Increasing Teacher Retention by Improving Self-Efficacy and Classroom Management Skills in Pre-Service Teachers

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Abstract

Pre-service teacher preparation programs are often ineffective in preparing new teachers to use classroom management skills and strategies. This contributes to high teacher-turnover rates for new teachers and ultimately influences principal retention and student outcomes. The crisis of teacher retention in the aftermath of the pandemic threatens U.S. global competitiveness and national security. Teacher preparation programs can address job stress and job satisfaction by better preparing teachers for the challenges of the post-pandemic classroom. The purpose of this longitudinal, mixed-methods improvement science study was to determine if embedding evidence-based classroom management skills and strategies into the instructional methods coursework programs, augmented by structured applied learning opportunities to improve the IE, would improve pre-service teachers' self-efficacy in classroom management. The research used the Classroom Management Self Efficacy Instrument, focus groups, and written reflections. Five themes emerged from the data: student-teacher relationships, orderly classrooms, preventative measures, difficult students, and use of technology. Scores for seven practice-oriented items on the CMSEI showed strong improvement ($M = 93.75\%$, post-intervention). Responding to the CMSEI question "I can manage a class very well," 87.50% of students strongly agreed or agreed after the intervention. On eight items pertaining to self-efficacy on the post-survey, students reported strong efficacy ($M = 85.16\%$ agree or strongly agree). The major conclusion from this study is that embedding evidence-based classroom management skills and strategies into the instructional methods coursework, supported by structured applied learning opportunities, improves pre-service teachers' self-efficacy and holds tremendous potential to reduce teacher attrition.

Keywords: applied learning, classroom management, curriculum, self-efficacy, teacher preparation, teacher retention

1. Introduction

Teacher leaving and ensuing teacher shortages are critical issues in the United States. The Economic Policy Institute (Schmitt & deCourcy, 2022) argues that attrition and a lack of teachers "harms students, teachers, and the public education system as a whole… threatens students' ability to learn and reduces teachers' effectiveness, undermining the education system's goal of providing a sound education equitably to all children." Moreover, America's low educational attainment threatens U.S. global competitiveness and national security (Marcus, 2023).

Studies of teacher retention typically look at teacher pay, benefits, work-life balance, stress, climate, and culture. Studies therefore look to pay increases, workplace wellness, developing principal leadership, and improving climate to address retention. But few studies look to teacher preparation programs as a key foundation for teacher retention.

As a clinical supervisor supporting pre-service teachers (PST), I observe students struggling to use effective, sustainable classroom management (CM) strategies. CM is a broad concept and is defined here as actions teachers take to create a supportive environment that facilitates both academic and social-emotional learning (Ficarra & Quinn, 2014). Bandura (1997) defined self-efficacy as a person's beliefs in their capabilities to exercise control over their own functioning and events that affect their lives; Bandura argues that self-efficacy provides the foundation for motivation, well-being, and personal accomplishment (i.e., satisfaction). In essence, what my PST were experiencing was a lack of self-efficacy in CM. I know the kinds of challenges my students face as new teachers, and I can see the difficulty they have bridging theory and practice in the classroom. I have come to

understand the problem of teacher retention as a failure to implement comprehensive teacher training programs that align with targeted skills PST will need as new teachers. This is a national problem with a local context, and faculty in schools of education have tremendous power and potential to address teacher retention by equipping PST with the skills needed for a strong teaching foundation.

The aim of this study was to decrease new teacher stress and improve job satisfaction by better preparing PST for the complexities of post-pandemic classroom teaching. The purpose of this longitudinal study was to determine if embedding evidence-based CM skills and strategies into the instructional methodology (IM) coursework of a PST program, augmented by structured applied learning opportunities, would improve the instructional experience (IE) and self-efficacy in CM. This mixed-methods study asked two questions. First, in what way will the incorporation of CM strategies into IM coursework improve PST self-efficacy in using these strategies? Second, in what way will applied learning opportunities within IM coursework improve self-efficacy in the use of CM strategies?

1.1 Teacher Retention and Its Impacts

The teacher shortage has been characterized as "unnerving" (Fortin & Fawcett, 2022) and "catastrophic" (Natanson, 2022). A decade ago, teacher retention (84.2%) was comparable to the national employment retention rate of 89.6% (U.S. Department of Labor, 2013), with 8.1% of teachers changing jobs and 7.7% leaving education annually (NCES, 2014). In 2021, the Rand Corporation (Steiner & Woo, 2021) reported that 25.0% of teachers were likely to leave their position at the end of the year. More disturbing, EdWeek research (Loewus, 2021) found that 54.0% of teachers were "somewhat" or "very likely" to leave within two years and a member survey by the NEA reported that 55% of teachers were considering leaving education in February 2022, up from 37% in August 2021 (Walker, 2022). Teachers leaving can cost districts as much as $20,000 per teacher (Carver-Thomas & Darling-Hammond, 2017). In 2015, the cost of teacher turnover nationwide was estimated to be $7.3 billion USD ($9.5 billion USD in 2023 dollars), not accounting for the increase in teacher turnover since 2015 (Carroll, 2015).

Teacher retention inevitably impacts instructional quality, program coherence, and, thus, student achievement (Sorensen & Ladd, 2020). NEA President Becky Pringle described teacher attrition as "a five-alarm crisis" that "threatens giving every child the support they need to thrive" and adds that these shortages are "preventing educators from giving their students the one-on-one attention they need (Walker, 2022).

The impact of principal effectiveness has been thoroughly researched as it impacts teacher retention (Brown & Wynn, 2009; Grissom & Bartanen, 2019a), but little attention is given to the role that teacher retention plays in principal mobility. In 2013, 11% of principals left education, with 32% leaving due to retirement (NCES, 2019). By 2022, that number increased to 16% (Diliberti & Schwartz, 2022). This is in part attributable to teacher turnover, which "destabilizes" the schools principals lead (DeMatthews et al., 2022). Pressure to improve student achievement, which is dependent on teacher efficacy and begins with teacher preparation, also drives principal attrition (Grissom & Bartanen, 2019b).

Finally, teacher retention is a critical equity issue. Bryant et al. (2023) report that 40% of teachers in low-income schools planned to leave compared to 25% in more affluent schools. Additionally, 38% of teachers in schools with 75% or more students of color planned to leave compared to 30% in White-majority schools (Bryant et al., 2023). Furthermore, the numbers of teachers who leave education are disproportionately higher for underrepresented groups, including Black (62%) and Hispanic/Latino (59%) teachers (Walker, 2022).

Clearly, teacher retention is a critical issue in education. If improving pay, benefits, work-life balance, or workplace wellness were effective strategies to address teacher attrition, the nation would not be facing an escalation of teacher shortages. This is a call to action for teacher preparation programs.

1.2 Stress, Retention, and Teacher Preparation Programs

The pandemic significantly increased teacher stress attributable to constant shifts between virtual and in-person learning and changes in personal responsibilities outside the classroom. In spring 2021, a year into the pandemic, 84.0% of teachers reported greater stress in school than before the pandemic (Loewus, 2021) and 91% of teachers in a NEA survey reported that "pandemic-related stress is a serious problem" (Walker, 2022).

Stress is a significant challenge for teacher retention; stress was almost twice as likely as low pay to influence their decision to leave teaching (Diliberti et al., 2021). Diliberti et al. (2021) reported that "stress was the most commonly reported reason for leaving the profession among both those teachers who left before and those teachers who left during the pandemic" (p. 10). Stress was attributed to 43% of teacher leaving in 2022 (Schmitt & deCourcy, 2022).

