Building Preservice Teacher Resiliency with Trauma-Informed Case Based Instruction

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At least one in four children in the United States has experienced one or more traumatic events (National Child Traumatic Stress Network Schools Committee [NCTSN], 2008). Children exposed to trauma bring a host of psychological and physical stressors to the classroom. Teachers can positively impact a student's ability to cope with these events and develop resilience (Brooks, 1994), but not without a physical and emotional toll on their well-being. This paper investigates one teacher education program's attempt to better support preservice teachers (PTs) in meeting these challenges by examining the impact of trauma-informed case-based instruction on PTs self-reported resilience and efficacy with Trauma Informed Instructional Practices (TIIP). Before partaking in a teacher education summer study abroad program, 26 PTs completed both the Conner-Division Resilience Scale-10 (CD-RISC) and Teacher Self-Efficacy Scale (TSES) to determine baselines for resilience and efficacy. During the program, eight PTs participated in a special topics course on trauma-informed practices utilizing casebased instruction (treatment group). At the completion of the program, all 26 PTs were reassessed on both scales. Results indicated that PTs made significant gains on both measures, but those who were in the traumainformed case-based instruction group had significantly greater gains in resiliency than the control group. The findings support the use of case-based instruction for enhancing PTs' resiliency. Implications are provided for embedding resiliency scaffolds for case-based reasoning through a trauma-informed lens.

Introduction

At least one in four children from birth to 18 in the United States has experienced one or more traumatic events (Burke et al., 2011; Kerker et al., 2015; NCTSN, 2008). Early exposure to trauma impacts brain development and can have lasting negative influence on a child's physical, behavioral, and mental health (Sciaraffa et al., 2018). Trauma-responsive schools support educators in recognizing signs of trauma and mitigating its impact on student learning and development (Bethell et al., 2019). Using trauma-informed instructional practices (TIIP), educators create instructional scaffolds and learning environments that provide trauma-affected students "buffering protection" with "stable,

responsive relationships" (Garner & Shonkoff, 2012, p. 225). In doing so, TIIP supports students' ability to cope with toxic stress and achieve academic success.

In the post-pandemic education landscape, students' learning and wellness needs are greatly intensified, leaving educators overwhelmed and under-equipped to support trauma-exposed students. It is incumbent upon teacher education programs to advance instructional practices that are responsive to the behavioral and academic challenges of trauma-exposed learners. Within a social-emotional learning framework, preservice teachers (PTs) must be prepared to integrate TIIP in their administration of the teaching-learning cycle, classroom structure, and routines—all while managing their own stress (Alisic, 2012; Howard & Johnson, 2004), as the emotional labor of TIIP often leaves teachers "overwhelmed and exhausted" (Hall & Souers, 2022, p. 56). Given this increased job complexity, it is important that teacher prep programs employ practice-based approaches for TIIP in a manner that enhances resilience and self-efficacy for supporting trauma-affected learners. In this vein, we examine the use of case-based instruction for building PTs' resiliency and self-efficacy in addressing student-centered problems of practice through a TIIP lens.

Literature Review

What Are Trauma Informed Instructional Practices?

Trauma-informed Instructional Practices (TIIP) mitigate the negative impact of trauma on student learning and development (Thomas et al., 2019). Using TIIP, teachers establish positive student relationships and classroom structures that provide cognitive, social, and emotional support for learning (Hanover, 2019; Wolpow et al., 2009). This may include providing instructional support for reducing cognitive load and increasing attention. It may also include scaffolds for regulating negative emotions, coping with anxiety, and maintaining positive peer relations. TIIP, therefore, focuses not only on supporting cognition, but also the intra-personal (self-management skills) and inter-personal (social skills), all being dimensions of learning that trauma impedes (Thomas et al., 2019). Consequently, the learning environment and instruction may incorporate tools, structures, and routines for reducing anxiety, cognitive load, dissociation, and maladaptive coping behaviors that impair learning and social-emotional development.

