engage diverse learners, and sustain commitment to the profession (Tschannen-Moran & Hoy, 2001). When self-efficacy is low, stress is perceived as a threat; when efficacy is high, the same demands are more likely appraised as manageable challenges.

Mindfulness practices may contribute to this shift in appraisal by strengthening self-regulatory processes. Research suggests that mindfulness enhances cognitive flexibility, reduces emotional reactivity, and improves attentional stability (Kabat-Zinn, 2003;

Roeser et al., 2013). These capacities directly influence how pre-service teachers interpret teaching demands. By cultivating present-moment awareness without judgment, candidates may be better equipped to interrupt maladaptive stress responses and engage in adaptive coping strategies—an essential precursor to the development of efficacy.

Importantly, Bandura (1997) identified four primary sources of self-efficacy: mastery experiences, vicarious experiences, social persuasion, and physiological and affective states. Mindfulness intersects particularly with the latter source. Individuals interpret physiological arousal (e.g., anxiety, elevated heart rate) as either debilitating or facilitative. Mindfulness training has been shown to alter the perception of stress-related physiological cues, thereby reducing catastrophic thinking and promoting adaptive appraisal (Jennings & Greenberg, 2009).

In this way, mindfulness may indirectly strengthen efficacy beliefs by transforming affective interpretations of classroom stress. Furthermore, emerging research in teacher preparation programs suggests that contemplative practices contribute to increased professional confidence, improved classroom presence, and enhanced instructional responsiveness (Roeser et al., 2012; Emerson et al., 2017). When pre-service teachers develop attentional stability and emotional regulation, they are more likely to persist during instructional difficulty, engage constructively in feedback cycles, and demonstrate reflective practice—behaviors closely associated with high self-efficacy.

Self- Efficacy-

The SEMS intervention is grounded in Albert Bandura's Social Cognitive Theory, which provides a robust framework for understanding how individuals develop the beliefs, skills, and motivation necessary for effective teaching. In 1977, Bandura introduced a developmental psychology perspective emphasizing how people learn through modeling and observing others. His work highlighted how individuals motivate themselves and others, self-regulate, and acquire new skills (Koutroubas & Galanakis, 2022). Later, in 1986, Bandura expanded Social Learning Theory into Social Cognitive Theory to explain how human behavior is shaped by the dynamic interplay of personal cognitive beliefs, actions, and environmental influences (Nickerson, 2025).

At the core of Bandura's framework is the concept of *self-efficacy*, defined as an individual's belief in their capacity to organize and execute actions necessary to achieve specific goals (Bandura, 1997). These beliefs profoundly shape how individuals think, feel, and behave in particular situations. Individuals with high self-efficacy are more likely to approach challenging tasks with confidence, persist in the face of obstacles, exert greater effort to achieve desired outcomes, and recover from setbacks. Conversely, those with low self-efficacy often avoid difficult tasks, focus on potential negative outcomes, and doubt their ability to succeed.

Self-efficacy manifests across multiple domains, including academic, social, health, and occupational contexts, influencing persistence, resilience, and achievement.

Bandura (1997) identified four primary sources of self-efficacy: mastery experiences, vicarious experiences, verbal and social persuasion, and physiological or emotional states. Here is a breakdown of each component in connection with teacher education and the classroom.

Mastery Experiences

Mastery experiences are the most influential source of skill development. Many teachers reflect on mastery experiences based on success and failures as it relates to the learner's academic performance. Furthermore, many teachers highlight their increase and decrease self-efficacy to student engagement and classroom management (Gale et al, 2022). For pre-service teachers, how they interpret their successes and failures after completing a task can impact both their confidence and their willingness to persist or disengage from similar tasks in the future. However, when success is achieved primarily through the assistance of others, it may undermine their sense of personal competence in performing the task independently (Bandura, 1977).