Studies have linked quality teacher preparation programs to the reduction of stress, especially for new teachers (Harmsen et al., 2019). This has specifically been linked to a decrease in "negative pupil aspects" (i.e., student behaviors) and workload (Harmsen et al., 2019); workload ties directly to CM and teacher efficacy as well job satisfaction that influences retention. von der Embse et al. (2019) correlated teacher stress and teacher efficacy with regard to behavior management; studying a variety of interventions for teachers, they reported that interventions "delivered solely informational content were among the least effective." This speaks to the need for applied learning and teaching practicums.

Teaching is seen as a high-stress occupation (Steiner & Woo, 2021). Consequently, interest in teaching as a profession has dropped by half since the 1970s, with just 4.3% of college freshmen intending to major in education in 2020; bachelors degrees conferred in education have fallen by 52.4% (Schmitt & deCourcy, 2022). NCES (2016, 2022) reports a 20.5% drop in the number of students completing a teaching program between 2016 (190, 214) and 2022 (151, 138). Some states have seen drops as high as 80% (Knox, 2022).

Teacher preparation programs are directly tied to teacher retention; 30.0% of uncertified teachers leave education compared to 15.0% for certified teachers (Podolsky, 2016). This is particularly concerning as almost a quarter (21.0%) of first-year teachers in 2012 were not fully certified (Podolsky, 2016), a number that has increased exponentially in the wake of the pandemic. Bryant et al. (2023) report that teachers between 25 and 34 leave more often than older teachers (38.0% v. 30.0%). By definition, these are teachers newer to the profession, suggesting that improved programs have the potential to make a meaningful difference in teacher retention, especially for younger teachers.

Stress and job-satisfaction are inextricably linked. About two thirds of teachers leave education due to low job satisfaction (Carver-Thomas & Darling-Hammond, 2017), which is often attributable to stress. Teacher preparation programs have a direct impact on this stress. New teachers who had at least one semester of student teaching (i.e., applied learning) were "more than three times less likely to leave teaching after a year than those who had no practice teaching" (Podolsky, 2016, p. 18). New teachers who received comprehensive PST training were 2.5 times less likely to leave after their first year; key components of comprehensive teacher education include but are not limited to "observing others teaching, student teaching a full semester, receiving feedback, taking courses in teaching methods, learning theory, and selecting instructional materials" (p. 18). Predictably, these teachers have greater self-efficacy and less stress in the classroom.

Therefore, one may conclude that teacher preparation programs lay a foundation for teacher self-efficacy and teacher satisfaction, driving teacher retention (see Figure 1). Strong teacher preparation programs produce teachers with high efficacy who better manage stress, leading to higher overall job satisfaction and greater retention; this in turn supports principal retention and positive student outcomes. And strong teacher preparation programs that drive retention may help to highlight the necessity of attending quality programs and pursuing certification, decreasing pressure on schools of education and reversing the trend of school closures.
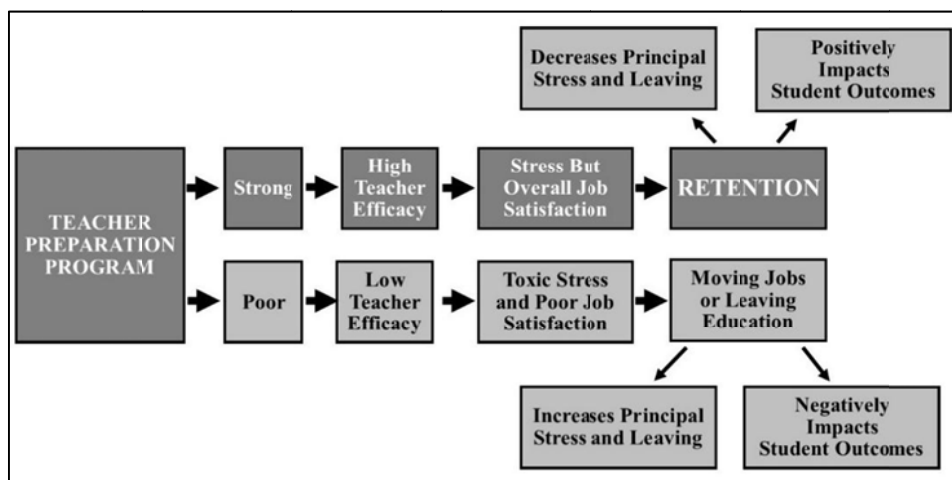

Figure 1. Teacher preparation programs drive teacher retention

2. Literature Review

Two literatures were reviewed with a lens of increasing self-efficacy for PST: a) embedding and expanding CM pedagogy in course content and instruction and b) supporting coursework with reflective practice. The second area of research examined applied learning opportunities, focusing on a) aligning coursework with applied learning opportunities and b) connecting theory to practice.

2.1 Course Content and Instruction

Symons et al. (2020) argue that teacher preparation programs should be focused on blending theory and practice within IM coursework. Furthermore, PST must engage in a process of shared inquiry with professors, mentor teachers, and each other.

A qualitative study by Merç and Subaşı (2015) sought to gain a better understanding of the problems student teachers associate with CM and strategies they might use to manage these problems. Results indicated that the information PST learned in their IM coursework assisted them in handling CM issues, and that this knowledge, along with the opportunity to put it into practice, increased their self-efficacy and ability to manage their own classrooms.

Flower et al. (2017) also studied the effectiveness of CM content in teacher preparation programs, suggesting that pre-service and novice teachers are often unprepared to effectively manage their classrooms, which disrupts both teaching and learning. The researchers found that few programs provided adequate CM pedagogy to prepare PST to work productively with today's students. They concluded that embedding more preventive CM strategies while tying theory to specific classroom situations is vital as it fosters preventive, not reactive, responses to challenging student behavior. They concluded that without such instructions, teachers will continue to feel ineffective, resulting in more school-related stress, which they link to student achievement.

Sivri and Balci (2015) used the Classroom Management Self-Efficacy Scale, concluding that as PST beliefs about self-efficacy in CM increase, so does PST potential for the effective use of CM solutions; ultimately, self-efficacy was predicted to have an impact on student achievement. Additionally, the researchers argued that new teachers with low self- efficacy in CM are more likely to drop out of the teaching profession.

Finally, The New Teacher Project (2013) identified four key competencies necessary for novice teachers' success: 1) delivers academic content clearly, 2) maintains high academic expectations, 3) maintains high behavioral expectations, and 4) maximizes instructional time (p. 14). These competencies clearly and directly relate to the impact that CM has on student learning.

2.2 Reflective Practice

The research literature indicates that supervisor feedback is insufficient to improve teaching practice (O'Neill & Stephenson, 2012a, 2012b). However, PST highly value feedback from cooperating teachers and may perceive their own self-efficacy as higher (Knoblauch & Woolfolk Hoy, 2008; Li & Zhang, 2000). This points to the importance of having PST reflect on their practice as a strategy to increase PST self-efficacy.

Stoughton (2007) used journal writing and narrative analysis to help PST assess possibilities: what did they do as a teacher in the classroom, how could the situation have been better handled, and how could they prepare to enact a better possibility the next time? She asked participants to discuss a) the philosophy and tone of the behavioral expectations and practices they assigned; b) how well they thought these expectations would work in their own classrooms; and c) what, if anything, they would do differently in future practice. Stoughton (2007) concluded that a "careful and thoughtful analysis" of student reflections can provide teacher educators "with a clearer understanding of their students' thinking and thus can become a powerful tool in providing a context for important discussions" (p. 1035). This supports the use of reflections in this study as an important mirror to and foundation for meaningful discussions with students aimed at improving practice and self-efficacy.

Similarly, Balli (2011) concluded that faculty must understand the prior knowledge of PST about CM to support teacher preparation programs. This supports the use of pre- and post-testing for PST; if instructors take a data-driven approach and reflect on their own assumptions, they can improve instruction and strengthen the foundation that ties theory and practice. Furthermore, Balli (2011) asserts that helping PST to master CM while building relationships with students in the classroom "is a challenging but essential task in teacher education coursework." (p. 250). This points to the need to tie theory and practice, with an emphasis on teacher-student relationships.