Currently, TIIP encompasses a generalized set of cognitive scaffolds, supports for social-emotional learning, tips for building positive teacher-student relationships, strategies for deescalating trauma responses, and adoption of schoolwide frameworks for trauma informed care (Hanover, 2019; Wolpow et al., 2009). In practice, there is no single uniform instructional design model for implementing TIIP within the teaching-learning cycle. More often, frameworks for TIIP include a combination of instructional and relational supports tailored to individual student, classroom, and schoolwide needs (Thomas et al., 2019; Wolpow et al., 2009). In this regard, being a trauma-informed educator involves recognizing signs and symptoms of trauma, hypothesizing cognitive/social/emotional supports, and discerning which combination of instructional supports the best results. In doing so, educators approach trauma-induced barriers to learning "through an equity and inclusive education lens, rather than an individual deficits-oriented lens" (Rodger et al., 2019, p. 1800).

When supporting trauma-affected learners, however, teachers are susceptible to vicarious trauma, secondary trauma, and compassion fatigue that result in them feeling overwhelmed, burdened, and in need of support (Chow et al., 2015; Mayor, 2021; Tobin et al., 2018). They often struggle to balance staying emotionally distant with becoming too emotionally involved and having the emotional burden impacting their lives outside the classroom.

Resilience and Self-Efficacy for Supporting Trauma-Affected Learners

Because implementing TIIP increases instructional complexity and the emotional labor of teaching, teachers, like students, need to learn strategies to build their own resilience to increase effectiveness (Bobek, 2002). It is vital that teacher preparation programs provide practice-based learning experiences that develop their self-efficacy and resilience for imparting TIIP (Sharifian et al., 2022). Self-efficacy refers to a teacher's belief in his or her ability to succeed (Bandura, 1986). When teachers believe they can be successful, they are more likely to persevere through challenges. Teachers with high self-efficacy may demonstrate commitment and effort in adopting approaches such as TIIP to

support a diverse range of students (Delale-O'Connor et al., 2017), including when implementing strategies for instruction, classroom management, and student engagement (Tschannen-Mornan & Woolfolk Hoy, 2001).

Teachers' self-efficacy can enhance their resilience-the ability to recover from persistent challenges and setbacks amid shifting cognitive, emotional, and social conditions in the environment (Beltman et al., 2011; Brunetti, 2006). Resilience is multifaceted. It includes building and sustaining supportive relationships (personal/professional support networks), maintaining wellbeing and positive outlook in the wake of difficulty, as well as maintaining motivation and regulating emotion during repeated setbacks (Mansfield et al., 2016). Given the complexity and scope of TIIP, it is perhaps not surprising that TIIP incorporates many areas where teachers are most tested in developing resilience and self-efficacy. These include being proactive with classroom management, de-escalating disruptive student behaviors, differentiating instruction, meeting needs of disadvantaged learners, and coping with a heavy workload and lack of time (Beltman et al., 2011; Gu & Day, 2007).

From an instructional design perspective, self-efficacy for practices such as those associated with TIIP develops through repeated mastery of related tasks in an authentic problem context; observing peers and mentors accomplishing comparable tasks in that same context; receiving constructive feedback from peers/mentors; and self-regulating emotional states during task completion (Bandura, 2012; Park, 2018). Resilience can be developed with tools for managing task complexity. For example, providing tools for accessing personal and contextual resources (e.g., peer support, collaboration, information resources) and employing adaptive coping strategies (e.g., time management, self-regulation) are some ways that resiliency can be enhanced during problem solving (Mansfield et al., 2016).

Developing Resilience and Self-Efficacy with Case-based Instruction

In order to better prepare PTs for supporting trauma-affected learners, it is important that teacher preparation programs structure opportunities for PTs to practice TIIP in a manner that promotes self-efficacy and resilience-building. Tait (2008) suggested that resilience and self-efficacy can be developed through case-based instruction in which PTs respond to challenging teaching situations. Case-based instruction engages learners in reasoning through a complex problem that is anchored in a real-world scenario. Learners engage in an iterative cycle of providing interpretive explanations of the problem, recalling similarities of the problem to prior cases, strategizing/applying a solution, and evaluating the results (Riesbeck & Schank, 1989).