Verbal Persuasion

Individuals often look at someone skilled in a task they wish to master, particularly in areas related to power, prestige, and status (Bandura, 1977). Verbal persuasion, or being encouraged by others, can enhance self-efficacy, especially when the persuader is perceived as credible and knowledgeable. For pre-service teachers, this means observing and learning from in-service teachers who demonstrate effective classroom management, instructional practices, and professionalism—such as supervisors, mentor teachers, and cooperating teachers. The expertise and trustworthiness of the persuader play a crucial role in shaping an individual's beliefs and building confidence in their skills.

Vicarious Experiences

Observed through watching other people's performances. An individual can watch another perform and then compare their own mastery with others' mastery. Rather than focusing solely on personal experience, individuals form judgements based on their capabilities by watching how others approach and succeed (or fail) in a task. (Bandura, 1977). This can lead to the development of high or low self-efficacy, before observation tends to shape how one perceives oneself. The phrase "If (s)he can do it, then so can I" often highlights what individuals are capable of based on what is seen through observation. For pre-service teachers, vicarious experiences can be influential in field placement, student teaching, and classroom observation. Through careful observation of

experienced teachers, pre-service teachers begin to construct a mental framework of what effective, quality teaching looks like.

Physiological and Emotional Response

In teacher education, research consistently demonstrates the critical role of self-efficacy in professional development. Teachers with higher self-efficacy not only perform more effectively in the classroom but also approach challenges with greater confidence and are more likely to

achieve their professional goals (Lee & Davis, *Preservice Teachers' Self-Efficacy*, p. 350). Furthermore, educators with strong self-efficacy are more likely to experience job satisfaction and remain in the profession, as they create supportive learning environments that foster student achievement (Zee & Koomen, 2016). Examples could be pre-service teachers' emotional experiences such as feelings of accomplishment after a successful lesson can strengthen self-efficacy over time. For pre-service teachers, developing awareness of their physiological and emotional responses and strategies to help regulate their emotions. Practice such as reflection or stress management techniques can help pre-service teachers with challenging emotional states.

Finally, contemplative pedagogy provides a complementary lens for SEMS, advocating for

introspective practices to deepen learning and foster self-awareness (Zajonc, 2013). By engaging in mindfulness, grounding exercises, and self-reflection, pre-service teachers can develop both personal resilience and a reflective teaching identity, reinforcing the principles of self-efficacy in practice. (Fig.1-SEMs Framework).

MATERIALS AND METHODS

Research Design

This study employed a short-term mixed-methods experiential design to examine the impact of the **Self-Efficacy and Mindfulness Sessions (SEMS)** intervention on pre-service teachers' mindset development and professional self-efficacy. The SEMS framework was theoretically grounded in Bandura's social cognitive theory, which positions self-efficacy beliefs as central determinants of motivation, persistence, resilience, and performance (Bandura, 1997).

A mixed-methods approach was selected to allow for both the measurement of change in self-efficacy over time and an in-depth exploration of participants' lived experiences (Creswell and Plano Clark 2018). The concurrent collection of quantitative and qualitative data enabled methodological triangulation, strengthening interpretive validity and offering a comprehensive understanding of how mindfulness-informed experiences influenced efficacy beliefs. The SEMS study was guided by the following research questions:

1. How does participation in a mindfulness-based intervention influence pre-service teachers' self-efficacy and mindset toward challenging academic content?
2. What roles do reflective and experiential practices play in reducing academic anxiety among pre-service teachers?
3. How do pre-service teachers perceive the impact of mindfulness and self-efficacy training on their professional identity development?

Participants

The study sample consisted of four undergraduate pre-service teachers enrolled at a private university in the Northeastern United States. All participants were in the later stages of their teacher preparation program, classified as either juniors or seniors, and were pursuing dual certification in elementary education and special education. This dual-certification pathway required candidates to develop competencies in both general and inclusive classroom settings, making them particularly well-suited for participation in an intervention focused on social, emotional, and mental support (SEMS).