2.3 Aligning Coursework and Applied Learning Opportunities

Multiple researchers have attributed lower levels of reported self-efficacy to a lack of real teaching experience

(O'Neill & Stephenson, 2012a, 2012b; Putnam, 2009). Putman (2009) concluded that in light of Bandura's (1997) work, "it became quickly apparent that the effects of mastery and vicarious experiences were predominant factors" and had "greater impact on student teaching as compared to coursework" (p. 243). However, Ficarra and Quinn (2014) found that most teachers reported learning about evidence-based CM practices through classroom experience and in-service training, not from their teacher training programs.

O'Neill and Stephenson (2011) specifically recommended "mandatory stand-alone" CM modules and cohesive embedded units using evidence-based practice rather than theory, ideally linked to instructional experience. They found that opportunities to practice CM were associated with higher self-efficacy; this included elements like making expectations clear, getting students to follow rules, establishing routines, and responding to defiant students. They further argued that novice teachers who have solid self-efficacy are less likely to suffer from stress or burnout, making them less likely to leave the teaching profession.

2.4 Connecting Theory to Practice

The New Teacher Project (2013) found that PST regularly identified managing student behavior problems as a primary concern and that classroom learning was insufficient for these PST to thrive without applied learning opportunities. Similarly, Rosas and West (2009) concluded that effective CM instruction in teacher preparation programs is vital when establishing positive learning environments that support academic success.

Moore et al. (2017) explored pre-service and novice teachers' knowledge around evidence-based CM strategies finding that while most teachers reported being somewhat knowledgeable in CM strategies and used them on occasion, teachers felt inadequately prepared and limited in their ability, or entirely unable, to apply these strategies or develop intervention strategies. These two studies clearly speak to the need to connect theory to practice during clinical experience.

Finally, Brophy (2010) posited that research on CM shows that successful teachers approach CM "as a process of establishing an effective learning environment rather than emphasizing their roles as disciplinarians" (p. 41). This entails articulating clear and consistent expectations, providing direct instruction for desired procedures, and giving cues and reminders about these procedures. The implication for the current research study is that CM models must include established expectations, classroom procedures and routines, and preventive strategies for managing student behavior.

3. Site and Sample

The PST program examined in this study is part of a large urban university in the Northeast United States; founded in 1993, it is one of the largest teacher education programs in New York State. The graduate program creates local partnerships with public schools across the state to address problems that impact student achievement and equity in educational opportunity. In-person and virtual programs require between 36 and 42 credit hours, which include both field experience (100 hours) and student teaching (150 to 200 hours). At the time of this publication, these experiences were the only available applied learning opportunity hours; additionally, a single course offered in CM was offered.

The Graduate School of Education has a diverse national and international student body of approximately 900 master's degrees earning students. In 2015, the school was ranked in the top 10% for awarding the most Master of Education degrees to minorities. Many students work part-time or full-time in the education sector; many are second-career teachers.

The setting for the study was an asynchronous IM course included 12 independent modules over one semester. The study sample was comprised of 22 PST who were enrolled in the teacher preparation program. PST were of mixed genders and ranged in age from 22 to 40. The COVID-19 pandemic did not have any impact on the course as it was taught asynchronously. PST were able to complete their IE (IE) and work with their student learner in-person.

PST indicated that when they started their student teaching, they had little to no direct experience working with students. Their field experience hours were early in their course program and only required them to observe classroom teachers in two different grade levels. Additionally, they had no opportunity to apply what they were learning from their IM coursework in a field setting unless they happened to be working in a school at the time.

4. Methods

The literature suggests that teacher retention is a national issue that arises from local systems in local contexts; for teachers earning a teaching credential, 78.5% prepared for their credential in-state (NCES, 2016). Thus, improvement science (Bryk et al., 2015), also referred to as "practitioner research" or "action research," was an ideal methodology for this research study. As there is a robust literature on the methodology of improvement

science, I will provide a brief overview here but not detailed examples of each step in my process.

Improvement science is a targeted, nimble way to design, implement, and test an intervention. It begins with identifying a local problem of practice. A small team of key stakeholders work together to create a Fishbone Diagram, an infographic that shows four to six potential sources of the problem (the bones) and the desired outcome or aim (the head). My process identified four core bones: course content and instruction, system incoherence, insufficient field experience, and insufficient applied learning opportunities.

The team then examines the local data and conducts a preliminary literature review to drill down into the bones to identify primary drivers of the problem of practice. These drivers are represented in a Preliminary Driver Diagram, which narrows the scope of the project. An in-depth literature review examines the primary drivers (see Section 2), identifying the drivers that have the greatest leverage as well as corresponding secondary drivers and change ideas; this culminates in a Revised Driver Diagram representing a narrow focus for the research. A theory of change is also created.

The aim for this study was: PST will gain a stronger sense of self-efficacy using CM solutions and strategies. The theory of change stated: If PST have structured opportunities to develop CM solutions and applied learning opportunities in PST IM courses, they will gain a stronger sense of self-efficacy when using these strategies in their own classrooms. Figure 2 shows the Revised Driver Diagram that informed the intervention.
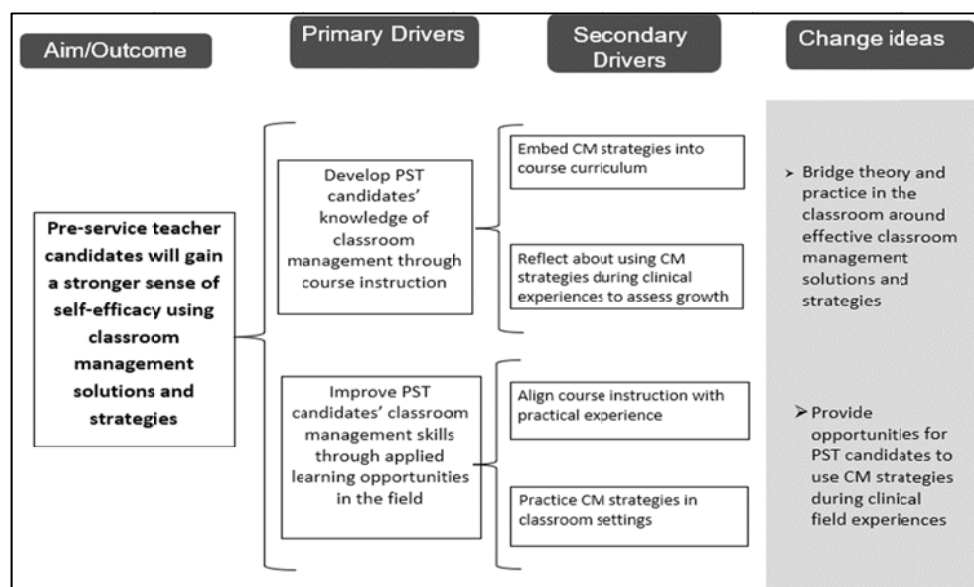

Figure 2. Final driver diagram

The change ideas are used to create Plan-Do-Study-Act (PDSA) cycles, iterative cycles of high-leverage change taking place over a short time frame, typically two to six months; two cycles may take place concurrently or sequentially. At the end of each cycle, the team decides if the change initiative should be a) adopted, with attention focused on a new problem of practice or the change initiative expanded to new parts of the system; b) adapted and retested; or c) abandoned, with attention focused on a new problem of practice. This study used a single PDSA cycle, iterated through three course offerings, described below.