There are two types of case-based instruction approaches: goal-based and design-based. A goal-based case presents a real-world scenario and places learners in a professional role in which they are required to achieve a goal. As the case scenario unfolds, learners acquire requisite knowledge and skills for goal completion (Schank, 1996). For example, a goal-based case for TIIP might engage PTs in recognizing signs of a trauma affected learner, infer causes and effects of the student's trauma-responses, and make recommendations for behavioral, cognitive, and environmental supports. The other type of case utilizes a design-based scenario (Kolodner et al., 1998). Activities are organized around building a product or completing a project. What is designed becomes an artifact of one's learning, a representation of applied knowledge and skills acquired in-situ (Savery, 2018). A design-based case focused on applying TIIP might guide PTs in the development and implementation of an intervention plan for supporting a trauma-affected learner, resulting in a case record for addressing similar situations in the future.

Several features of case-based instruction may support the development of self-efficacy and resilience. One feature, for example, is that the problem context is imbued with tools for elevating one's thinking and enhancing persistence as a scenario's complexity unfolds. PTs can be prompted in "identify and practice coping strategies, reframing skills and other resilient behaviors of thinking" (Ee & Chang, 2010, p. 329). Additionally, resilience and self-efficacy may be enhanced by case-based reasoning approaches that provide tools for collaborative problem solving, including tools for gathering relevant information, comparing case histories, developing/testing hypotheses, and reflecting on the results to inform next steps (Tawfik & Keene, 2013). With these tools, it is possible for PTs to develop a sense of self-efficacy and resiliency with solving problems of practice through a TIIP lens.

Another feature of case-based instruction that may support development of self-efficacy and resilience is that it centers failure explanations as the driving force for learning (Tawfik & Keene, 2013). Rather than focusing on being correct,

case-based reasoning regards failed approaches as necessary for disrupting assumptions and re-framing the problem from a new perspective. In a case-based approach, learners' failure explanations contribute to reformulation of the problem and development of mastery learning orientations (Kolodner, 1993). When teachers' expectations for implementing TIIP fail, they want to explain what happened so that they can gain perspective and re-strategize their approach. As their knowledge and expertise increase, they are better able to interpret and respond to the current problem. They add the experience to their memory that will serve them in future situations.

Therefore, a well-designed case will embed prompts for reflective reasoning that heighten the agency of the problem solver. Guided reflection helps learners connect information and variables affecting the case to discern patterns of cause-effect to form an integrated problem-solution narrative (Riesbeck & Schank, 1989; Tawfik & Keene, 2013). Structured opportunities for reflective learning is yet another feature of case-based instruction that may enhance self-efficacy and resilience. Generally, learners (a) identify and describe a problem that they had encountered; (b) describe their solution to the problem; (c) say what worked, what didn't work, and what they had learned from the experience; and (d) anticipate the kinds of situations where a similar solution might be useful (Turns et al., 1997). Often, this reflective commentary becomes a record of case-based reasoning, documenting the surface features of the problem, the root causes/underlying issues that were not initially obvious, the approaches taken to solve the problem, and an account of the failures that eventually lead to a breakthrough or success.

Research Focus and Method

As teacher educators, we wanted to know if case-based instructional scenarios focused on trauma-affected learners had any significant impact on PTs' self-efficacy toward classroom management, instructional strategies, student engagement, and their own personal resilience. This project attempts to address the following questions through a quantitative analysis of the candidates' growth.

Q1: Does the inclusion of case based TIIP significantly increase the candidates' self-reported resilience and efficacy toward teaching?

Q2: Is there a difference between those receiving case-based TIIP in PTs resilience and teacher efficacy when compared to those who did not receive case-based TIIP?

Participants

The participants were 26 pre-service teachers (PTs) who took part in a four-and-a-half-week study abroad in London, England. All PTs were from the same Midwestern private university in their third or fourth year of a four-year teacher preparation program. Twenty-five of the participants were female, and one was male. All were between 18-22 years of age and studying to be early childhood (grades pk-5), middle childhood (grades 4-9), adolescent/young adult (grades 7-12), and/or intervention specialist (grades k-12) teachers. During the project, PTs registered to take two of three offered courses. All participants (n=26) chose a course on educating diverse student populations in inclusive settings, 16 chose one on children's literacy (control group), and eight chose a special topics course focused on developing traumainformed instructional practices (treatment group).