Although a total of ten students initially expressed interest in participating in the study, the final sample was limited to four participants due to structural and logistical constraints. Specifically, the SEMS intervention was embedded within a required course in the teacher preparation program. As a result, only those students who were officially enrolled in the particular section of the course in which the intervention was implemented were eligible to participate in the full study. Students who volunteered but were enrolled in other sections of the course, or who were enrolled during the implementation period, were excluded from participation.

Embedded the SEMS intervention within a required course context served an important methodological purpose. By situating the intervention within authentic teacher preparation coursework, the study enhanced its ecological validity, allowing researchers to examine how the SEMS framework functioned in a real-world instructional setting rather than in an artificial or isolated environment. This approach aligns with recommendations by Shadish, Cook, and Campbell (2002), who emphasize the importance of conducting research in naturalistic contexts to improve the applicability and generalizability of findings to practice.

The SEMS Intervention Procedure

The Self-Efficacy and Mindfulness Sessions (SEMS) intervention was conducted over six 60-minute sessions during the Spring 2025 semester. SEMS was designed as a structured, experiential intervention that integrates mindfulness practice with principles of

self-efficacy development.

Mindfulness practices included breath awareness, grounding exercises, and sensory attention activities designed to cultivate attentional regulation and emotional awareness. Such practices have been shown to improve emotional regulation, reduce stress reactivity, and enhance cognitive flexibility (Kabat-Zinn 2003; Roeser et al. 2013).

Each SEMS session followed a consistent structure:

1. **Mindfulness Practice** – Focused attention and regulation exercises aimed at strengthening present-moment awareness.
2. **Guided Reflection** – Written prompts encouraging metacognitive connections between emotional states and instructional challenges.
3. **Structured Group Discussion** – Facilitated dialogue promoting vicarious learning and social persuasion, two key sources of efficacy identified by Bandura (1997).

The SEMS model intentionally aligned with Bandura's (1997) four sources of self-efficacy: mastery experiences, vicarious experiences, social persuasion, and physiological/affective states. Mindfulness practices specifically targeted physiological and affective interpretation—helping participants reframe stress responses and anxiety as manageable rather than debilitating (Jennings and Greenberg 2009).

Through reflective processing and peer dialogue, participants engaged in cognitive appraisal shifts that supported the formation of efficacy beliefs.

Data Collection Quantitative Measures

Participants completed a pre-intervention survey that included a validated teacher's self-efficacy scale to established baseline perceptions of instructional competence and professional confidence. Teacher self-efficacy has been widely conceptualized as context-specific beliefs about one's ability to influence student engagement, instructional effectiveness, and classroom management (Tschannen-Moran and Hoy 2001).

Additional measures assessed anxiety levels and mindset orientation to contextualize participants' baseline stress appraisal tendencies. Following the six-session SEMS intervention, participants completed a post-survey containing the same self-efficacy measure. Pre–post comparisons enabled examination of changes in efficacy of beliefs over time.

Qualitative Measures

Qualitative data were collected through:

- Audio-recorded SEMS group discussions
- Personal written reflections
- Structured journaling activities

These sources captured participants' lived experiences, perceived challenges, and evolved professional identities. Reflective writing has been shown to facilitate metacognitive awareness and professional growth in teacher education contexts (Schön 1983).

Data Analysis

Quantitative data were analyzed descriptively to examine changes in self-efficacy from pre- to post-intervention. Mean score shifts were examined to identify trends in perceived professional growth. Although the small sample size limited inferential statistical testing, descriptive change analysis is appropriate in exploratory mixed-methods pilot studies (Creswell and Plano Clark, 2018).

Qualitative data were coded using thematic analysis procedures (Braun and Clarke 2006). Transcripts and written reflections were reviewed iteratively to identify patterns related to:

- Emotional regulation
- Stress appraisal
- Professional confidence
- Instructional decision-making
- Mindset development

The integration of quantitative trends and qualitative themes enabled triangulation of findings, strengthening interpretive depth and allowing for a nuanced understanding of how SEMS influenced self-efficacy beliefs (Creswell and Plano Clark 2018).