4.1 PDSA Cycle

Prior to this longitudinal study and understanding that PST lacked efficacy in using classroom skills and strategies, I conducted an anonymous survey of recently graduated students ($N = 24$), with optional interviews. Most PST (72.0%) did not believe they were given opportunities to practice CM skills and strategies. More than half (57.0%) reported that their teacher preparation program a) had not prepared them with effective CM skills and strategies and b) did not give the ample opportunity to practice CM skills and strategies in the field; additionally, 57.0% reported that their IM coursework had not helped them learn CM skills and strategies. Interview data supported the survey data, with most graduates expressing their dissatisfaction with the lack of CM pedagogy in their coursework. Two comments summed up their shared experience: "[we] weren't learning from a place of experience" and "unless you're actually applying it, it can only get you so far."

4.1.1 Plan Phase

The initial prototype intervention was designed in a graduate level language and literacy IM course offered in the Spring 2021 semester. I collaborated with another instructor to evaluate faculty syllabi to create uniform synchronous and asynchronous course curriculum. We designed a new module with 12 components and IE to give PST applied learning opportunities. After creating the module, we reviewed it for reliability and feasibility, discussing results and ideas for revision.

4.1.2 Do Phase

The program chair and I conducted an initial mini-PDSA cycle in the Summer 2021 semester; we believed it was ideal to test these ideas with a smaller number of PST in the summer semester. I used class meetings to introduce CM solutions around teacher-student relationships and establishing effective classroom procedures and routines. I also used that time to discuss how IE impacted course experience, exploring a) how PST perceived the IE connecting theory and practice and b) how PST developed stronger self-efficacy with regard to understanding and using CM strategies. Written reflections also explored these ideas. PST chose student learners from traditional and alternative education environments. We explored whether PST perceived IE allowed them to connect theory and practice, strengthening self-efficacy in understanding and using CM strategies. Embedded into the final project were questions that helped us assess the practicality of the IE module.

4.1.3 Study Phase

We analyzed the final projects and written reflections to assess PST experience with the new module. Six themes emerged: a) difficulty putting theory into practice, b) challenges building student-teacher relationships, c) problems creating procedures to facilitate student learning, d) uncertainty introducing routines to follow the procedures, e) struggle with CM, and f) limited self-reflection and personal reward. These informed revisions to the final prototype. Overall, student response to the new module was positive. One PST shared that the module "was a way to connect what I'm learning to what I am teaching in the classroom. I use a different strategy or read more about a strategy I have previously used, and [I] can see what the benefits are supposed to be versus what they were." Another student shared that the module "helped me as a teacher to really understand what I need to do to help my students understand and comprehend." A third student admitted that the module "was truly a learning experience… As a first-year teacher, my struggle was developing a structured system and perfecting my CM." A fourth student was enthusiastic, sharing, "It was very rewarding to see the strategies and teaching methods work effectively… Seeing my student grow from a firsthand point of view as a result of the strategies that I am being taught." We felt that the results were strong enough to adopt the process and move into another PDSA cycle.

4.1.4 Act Phase

Given the initial success of the intervention, we integrated the IE module into the course Language and Literacy in Special Education 7–12.The first full PDSA cycle intervention was formulated based on what we learned from offering the prototype solution and the mini-PDSA cycle. The module contained three elements. First, we used weekly text logs with prompts to help students bridge theory and practice. PST were asked to identify a) one important idea they took from the text; b) a question that arose out of the text; and c) connections to relevant pedagogy (e.g., academic achievement that builds upon students' knowledge, CM solutions, teacher-student relationships, and/or sociopolitical awareness). Second, two optional class meetings were held to discuss CM; attending a class meeting took the place of a text log assignment. Third, we included materials specifically addressing CM (Bronke, 2021) and teacher-student relationships (Adams, 2020; Matthews, 2021; Rigsbee, 2010). Students had written assignments to synthesize these articles with other course materials and identify important takeaways. They were asked to reflect on how the materials altered their ideas about developing relationships with diverse students. Based on our previous work, we use a generic PDSA cycle (see Figure 3). To date, we have conducted 3 iterations of this PDSA cycle exploring the impact of our IE module. The findings are discussed in Section 5.
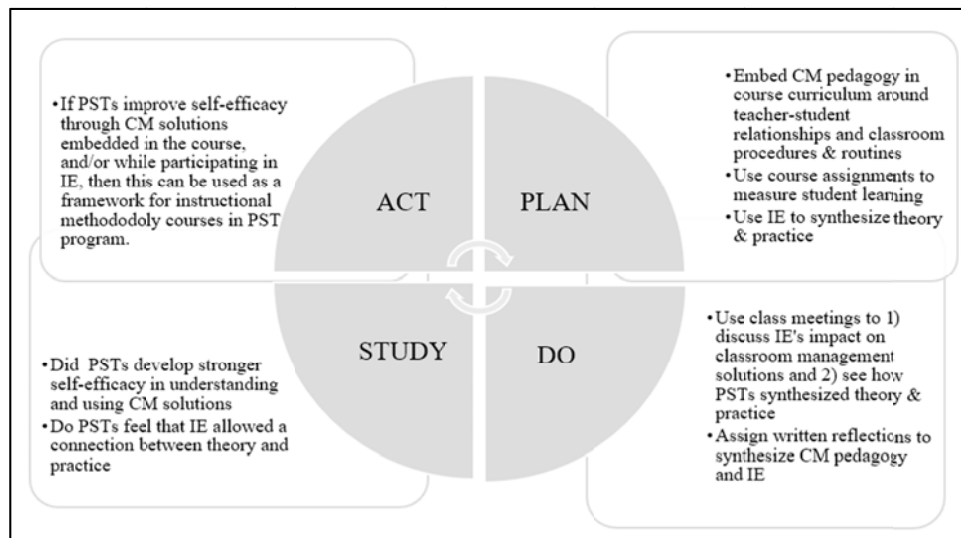
Figure 3. PDSA Cycle

4.2 Instrumentation and Data Collection

Using a mixed-methods approach, data was collected to measure the learning process and PST outcomes. The learning process was assessed through a) two focus groups to discuss how PST were using preventive CM strategies and b) written reflections where PST synthesized their understanding of the course materials. Outcomes were assessed through pre- and post-intervention surveys that measured self-efficacy around PST use of CM solutions.

The pre- and post-survey used the Classroom Management Self Efficacy Instrument (CMSEI) to measure improvement in perceptions of self-efficacy in the use of CM strategies and skills (Main & Hammond, 2008); this was informed by Bandura's (1997) work on self-efficacy, narrowing the full CMSEI down to eight questions in two categories answered on a five-point Likert-type scale: CM and PM, preventative measures (see Table 1). There were some limitations around students' understanding of more complex and challenging behavior issues, given that the course I taught was offered early in the teacher preparation program. Therefore, I chose survey questions that focused primarily on preventive procedures to highlight actions to facilitate learning. This was a subcategory that defines CM self-efficacy as teachers' beliefs in their capabilities to maintain an orderly classroom; Cronbach's alpha for the scale is 0.881 (Slater et al., 2020).

Table 1. Survey questions from the CM self-efficacy instrument (CMSEI)

Item	Question (Subcategory)
1	I am able to use a variety of behavior management (PM)
2	If a student disrupts a lesson, I am able to redirect him/her quickly (PM)
3	I can communicate to students that I am serious about getting appropriate behavior (PM)
5	I can manage a class very well (CM)
6	I can keep defiant students involved in my lessons (CM)
7	I am able to make my expectations clear to my students (PM)
9	If students stop working, I can put them back on track (CM)
12	I am able to implement a consistent classroom routine (PM)

Two focus groups were conducted during Week 3 and Week 6 of the eight-week intervention. These were recorded and audio-only recordings were transcribed; speakers were identified by number, which protected students' identities. I developed a set of guiding questions based on subcategories of the CMSEI to frame these conversations (see Table 2).