Treatment Group

The treatment group of eight PTs examined TIIP through a case-based instructional approach. The first phase of the course engaged them in a goal-oriented scenario addressing a real-world problem of practice. The PTs were to select from a prior field experience a learner that presented patterns of disruptive behavior and/or cognitive/emotional challenges. They then analyzed the case from a trauma-informed lens to make recommendations for instruction. The instructor assisted the PTs in narrowing the case focus to a specific situation with the student that had perplexed them and could serve as a case for identifying symptoms of trauma for relating TIIP. Examples of cases they selected from their prior field experiences included a withdrawn middle schooler whose parents were getting a divorce; a child struggling with emotional regulation; and an autistic teen triggered by touch, noises, and transitions between activities.

The second phase of the course engaged the PTs in developing a goal-based scenario using the focal student as a case. Then they engaged their classmates in exploring the issue from a trauma-informed lens. An example of one of the PTs case scenarios presented for analysis follows:

Each morning James arrives at school we never know what he will be feeling like. Some days, like most kids, he is excited and wants to see his friend. However, most days tend to be frustrating for him. His parents work long hours at their jobs at the local hospital. James and his siblings get up early, eat a quick breakfast, and are headed to before-care around 6AM. When his dad drops him off, he tends to be more relaxed and transitions into the school routine without much issue. When it is his mother, he gets angry and acts out. It is mostly on these days, when things don't go his way, we see him say whatever his is thinking (most often negative comments) and defy any adult. He sometimes hits other students over toys. The behavior is most extreme after being dropped of at school.

The PTs, having gathered information and analyzed the case during the first phase of the inquiry, now poses it as a problem of practice for their peers. The leader of the case scenario askes for interpretive explanations for the causes and potential issues of the behavior and adds additional factors and information to the case based on the questions they receive. In the iteration of the case analysis, the PTs draw upon their own prior knowledge that they have gathered from their own inquiries into trauma-informed practices. They list all the potential issues that could be relevant to the situation, possible strategies to apply based on what they know so far about the case and similar cases they have encountered, and questions that point to the information they need to gather to increase their insight and perspective.

Data Collection and Instruments

To measure the effect of this case-based approach, all participants electronically completed the Teachers' Sense of Efficacy Scale (TSES) and the Connor–Davidson Resilience Scale (CD-RISC-10) on separate occasions before traveling abroad. While the surveys were considered part of the course, participation in the research project was voluntary, and the university's Institutional Review Board granted approval. The TSES measures self-efficacy through a self-rating 24-item Likert scale ranging from one (lowest) to nine (highest) with three subscales of eight questions each: Efficacy in Student Engagement, Efficacy in Instructional Strategies, and Efficacy in Classroom Management. The TSES has been used extensively to measure teacher efficacy and prompts participants to evaluate "How well can you . . . " in "things that create difficulties for teachers in their school activities" (Tschannen-Mornan & Woolfolk Hoy, 2001, p. 1). A factor analysis for construct validity was conducted, and it has published reliabilities of 0.91 (instructional strategies), 0.90 (classroom management), and 0.87 (student engagement). The CD-RISC-10 is a self-rating 10-item five-point Likert scale with scores ranging from zero (lowest) to four (highest) with total scores ranging from 0 to 40. It is used to identify a person's ability to respond to setbacks and "bounce back." The instrument has extensive psychometric research to establish validity and reliability and can be used to measure growth in resilience over just a few weeks (Davidson JRT, 2022). On the final day of the courses, all participants again electronically completed both the CD-RISC-10 and TSES (Tschannen-Mornan & Woolfolk Hoy, 2001; Swan et al., 2011).

Analysis

Results of both the TSES and CD-RISC-10 assessments were analyzed through a Paired t-Test for Two Samples with groups of equal size and a t-Test for Two Samples Assuming Unequal Variances for the comparison between the control and treatment groups due to unequal sample sizes. Both analyses used a significance rate of p<0.05. Questions with responses left blank (three in total) were discarded and not tabulated in the results.

Results

This study examined whether case-based instructional scenarios focused on trauma-affected learners impacted PTs' self-efficacy toward classroom management, instructional strategies, student engagement, and their own personal resilience. It addresses the following research questions:

Q1: Does the inclusion of case based TIIP significantly increase the candidates' self-reported resilience and efficacy toward teaching?