Key elements included–

Experiential Mindfulness Practices: Students engaged in guided breathing, grounding in nature, and body-awareness exercises to build presence and reduce reactivity.

Reflective Dialogue: Open-ended group discussions focused on mindset, teaching identity, and academic challenges, with prompts designed to evoke metacognitive insight.

Reflection Artifacts: Students' dialogue has been transcribed, and the completed verbal reflections exploring their own thoughts. Quantitative data were analyzed using descriptive statistics and paired t-tests to assess changes in self-efficacy and anxiety scores pre- and post-intervention. Qualitative data were analyzed using thematic coding (Braun & Clarke, 2006), with codes emerging inductively from transcripts and reflection artifacts. Themes were organized around core constructs such as resilience, emotion regulation, mindset, and professional identity.

FINDINGS

Thematic analysis revealed seven central themes:

1. Building Teaching Self-Efficacy Through Mindful Reflection

Participants consistently described how structured reflection activities increased their awareness of their strengths, dispositions, and emerging teaching identities. Through guided journaling and discussion, students began to recognize their instructional capabilities and reframe their fieldwork experiences as meaningful opportunities for growth rather than performance-based evaluations. This reflective process contributed to a stronger sense of teaching self-efficacy, as participants reported feeling more confident in their ability to navigate classroom challenges and support diverse learners.

2. Using Mindfulness to Cope with Academic and Emotional Stress

Students highlighted mindfulness practices as valuable tools for managing both academic pressures and emotional stress. Techniques such as breathwork, body scans, and grounding exercises were frequently cited as effective in reducing anxiety, particularly during high-stakes moments such as exams, lesson planning, or teaching observations. Participants noted that these strategies not only helped them remain calm but also improved their focus, allowing them to approach tasks with greater clarity and intention.

3. Reframing Mistakes as Opportunities for Growth

A notable shift in mindset emerged as participants began to view mistakes not as failures but as essential components of the learning process. This growth-oriented perspective enabled students to approach setbacks with resilience and curiosity. One participant captured this transformation by describing mistakes as “setbacks for comebacks,” reflecting a broader reorientation toward persistence, adaptability, and continuous improvement in their teaching practice.

4. The Power of Supportive Relationships and Community

The importance of social and emotional support was a recurring theme throughout the data. Participants emphasized how the collaborative nature of the SEMS experience fostered a sense of community, trust, and psychological safety. Group discussions and shared reflections created space for vulnerability and mutual encouragement, which in turn sustained motivation and reduced feelings of isolation often associated with rigorous teacher preparation programs.

5. Nature, Grounding, and Environmental Awareness as Anchors

Engagement with natural environments and sensory grounding practices emerged as powerful stabilizing influences. Participants described how connecting with their surroundings—whether through outdoor activities or intentional awareness of sensory input—provided moments of emotional reset and mental clarity. These practices were particularly valuable during stressful teaching situations, helping students regulate their responses and regain focus. As participant AJ shared, this connection to the environment offered “a moment to pause, breathe, and come back centered,” underscoring the role of environmental awareness as an anchor in high-pressure contexts.

6. Developing Adaptive Mindsets for Fieldwork and Teaching Challenges

Participants demonstrated an increased ability to apply mindfulness-based strategies in real classroom settings. They reported responding to challenging student behaviors, unexpected lesson disruptions, and classroom management issues with greater composure and empathy. Rather than reacting impulsively, students described taking a moment to pause, assess the situation, and respond thoughtfully. This adaptability reflected a growing capacity to integrate SEMS practices into their developing teaching repertoire.

7. Linking Self-Efficacy to Long-Term Professional Identity

Finally, participants began to articulate a more nuanced and future-oriented sense of professional identity. Rather than defining themselves solely in terms of competence or skill acquisition, they described becoming reflective, adaptive, and emotionally aware of educators. This shift suggests that the development of self-efficacy was not isolated but deeply connected to how participants envisioned their long-term roles in the teaching profession. The SEMS experience thus contributed not only to immediate skill development but also to the formation of a resilient and reflective professional identity.