Table 2. Focus group questions

Sub-category	Questions
PM	What preventive measures have you used in IE and/or your classroom?
	What worked for you?
	What challenged you?
CM	What does an orderly classroom look like to you?
	What strategies have you used to maintain an orderly classroom?
	What worked for you?
	What challenged you?
	Have you experienced a defiant student(s)?
	What did you do?
	Did you feel the intervention was successful? Why or why not?

As part of the course, asynchronous student work included written reflections; PST submitted three of these reflections about articles and videos relating to CM solutions. Each reflection asked PST to respond to specific writing prompts and synthesize their reflections with previous reflections; this included summarizing key take-aways around developing student-teacher relationships, equity in CM, and how they were using CM solutions during their IE.

4.3 Data Analysis

Descriptive statistics were used to assess the CMSEI and measure growth over the PDSA cycle. These results provided valuable insights for future curricular changes and longitudinal research. Transcripts from the focus groups and five randomly selected written reflections from each of the asynchronous assignments were analyzed. These were coded for keywords from the literature review and grouped into themes. The focus group transcripts were examined with a lens of putting theory into practice. The reflections were explored with a lens of relating the CM pedagogy embedded in the course modules

5. Results

The first iteration using the new module engaged 20 PST. The results indicated that most of the students had not learned CM solutions in previous IM coursework or had any applied learning opportunities to put theory into action. Before the course, only 21% of PST indicated some knowledge about using CM skills and strategies compared to 100% at the completion of the course. Similarly, only 14% of PST believed they had been given opportunities to practice CM skills and strategies in the pre-survey compared to 81% in the post-survey.

5.1 Survey Data

Overall, very few of the PST came into the course feeling ineffective (i.e., answering disagree or strongly disagree). The exception was in dealing with defiant students; before the intervention, 22.73% of PST reported difficulty in involving defiant students in lessons, dropping to 0% in the post-survey.

Students' sense of neutrality about their abilities (i.e., answering that they neither agreed nor disagreed) dropped for all questions with the exception of the question about communicating to students that they were serious about getting appropriate behavior. Before the intervention, no PST reported difficulty in communicating seriousness, all rating themselves as agree or strongly agree; at the end of the intervention, 18.75% were neutral about their abilities and the number of PST indicating agree or strongly agree for communicating seriousness had dropped from 100.0% to 81.25%. This may reflect an over-confidence in their abilities coming into the course; this was a theme that came up in student reflections.

Research Question 1 asked, "In what way will the incorporation of CM strategies into IM coursework improve PST self-efficacy in using these strategies?" The number of PST agreeing or strongly agreeing to questions increased for eight of nine questions (see Table 3). These strategies contributed to the building of PST perceptions of self-efficacy. Survey data revealed the most significant growth in the areas of 1) keeping defiant students involved in lessons and 2) implementing a consistent classroom routine.

Table 3. Survey responses, pre- and post-intervention

Survey Item	Strongly agree*	Agree*	Neither agree nor disagree*	Disagree*	Strongly disagree*
1—I am able to use a variety of	40.91%	36.36%	18.18%	4.55%	0.00%
behavior management strategies	50.00%	43.75%	6.25%	0.00%	0.00%
	+9.09	+7.39	-11.93	-4.55	n/c
2—If a student disrupts a lesson, I am	31.82%	59.09%	9.09%	0.00%	0.00%
able to redirect him/her quickly	25.00%	68.75%	6.25%	0.00%	0.00%
	-6.82	+9.66	-2.84	n/c	n/c
3—I can communicate to students that	38.10%	61.90%	0.00%	0.00%	0.00%
I am serious about getting appropriate	50.00%	31.25%	18.75%	0.00%	0.00%
behavior	+11.90	-30.65	+18.75	n/c	n/c
4—I can manage a class very well	31.82%	31.82%	36.36%	0.00%	0.00%
	50.00%	37.50%	12.50%	0.00%	0.00%
	+18.18	+5.68	-23.86	n/c	n/c
5—I can keep defiant students	18.18%	36.36%	22.73%	22.73%	0.00%
involved in my lessons	37.50%	56.25%	6.25%	0.00%	0.00%
	+19.32	+19.89	-16.48	-22.73	n/c
6—I am able to make my	22.72%	59.09%	13.64%	4.55%	0.00%
expectations clear to my students	62.50%	37.50%	0.00%	0.00%	0.00%
	+39.78	-21.59	-13.64	-4.55	n/c
7—If students stop working, I can	13.64%	50.00%	31.81%	4.55%	0.00%
put them back on track	37.50%	62.50%	0.00%	0.00%	0.00%
	+23.86	+12.50	-31.81	-4.55	n/c
8—I am able to implement a	27.27%	59.09%	9.09%	4.55%	0.00%
consistent classroom routine	43.75%	56.25%	0.00%	0.00%	0.00%
	+14.48	-2.84	-9.09	-4.55	n/c
Summative Pre	28.06%	49.21%	17.61%	5.12%	0.00%
Summative Post	44.53%	49.22%	6.25%	0.00%	0.00%
Summative Change Pre- to Post	+16.47	+0.01	-11.36	15.12	n/c

Note. * Top set of numbers are the pre-survey results. The middle set of numbers are the post-survey results. The bottom set of numbers are the change.

Research Question 2 asked, "In what way will applied learning opportunities within IM coursework improve self-efficacy in the use of CM strategies?" The survey data for Question 4 spoke directly to PST general perceptions of self-efficacy. Survey data revealed the most significant growth in the areas of 1) using multiple behavior management strategies in the classroom, 2) clearly communicating expectations and routines, and 3) communicating with students about appropriate behavior.

5.2 Subsequent Survey Data

When finalizing my dissertation study, two important implications for further research and practice emerged. First was a suggestion that I replicate this research over a longer period of time around the question of whether efficacy would increase even more if the study period encompassed the entire period of the candidates' Instructional Experience. Second, I should continue collecting data to gauge effectiveness of the continued course modifications as to have the relevant data when introducing these ideas to other course instructors. The CMSEI data is reflective of students in the language and literacy course, as well as a course in curriculum design, in both the Spring 2023 and Summer 2023 semesters.

The focus of both research questions continued to be around the a) integration of CM strategies within the course syllabus, b) how this learning impacted PST practices, and c) putting theory into practice during IE. An average of the two semesters' survey data revealed the most significant growth in the areas of

- keeping defiant students involved in my lessons (47% increase between pre and post)
- using a variety of behavior management models and techniques (24% increase between pre and post)
- managing a class very well (20% increase between pre and post)

The next tier of results, while not as significant, speaks directly to more direct and proactive strategies

- keeping students on track if they stop working (16.1% increase between pre and post)
- making my expectations clear to my students (15.9% increase between pre and post)
- redirecting students if they disrupt a lesson (14.4% increase between pre and post)

5.3 Qualitative Data

Five themes emerged from the focus groups with students, two from each research question and one emergent theme: a) student-teacher relationships, b) orderly classrooms, c) preventative measures, d) difficult students, and e) technology in the classroom. These themes provided a more nuanced understanding of the quantitative data and pointed to what specifically contributed to growth in efficacy. Written reflections supported how PST were developing effective CM strategies attributable to the new module. For example, one candidate, a para-professional in a public school, wrote about how texts became "a personal resource for me now and in the future. I now realize the importance of the relationship balance and the role it plays to the establishment of effective CM." Another wrote, "I enjoyed the articles and I think I will use some of those approaches to develop good relationships with my students. I want to try to be the caring teacher that students will appreciate."