Q2: Is there a difference between those receiving case-based TIIP in PTs resilience and teacher efficacy when compared to those who did not receive case-based TIIP?

Teacher Self Efficacy

Results indicated that all participants, as well as the control and treatment groups independently, made statistically significant gains in overall self-efficacy and for each of the three subtests of classroom management, instructional strategies, and student engagement. There were no significant differences though in a comparison between the control and treatment groups. Both groups made significant gains on the TSES but neither group made significantly greater gains.

Table 1 shows the results of Q1 in terms of the impact of case based TIIP on candidates' self-reported efficacy toward teaching. The table indicates average pre and post test scores for all participants (N = 26) as well as the control (N = 16) and treatment (N = 8) groups. The results of a dependent sample t-tests (p < 0.05) reveal significant increases in general efficacy scores for all participants (t(622) = 21.42, p < .001), as well as the control (t(431) = 19.58, p < .001) and treatment (t(191) = 9.79, p < .001) groups. All groups also made significant gains in each of the three subtests of classroom management, instructional strategies, and student engagement.

Table 1

TSES Pre and Post

	All participants (n = 26)		Control group (n = 16)		Treatment group (n = 8)	
	Pre-test	Post-test	Pre-test	Post-test	Pre-test	Post-test
	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
	t df p value		t df p value		t df p value	
General efficacy	6.06(1.64)	7.58(1.21)	5.78(1.53)	7.34(1.21)	6.77(1.68)	8.11(1.02)
	21.42 622 p<.001		19.58 431 p<.001		9.79 191 p<.001	
Classroom management	5.94(1.69)	7.40(1.24)	5.59(1.53)	7.17(1.18)	6.70(1.79)	7.94(1.22)
	11.77 206 p<.001		11.42 142 p<.001		4.74 63 p<.001	
Instructional strategies	5.98(1.56)	7.74(1.12)	5.61(1.40)	7.51(1.15)	6.81(1.58)	8.25(.87)
	15.01 207 p<.001		14.68 143 p<.001		5.94 63 p<.001	
Student engagement	6.33(1.65)	7.59(1.25)	6.13(1.59)	7.33(1.29)	6.78(1.69)	8.16(.93)
	10.60 207 p<.001		8.44 143 p<.001		6.42 63 p<.001	

The results for Q2 in whether there is a difference in pre and post self-efficacy scores between those receiving casebased TIIP (treatment group, N = 8) and those that did not (control group, N =16) are detailed in Table 2. The results of a t-Test of Two Samples Assuming Unequal Variances indicate that both the pre (t(337) = 6.95, p < .001) and post (t(430) = 8.27, p < .001) scores were significantly different. In both instances, the control group scored higher, but the resulting change in scores between the two groups was not significantly different. These results were consistent in general efficacy and for the three subtests.

Table 2

Comparison of Pre and Post Scores Between the Control and Treatment Groups TSES

	Pre test		Post Test		Change pre-post	
	Control (n = 16)	Treatment (n = 8)	Treatment (n = 8)	Control (n = 16)	Control (n = 16)	Treatment (n = 8)
	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
	t df p value		t df p value		t df p value	
General efficacy	5.78(1.53)	6.77(1.68)	8.11(1.02)	1.56(1.66)	7.34(1.21)	1.35(1.91)
	6.95 337 p<.001		8.27 430 p<.001		1.31 325 p=.192	
Classroom management	5.59(1.53)	6.70(1.79)	7.94(1.22)	1.57(1.65)	7.17(1.18)	1.23(2.08)
	4.31 106 p<.001		4.24 118 p<.001		1.15 100 p=.253	
Instructional strategies	5.61(1.40)	6.81(1.58)	8.25(.87)	1.90(1.55)	7.51(1.15)	1.44(1.93)
	5.23 109 p<.001		5.12 156 p<.001		1.67 100 p=.098	
Student engagement	6.13(1.59)	6.78(1.69)	8.16(.93)	1.20(1.71)	7.33(1.29)	1.38(1.71)
	2.60 114 p=.011		5.20 164 p<.001		.675 121 p=.501	

The results indicated that while both groups made significant increases in self-efficacy, there were no statistical differences in the results. The control group made greater gains in general efficacy (M = 1.56, SD = 1.66) than the treatment group (M = 1.35, SD = 1.91), and in the subcategories classroom management (M = 1.57, SD = 1.65 vs. M = 1.23, SD = 2.08) and instructional strategies (M = 1.90, SD = 1.55 vs. M = 1.44, SD = 1.93). These differences were not considered significant. The treatment group made greater mean gains in student engagement (M = 1.38, SD = 1.71 vs. M = 1.20 vs. SD = 1.71), but again the differences were not significant.