Conceptual Progression of Findings

The themes reveal a developmental arc:

1. **Regulating emotional states** (Mindfulness tools reduce stress)
2. **Reframing cognitive interpretations** (Mistakes become growth)
3. **Leveraging social support** (Community strengthens confidence)

4. **Constructing professional identity** (Efficacy becomes adaptive belief) This progression aligns closely with Bandura's four sources of self-efficacy:

- Physiological/Affective States → Themes 1 & 2
- Mastery Experiences → Themes 3 & 6
- Vicarious Experiences & Social Persuasion → Theme 5
- Cognitive Appraisal & Identity Integration → Themes 4 & 7

Self-Efficacy and Mindfulness [SEMs] Framework

The SEMS (Self-Efficacy and Mindfulness Sessions) Framework illustrates how mindfulness practices, including breathing, movement, reflection, and meditation, support cognitive and emotional processes such as attention regulation, emotional regulation, and reflective thinking. These processes strengthen Bandura's sources of self-efficacy, leading to enhanced self-efficacy beliefs in teaching confidence, classroom management, problem solving, and instructional effectiveness. Ultimately, the framework suggests that increased self-efficacy contributes to positive professional outcomes, including resilience, reduced burnout, inclusive practice, motivation, and effective teaching.

CONCLUSION

The Self-Efficacy and Mindfulness Sessions (SEMS) study examines how a structured, mindfulness-informed experiential intervention can influence pre-service teachers' self-efficacy beliefs, stress appraisal, and professional mindset development. Grounded in Bandura's social cognitive theory, the study positions mindfulness not as a peripheral wellness strategy but as a regulatory mechanism that supports the formation and stabilization of efficacy beliefs during a critical phase of teacher preparation.

Findings from this mixed-methods pilot study suggest that the SEMS intervention contributes to both measurable and perceived shifts in self-efficacy in teaching. Quantitative trends indicate growth in participants' confidence related to instructional competence and professional capability. Qualitative themes revealed developmental progression from emotional regulation to cognitive reframing, relational reinforcement, and ultimately professional identity consolidation. Participants describe learning to reinterpret physiological stress responses, to approach mistakes as growth opportunities, to rely on supportive communities, and to define efficacy as adaptive capacity rather than perfection.

Importantly, the SEMS framework aligns closely with Bandura's four sources of self-efficacy. Mindfulness practices directly influence the interpretation of physiological and affective states. Structured reflection facilitates the mastery of reinterpretation of field experiences. Group discussion fosters vicarious learning and social persuasion. Together, these mechanisms support the development of resilient efficacy beliefs rooted in reflection, adaptability, and intentional practice.

For pre-service teachers navigating increasingly complex, inclusive, and emotionally demanding classrooms, the capacity to regulate stress and sustain belief in one's instructional effectiveness is foundational. The SEMS study demonstrates that integrating mindfulness within teacher preparation coursework may provide a feasible and developmentally responsive approach to strengthening professional confidence and mindset orientation. Rather than treating stress as an inevitable byproduct of teaching, the SEMS model reframes it as an interpretable and manageable experience—one that can be regulated, reflected upon, and transformed into growth.

Although limited by its small sample size and exploratory scope, this pilot study contributes to emerging scholarship at the intersection of contemplative pedagogy and teacher self-efficacy research. Future research with larger and more diverse samples is warranted to examine long-term impacts, the sustainability of efficacy gains, and implications for teacher retention.

In closing, the SEMS intervention suggests that self-efficacy in teacher education is not built solely through experience but through guided reflection on that experience. When mindfulness practices are intentionally embedded within a self-efficacy framework, pre-service teachers may develop not only instructional competence but also the adaptive professional identity necessary to thrive in contemporary educational contexts.

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Fig.1-Self-Efficacy and Mindfulness [SEMs]Framework