Student-teacher relationships, the most robust of the five themes, spoke to the importance of developing strong teacher-student relationships. PST expanded their understanding of what strong teacher-student relationships could look like, with a goal of developing genuine connections with students as a foundation for student learning. Several writing reflections addressed the struggle of finding "balance" between being friendly and acting with authority. One PST stated that they "didn't want the students to treat me like their friend" and put "guidelines in place so students would know not to cross that line." Another admitted, "When I first started in the classroom, I leaned towards the 'my-way-or-the-highway' approach to building relationships with students;" after easing up on this approach, they realized that this approach was "not the greatest with high school students." A third PST shared that they did not initially have the right balance in their first month of school and students "began to take advantage by talking over me."

Orderly classrooms spoke to using procedures, rules, and routines to set the tone and maintain discipline, with a focus on the beginning of the school year and involving students as critical. Students spoke about role modeling consistency and accountability. One PST said, "For an orderly classroom, respect between a teacher and the students is important as well as student-to-student relationships, especially while group work is being completed." This participant suggested that students are "more engaged in the lesson and willing to learn" when they can connect to and engage in respectful group discussion.

PM spoke to practices in the classroom that contribute to more effective CM and how these measures can support work with difficult students. Even with specific coursework addressing PM, the challenge of effectively implementing PM influenced PST self-efficacy. Establishing clear expectations and setting the tone at the beginning of the school year were viewed as important components of PM that emerged from strong student-teacher relationships.

Difficult students spoke to the challenge of working with behavioral issues in the classroom. PST wrote about the importance of not judging students or labeling them as "difficult," and giving them a fair chance. The issue of managing difficult students was a recurring theme, even with PM in place. Written reflections emphasized how important it is "to build relationships based on trust, mutual respect, and meaningful communication that will encourage students to tell their stories." This was believed to encourage strong relationships and discourage poor behavior.

Technology in the classroom was the final and emergent theme; it related to managing student behavior, improving student engagement, and addressing specific challenges of students with special needs. PST shared challenges over the use of technology, both in and out of the classroom, as well as ideas around how to use technology to connect with and engage their students. This emergent theme was directly related to PM and maintaining an orderly classroom. One participant shared the idea of using Tik Tok as a medium for student learning, saying, "Social media is their thing so, while teaching, I build lessons around these things." However, students struggled with PM as it related to the pervasive problem of cell phones in the classroom. PST had many ideas but could find no one effective solution. PST concurred that cell phones and social media made it much harder to maintain an orderly classroom environment. Furthermore, cellphone use in the classroom appeared to

undermine confidence and self-efficacy in spite of robust classroom discussions.

6. Discussion

O'Neill and Stephenson (2011) recommended a combination of CM (i.e., knowledge, skills, understanding, and strategies) with scheduled clinical experience to bridge the gap from theory into practice. Moore et al. (2017) argued that PST need to connect theory to practice during IE. PST cited putting theory into practice 31 times during their final reflections; within those comments, 48% referred to what they learned from each other during the discussions. Ideas about PM they could use to manage student behaviors came up 19 times, with 47% of those comments relating to using specific protocols to effectuate stronger CM. I found it encouraging when participants shared what they were learning from each other about using PM. It is my hope that this created a habit of collaboration they will take into their permanent teaching positions; it is especially critical for new teachers to ask for help and reinforce their efficacy by sharing effective practices with others.

This study made simple, no-cost modifications to existing courses using a module focused on CM and IE as the vehicle for change; this module unequivocally created a stronger program that supported the self-efficacy of PST. Student ratings of self-efficacy at the end of the course earned an overall score of 87.50%, ranging from 75.00% to 93.75%. Comparing pre- and post-survey data, students reported an overall increase of 16.48 points in their confidence in using eight CM strategies (pre, 77.27%; post, 93.75%). As shown in the model in Figure 1, teacher self-efficacy is the key element for reducing stress and increasing satisfaction, which drive retention.

Written reflections, an essential part of the course, were a way for PST to process and thoughtfully synthesize theory and practice. Carefully analyzing these reflections gave me a better understanding of how students were processing and applying their knowledge from the coursework and what I needed to do to enhance their knowledge. Stoughton (2007) validated the use of reflection to improve practice and self-efficacy. This was also a way for me to model building relationships with the PST and to assess how they were building relationships with their students.

Initial data suggested the possibility of over-confidence in the students' abilities to understand and use CM strategies. Post-survey data validated PST growth in both areas. This aligns with the research that concluded that for PST to gain self-efficacy in using CM strategies, they first need to learn about them in IM courses and engage in a process of shared inquiry (Merc et al., 2015; Symons et al., 2020). Other research emphasizes the importance of aligning IM coursework and pedagogy (Flower, 2017; O'Neill, 2012a, 2012b; Symons et al., 2020). Changes in the efficacy in use of CM strategies can be explained by students' enhanced understanding of a) building relationships and b) maintaining orderly classrooms.

A primary objective of the revised course curricula in this study centered on the importance of establishing clear procedures and routines as essential preventive strategies needed to maintain an orderly classroom. Flower et al. (2017) substantiated this, arguing that if we want our PST to have the preventive, not reactive, skills to maintain classroom order, instruction needs to be provided within coursework; maintaining an orderly environment for teaching and learning is extremely challenging when PST are ill-prepared to manage their classrooms.

The data from also show evidence of PST gaining critical skills to mitigate stress as new teachers. PST understood the importance of creating an orderly classroom in partnership with students, creating satisfaction through strong student-teacher relationships and the managing of an effective classroom. At the end of the study period, 93.75% of PST reported implementing a consistent classroom routine, aligning with the theme of maintaining an orderly classroom environment; this constituted a 30.11% increase.

During focus group discussions, participants agreed that preventive strategies in the classroom contributed to more effective CM; they were clear on how they were using these strategies and how the strategies influenced their teaching. Balli (2011) contended that helping PST learn how to build strong relationships with students while effectively managing their classroom is essential for IM coursework. Developing and maintaining strong teacher-student relationships, a foundation of the module used in this research, emerged as the most robust theme from this study. This aligns with Rosas and West (2009) who found that effective CM instruction in teacher education programs is vital to establishing a positive learning environment.

O'Neill and Stephenson (2012) reported that while many of their study's participants believed they could effectively manage a classroom by a) making their expectations clear and b) getting student to follow rules and routines, participants expressed a lower sense of self-efficacy around maintaining an orderly learning environment when managing difficult students. This outcome shows how crucial it is to embed strategies around dealing with disruptive students into IM coursework; it demonstrates how instruction combined with applied learning opportunities is strongly associated with improved self-efficacy. In working with difficult students, 93.75%

of PST reported being able to keep defiant students involved in lessons and redirect them quickly if they disrupt a lesson.

Furthermore, satisfaction and meaning-making contribute to teacher retention (Lavy & Bocker, 2018; Poulo, 2020). The data show that the innovation designed and tested here was highly effective. A PST commented on the connection between building strong student-teacher relationships and satisfaction (Poulo, 2020; Spilt et al., 2012), "I believe showing students that you care for them is crucial part of the life of teaching. Knowing that I make a difference in a student's life is important to me." Developing strong teacher-student relationships was the most robust finding from the qualitative data; the research literature suggests this is an asset to build on for teacher retention. Furthermore, PST understood the importance and acquired the skills to bridge theory to practice. All students (100.0%) reported being able to make expectations clear to their students and 81.25% reported being able to communicate to students that they were serious about getting appropriate behavior. These skills are foundational to building strong relationships that lead to an orderly classroom environment which drives satisfaction and retention.

6.1 Limitations of the Study

Like all unfunded research projects, this research was constrained by time and resources; however, continuing this research beyond my doctoral research addressed an earlier recommendation of conducting a longitudinal study. Additionally, improvement science research takes a hyper-localized approach which informs but is not generalizable to other contexts. Additionally, I was the sole instructor whose courses were investigated; next steps include engaging other faculty at my institution to participate in this research. Finally, the pandemic imposed a limitation as I was unable to observe PSTs applying the CM strategies in their classrooms; thus, the data relies solely on PST self-reports.