Resilience

The CD-RISC was used to assess changes in the participants' resilience. All participants, and the control and treatment groups, had statistically significant gains from the pre to post scores. In comparing pre and post scores between the control and treatment groups, the pretest results did not indicate a significant difference, but the post-tests did. The treatment group made a more significant gain on the CD-RISC than the control group. There was no significant difference in resilience between the two groups at the start of the program, and while both groups made significant gains, the treatment groups' gains were significantly greater.

Table 3 shows the results of Q1 in terms of the impact of case based TIIP on candidates' resilience. The table indicates the average pre and post test scores for all participants (N = 26) as well as the control (N = 16) and treatment (N = 8) groups. The results of a dependent sample t-test (p < 0.05) reveal significant increases between the pre and post scores for all participants (t(257) = 7.57, p < .001) as well as both the control (t(179) = 5.15, p < .001) and treatment groups (t(79) = 5.39, p < .001).

Table 3

CD-RISC-10 Pre and Post

	Pre M(SD)	Post M(SD)	t	df	p value
Overall	3.00(.844)	3.43(.773)	7.57	257	<.001
Control	2.97(.831)	3.34(.828)	5.12	179	<.001

	Pre M(SD)	Post M(SD)	t	df	p value
Treatment	3.05(.876)	3.70(.635)	5.39	79	<.001

All participants, the control and treatment groups, had statistically significant increases in the pre and post-scores on the CD-RISC-10.

The results for Q2 in whether there is a difference in pre and post resilience scores between the treatment group (N = 8) and control group (N = 16) are detailed in Table 4. The results of a t-Test of Two Samples Assuming Unequal Variances indicate that the pre-test score (t(145) = .616, p = .538) between the two groups was not significantly different, but the post test scores (t(213) = 4.08, p < .001) were significantly different.

Table 4

Comparison of Pre and Post Scores Between the Two Groups CD-RISC-10

	Control	Treatment	t	df	p value
Pre M(SD)	2.97(.831)	3.05(.876)	.616	145	0.538
Post M(SD)	3.34(.828)	3.70(.635)	4.08	213	<.001
Change M(SD) (post-pre scores)	0.36(.92)	0.65(1.00)	2.14	139	<.001

There was no significant difference in resilience between the two groups at the start of the program, but there was a significant difference after the program. The treatment group made statistically more significant gains in the pre to post scores than the control group (M = .65, SD = 1.00 vs. M = .36, SD = .92). The difference between the pre and post scores of the two groups was also significant, again indicating greater gains in the treatment group (t(139) = 2.14, p < .001).

Discussion and Implications

In terms of self-efficacy for teaching, as measured by the TSES, participants made significant gains over the course of the program. Still, there was no significant difference between the control and treatment groups, which held true for the overall assessment results and the three subtests relating to classroom management, instructional strategies, and student engagement. The researchers had expected to see greater gains in teaching efficacy from the treatment group compared to the control group, especially in classroom management, as it related trauma-informed instruction more directly. That was not the case. Both groups made significant gains regardless of the content, indicating that trauma-informed instruction using a case study approach may potentially increase a teacher's self-efficacy, similar to a traditional academic content-driven course. The sample size of this study was too small to determine any conclusion and indicates an area for further research.

In terms of self-reported resilience, as determined through the CD-RISC-10, both groups again made significant gains, but the treatment group made greater statistically significant gains. There was no significant difference between the pretest scores between the two groups, but there was in the post-test scores, with the treatment group making statistically greater gains in pre and post-scores. This difference may indicate that using a case-based, trauma-informed approach may help better facilitate a PT's overall self-resilience. This finding is important as Sharifian et al. (2022) identified that teacher training programs are essential in helping teachers develop protective factors that increase their resiliency through practice-based learning, as found in the case study approach. Our findings suggest that a case-based approach that engages PTs in problem solving instructional practices through a trauma-informed lens is a promising method for building resiliency needed for imparting TIIP.