6.2 Recommendations for Practice

The first recommendation for practice is that other schools of education use improvement science with a team of key stakeholders to identify the local needs of their PST (i.e., creation of a Fishbone Diagram, local data analysis, identification of preliminary drivers). Using a review of the evidence-based literature, secondary drivers and change ideas should be mapped out; these should be used to frame a theory of change and a prototype PDSA cycle. Once a prototype PDSA cycle has been completed and assessed, a more robust PDSA cycle should be designed, tested, and analyzed. Honoring improvement science's commitment to small, incremental, continuous change, this PDSA cycle should be adopted, adapted, or abandoned as appropriate, with a new cycle of innovation begun.

For this study, addressing PST self-efficacy as a part of a larger response to teacher attrition, we found text logs for highly targeted articles and videos with robust guiding questions to be impactful. Class meetings designated for discussion of CM and PM were critical to helping students bridge theory and practice. Requiring written reflections established a foundation for self-reflective practice that PST will ideally take into their teaching practice.

7. Conclusion

As a former school principal and current clinical supervisor/instructor in multiple teacher preparation programs, I know how essential effective classroom management is to a successful teaching experience. Unfortunately, many new teachers lack these skills, causing them to experience low self-efficacy in their real-world teaching. This contributes to new teachers' dissatisfaction with their teaching, often in spite of a deep commitment to helping children. In the face of such low self-efficacy and dissatisfaction, these teachers often leave the profession at a time when they are most needed. I found it tremendously promising that these pre-service teachers will be able to enter their permanent teaching positions with a clearer understanding of the importance of the classroom environment and, more importantly, how to create a positive classroom culture.

It is my hope that the teachers who graduate from our program find success in their permanent teaching positions and remain in the profession, inspiring their students and helping them to reach their full potential. Furthermore, I hope that this research empowers other faculty to make a difference where they can to mitigate the crisis of teacher attrition in public schools: in their own classrooms and their own schools of education. In the words of Theodore Roosevelt, "Far better it is to dare mighty things, to win glorious triumphs, even though checkered by failure, than to take rank with those poor spirits who neither enjoy much nor suffer much, because they live in the gray twilight that knows not victory nor defeat."

References

Adams, K. (2020, September 10). *Math ain't that hard, but establishing trust is: How relationship-building supports the idea that math is more than numbers*. Harvard Graduate School of Education. Retrieved from https://www.gse.harvard.edu/ideas/usable-knowledge/20/09/math-aint-hard-establishing-trust

Balli, S. J. (2011). Pre-service teachers' episodic memories of classroom management. *Teaching & Teacher Education*, *27*(2), 245–251. https://doi.org/10.1016/j.tate.2010.08.004

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.

Bronke, C. (2021, September 28). *Combating the Chaos: 3 Cs for a Well-Managed Classroom*. Teaching Channel. Retrieved from https://www.teachingchannel.com/k12-hub/blog/well-managed-classroom/

Brophy, J. (2010). Classroom management as socializing students into clearly articulated roles. *The Journal of Classroom Interaction*, *45*(1), 41–45. https://www.jstor.org/stable/23869182

Brown, K. M., & R. Wynn, S. (2009). Finding, supporting, and keeping: The role of the principal in teacher retention issues. *Leadership and Policy in Schools*, *8*(1), 37–63. https://doi.org/10.1080/15700760701817371

Bryant, J., Ram, S., Scott, D., & Williams, C. (2023). *McKinsey*. K–12 teachers are quitting. What would make them stay? Retrieved from https://www.mckinsey.com/industries/education/our-insights/k-12-teachers-are-quitting-what-would-make-them-stay

Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2015). *Learning to improve: How America's schools can get better at getting better*. Harvard Education Press.

Canon Australia. (2015, November 3). *The lab: Decoy—6 photographers 1 man—A portrait session with a twist* [Video]. Youtube. Retrieved from https://www.youtube.com/watch?v=F-TyPfYMDK8&ab_channel=CanonAustralia

Carroll, T. (2015). *Policy brief: The high cost of teacher turnover*. National Institute for Early Education Research.

Retrieved from https://nieer.org/wp-content/uploads/2015/06/NCTAFCostofTeacherTurnoverpolicybrief.pdf

Carver-Thomas, D., & Darling-Hammond, L. (2017). *Teacher turnover: Why it matters and what we can do about it*. Learning Policy Institute. Retrieved from https://learningpolicyinstitute.org/product/teacher-turnover-report?gad_source=1&gclid=CjwKCAiAp5qsB hAPEiwAP0qeJixE2dI7JwiTaUGPeurY7mJVU5Lr5lp59JTah2VinW4pFREk-EUBvRoCrm8QAvD_BwE

DeMatthews, D. E., Knight, D. S., & Shin, J. (2022). The principal-teacher churn: Understanding the relationship between leadership turnover and teacher attrition. *Educational Administration Quarterly*, *58*(1), 76–109. https://doi.org/10.1177/0013161X211051974

Diliberti, M. K., & Schwartz, H. L. (2022). *Educator turnover has markedly increased, but districts have taken actions to boost teacher ranks*. Rand Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RRA956-14.html

Diliberti, M., Schwartz, H. L., & Grant, D. M. (2021). *Stress topped the reasons why public school teachers quit, even before COVID-19*. Rand Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RRA1121-2.html

Ficarra, L., & Quinn, K. (2014). Teachers' facility with evidence-based classroom management practices: An investigation of teachers' preparation programmes and conditions. *Journal of Teacher Education for Sustainability*, *16*(2), 71–87. https://doi.org/10.2478/jtes-2014-0012

Flower, A., McKenna, J. W., & Haring, C. D. (2017). Behavior and classroom management: Are teacher preparation programs really preparing our teachers? *Preventing School Failure*, *61*(2), 163–169. https://doi.org/10.1080/1045988X.2016.1231109

Fortin, J., & Fawcett, E. (2022, September 2). *How bad is the teacher shortage? Depends where you live*. The New York Times. Retrieved from https://www.nytimes.com/2022/08/29/us/schools-teacher-shortages.html

Golubtchik, L. M. (2022). *Improving self-efficacy in pre-service teachers by expanding classroom management skill development* (29258428). Doctoral dissertation, Fordham University. Proquest.

Grissom, J. A., & Bartanen, B. (2019a). Principal effectiveness and principal turnover. *Education Finance and Policy*, *14*(3), 355–382. https://doi.org/10.1162/edfp_a_00256

Grissom, J. A., & Bartanen, B. (2019b). Strategic retention: Principal effectiveness and teacher turnover in multiple-measure teacher evaluation systems. *American Educational Research Journal*, *56*(2), 514–555. https://doi.org/10.3102/0002831218797931

Harmsen, R., Helms‑Lorenz, M., Maulana, R., & van Veen, K. (2019). The longitudinal effects of induction on beginning teachers' stress. *British Journal of Educational Psychology*, *89*(2), 259–287. https://doi.org/10.1111/bjep.12238

Knoblauch, D., & Woolfolk Hoy, A. (2008). Maybe I can teach those kids. The influence of contextual factors on student teachers' efficacy beliefs. *Teaching and Teacher Education*, *24*(24), 166–179. https://doi.org/10.1016/j.tate.2007.05.005

Knox, L. (2022, August 28). *Teacher education programs desperately seek students*. Inside HigherEd. Retrieved from https://www.insidehighered.com/news/2022/08/29/teacher-shortage-tied-education-programs-enrollment-dr op

Lavy, S., & Bocker, S. (2018). A path to teacher happiness? A sense of meaning affects teacher-student relationships, which affect job satisfaction. *Journal of Happiness Studies*, *19*, 1485–1503. https://doi.org/10.1007/s10902-017-9883-9

Li, X., & Zhang, M. (2000). *Effects of early field experiences on pre-service teachers' efficacy beliefs – A pilot study*. ERIC. Retrieved from https://files.eric.ed.gov/fulltext/ED444973.pdf

Loewus, L. (2021, May 4). *Why teachers leave—or don't: A look at the numbers*. Education Week. Retrieved from https://www.edweek.org/teaching-learning/why-teachers-leave-or-dont-a-look-at-the-numbers/2021/05

Main, S., & Hammond, L. (2008). Best practice or most practiced? Pre-service teachers' beliefs about effective behaviour management strategies and reported self-efficacy. *Australian Journal of Teacher Education*, *33*(4). https://doi.org/0.14221/ajte.2008v33n4.3

Marcus, J. (2023, September 27). *Americans have poor math skill*s. It's a threat to US standing in the global economy, employers say. Associated Press. Retrieved from https://apnews.com/article/math-scores-china-security-b60b740c480270d552d750c15ed287b6

Matthews, M. (2021, October 7). *Relationship building with the diverse learner*. Diverse Learners Cooperative. Retrieved from https://diverselearnerscoop.com/blog/relationship-building-with-the-diverse-learner

Merç, A., & Subaşı, G. (2015). Classroom management problems and coping strategies of Turkish student efl teachers. *Turkish Online Journal of Qualitative Inquiry*, *6*(1), 39–71. https://doi.org/10.17569/tojqi.41736

Moore, T. C., Wehby, J. H., Oliver, R. M., Chow, J. C., Gordon, J. R., & Mahany, L. A. (2017). Teachers' reported knowledge and implementation of research-based classroom and behavior management strategies. *Remedial and Special Education*, *38*(4), 222–232. https://doi.org/10.1177/0741932516683631

Natanson, H. (2022, August 4). *Never seen it this bad: America faces catastrophic teacher shortage*. The Washington Post. Retrieved from https://www.washingtonpost.com/education/2022/08/03/school-teacher-shortage/

National Center for Education Statistics (NCES). (2014). *Mobility of public elementary and secondary teachers, by selected teacher and school characteristics: Selected years, 1987–88 through 2012–13*. National Center for Education Statistics. Retrieved from https://nces.ed.gov/programs/digest/d19/tables/dt19_210.30.asp

National Center for Education Statistics (NCES). (2016). *Number and percentage of persons completing a teacher preparation program and receiving an initial teaching credential, by state or jurisdiction: 2012–13*. National Center for Education Statistics. Retrieved from https://nces.ed.gov/programs/digest/d19/tables/dt19_209.05.asp

National Center for Education Statistics (NCES). (2019). *Principal turnover: Stayers, movers, and leavers*. National Center for Education Statistics. Retrieved from https://nces.ed.gov/programs/coe/indicator/slb/principal-turnover?tid=4

National Center for Education Statistics (NCES). (2022). *Number and percentage distribution of persons who were enrolled in and who completed a teacher preparation program, by program type and state or jurisdiction: Academic year 2019–20*. National Center for Education Statistics. Retrieved from https://nces.ed.gov/programs/digest/d22/tables/dt22_209.05.asp

New Teacher Project (NTP). (2013). *Leap year: Assessing and supporting effective first-year teachers*. The New Teacher Project. Retrieved from https://tntp.org/assets/documents/TNTP_Leap_Year_2013.pdf

O'Neill, S. C., & Stephenson, J. (2011). Teacher classroom behavior management preparation in undergraduate primary education in Australia: A web-based investigation. *Australian Journal of Teacher Education*, *36*(10), 35–52. https://doi.org/10.14221/ajte.2011v36n10.3

O'Neill, S. C., & Stephenson, J. (2012a). Does classroom management coursework influence pre-service teachers' perceived preparedness or confidence? *Teaching and Teacher Education: An International Journal of Research and Studies*, *28*(8), 1131–1143. https://doi.org/10.1016/j.tate.2012.06.008

O'Neill, S. C., & Stephenson, J. (2012b). Exploring Australian pre-service teachers sense of efficacy, its sources, and some possible influences. *Teaching and Teacher Education*, *28*(4), 535–545. https://doi.org/10.1016/j.tate.2012.01.008

Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2016). *Solving the teacher shortage: How to attract and retain excellent educators*. Learning Policy Institute. https://doi.org/10.54300/262.960

Poulou, M. S. (2020). Students' adjustment at school: The role of teachers' need satisfaction, teacher-student relationships and student well-being. *School Psychology International*, *41*(6), 499–521. https://doi.org/10.1177/0143034320951911

Putman, S. M. (2009). Grappling with classroom management: The orientations of preservice teachers and impact of student teaching. *Teacher Educator*, *44*(4), 232–247. https://doi.org/10.1080/08878730903180226

Rigsbee, C. (2010, June 10). *The relationship balance*. ASCD. Retrieved from https://www.ascd.org/el/articles/the-relationship-balance

Rosas, C., & West, M. (2009). Teachers beliefs about classroom management: Pre-service and teachers' beliefs about classroom management. *International Journal of Applied Educational Studies*, *5*(1), 54.

Schmitt, J., & deCourcy, K. (2022). *The pandemic has exacerbated a long-standing national shortage of teachers.*

Economic Policy Institute. https://www.epi.org/publication/shortage-of-teachers/

Sivri, H., & Balcı, E. (2015). Pre-service teachers' classroom management self-efficacy beliefs. *International Online Journal of Educational Sciences*, *7*(4), 37–50. https://doi.org/10.15345/iojes.2015.04.004

Slater, E. V., & Main, S. (2020). A measure of classroom management: Validation of a pre-service teacher self-efficacy scale. *Journal of Education for Teaching: International Research and Pedagogy*, *46*(5), 616–630. Research question. https://doi.org/10.1080/02607476.2020.1770579

Sorensen, L. C., & Ladd, H. F. (2020). The hidden costs of teacher turnover. *AERA Open*, *6*(1). https://doi.org/10.1177/2332858420905812

Spilt, J. L., Koomen, H. M., & Thijs, J. T. (2011). Teacher wellbeing: The importance of teacher-student relationships. *Educational Psychology Review*, *23*, 457–477. https://doi.org/10.1007/s10648-011-9170-y

Steiner, E. D., & Woo, A. (2021). *Job-related stress threatens the teacher supply*. Rand Corporation. Retrieved from https://www.rand.org/pubs/research_reports/RRA1108-1.html

Stoughton, E. H. (2007). How will I get them to behave? Pre-service teachers reflect on classroom management. *Teaching and Teacher Education*, *23*(7), 1024–1037. https://doi.org/10.1016/j.tate.2006.05.001

Symons, C., Anderson, B. E., & Ward, A. (2020). Teacher candidates' perspectives on the value of a site-based methods course. *Teacher Educator*, *55*(4), 323–346. https://doi.org/10.1080/08878730.2020.1787569

U.S. Department of Labor. (2013). *Job openings and labor turnover – January 2013*. U.S. Department of Labor. Retrieved from https://www.bls.gov/news.release/archives/jolts_03122013.pdf

von der Embse, N., Ryan, S. V., Gibbs, T., & Mankin, A. (2019). Teacher stress interventions: A systematic review. *Psychology in the Schools*, *56*(8), 1328–1343. https://doi.org/10.1002/pits.22279

Walker, T. (2022, February 1). *Survey: Alarming number of educators may soon leave the profession*. National Education Association. Retrieved from https://www.nea.org/nea-today/all-news-articles/survey-alarming-number-educators-may-soon-leave-profession

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