Although this study did not examine the instructional design features that resulted in resiliency gains, we point to two features that we believe set conditions for resilience building. The first feature is prolonged inquiry into a situated

problem of practice that can serve as a locus of resilience building and that is complex enough for critically framing professional skillsets, dispositions, discourse practices, and interpersonal relations. PTs in the treatment group recalled a situation from a prior field experience that involved a trauma-affected student that had left them with lingering uncertainties and concerns about how to support the student. The situation each PT identified became the locus of inquiry into TIIP and the source material from which they developed a case scenario to solve with their peers. Thus, a three-phase case approach emerged that provided a meaningful structure for sustaining case-based reasoning: Phase 1). goal-based inquiry into one's own problem of practice; Phase 2). Using the perspectives gained from phase 1 to develop a case scenario for others to solve; Phase 3). Presenting the case to peers and engaging them in isolating the underlying issue and addressing them from a TIIP perspective.

The other feature we believe was important for optimizing resilience building is a collaborative learning environment that honors the sharing of challenges and failure stories around the cases presented. PTs fostered collaboration in sharing failure explanations that initiated new avenues of thought and application of TIIP. Collective perspectives around failure forged insight into factors that increased the nuance and complexity of the case. Once solved, the case provided a record of reasoning indexing situations for which the case informs or might leverage future applications of TIIP.

Case-based instruction enhances opportunities for resilience building by providing sustained, situated inquiry into authentic problems of practice alongside cooperative supports and structures for leveraging failure for deeper learning. However, instructional designers will need to expand learning tools and cognitive scaffolds for problem solving to include tools for building and modeling resilience. Instructional designers, for example, can embed prompts, videos, case libraries, concept databases, collaboration tools, and problem-solving heuristics to guide students through problem solving processes. These might include tools that map to the different facets of resilience building. For example, to leverage personal and contextual resources, tools can be provided for reflecting and discussing with peers, mentors and teachers. For promoting self-regulation and management of task complexity, tools for goal setting, time management, help-seeking, reframing failure, and managing emotions can be integrated into the learning environment and demonstrated throughout the problem solving process. More research is needed to discern how these and other scaffolds may be embedded within case-based instruction and used to build PTs resilience as they gain and apply knowledge as they work through the case scenario. In doing so, PTs may be more prepared to model resilience building and support within the teaching-learning cycle as part of their TIIP.

These findings contribute to the research in providing PTs with a cased based TIIP approach may have the potential to increase self-efficacy to a similar degree and increase resilience to a greater degree than a traditional academic content-driven course. Further research is needed to identify how this collaborative approach supports building resilience. Further research into developing resilience through instructional methods and teaching approaches could also result in better design of case-based scaffolds.

Limitations

While this study indicated the benefit of implementing a TIIP case study approach to promoting self-efficacy and resiliency in PTs, it is not without its limitations. Further research would benefit from using a larger sample size for both the control and treatments group. Due to constraints on the program, the shorter version CD RISC-10 was used. The more extended version, CD RISC-25, may indicate a more nuanced view of resiliency which was not possible using the CD RISC-10.

It is also possible that the treatment group was further along in their four-year program than the control group. While not all treatment group members had taken the children's literature course provided to the control group, some had. This does not negate the gains made but may indicate a greater maturity in the treatment group, which may impact scores. Designing a similar study using a mixed method approach that incorporated the PTs' voices could also further the research into trauma-informed practices and building resilience which this study failed to do. PTs' voices could allow for a greater understanding of the overall results.

Conclusion

Developing resilience in teachers is essential to their implementation of TIIP. Teachers' behavior impacts students' behaviors, and teachers who model resiliency promote resilience in their students. Teachers must be resilient to expect students to be resilient (Hall & Souers, 2022). The "support and encouragement of protective factors . . . are easily within the power of individual schools, education bureaucracies and teacher education faculties to provide" (Howard & Johnson, 2004, p. 416). The TIIP case study approach better facilitated the "support and encouragement" to develop PTs protective factors in this research project.

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