Comparing Self-Efficacy of Preservice and Inservice Teachers: What Factors Influence the Teacher Efficacy of Undergraduate and Graduate Students

Katie Alford & Jennie Winters, McKendree University

Abstract

This concurrent embedded mixed methods research study aimed to investigate the self-efficacy of preservice and inservice teachers within the context of an undergraduate and graduate program at a small private institution in the Midwest United States. Using a mixed-methods approach, we collected data from 28 undergraduate preservice teachers and 26 graduate inservice teachers to identify any variables significant to their self-efficacy and compared the two groups. The results suggest that undergraduate preservice teachers and graduate inservice teachers report similar factors that influence their teaching efficacy. There were differences for overall teacher efficacy ratings based on the grade bands taught, whether they had prior experiences with children, and how long the teacher had been in the classroom for inservice teachers. According to their self-reporting, the most salient elements that affect teachers were: classroom experiences, student relationships, behaviors, school context/climate, and the mentorship they receive from administrators and colleagues. These findings will be helpful in modifying practices in teacher preparation programs and graduate continuing education programs to support teacher efficacy.

Keywords: *teacher self-efficacy, preservice teacher efficacy, inservice teacher efficacy, teacher preparation, field experiences, self-efficacy, teacher efficacy*

Issues of self-efficacy in teacher preparation programs and continuing education are relevant in teacher training (Hoy, 2022). Preservice teachers (PSTs) gain practical and theoretical knowledge from their coursework (Hamilton & Reeves, 2022), but also from their field experiences throughout their programs (Darling-Hammond, 2014). These elements and others play a pivotal role in how developing teachers begin to think about their abilities to engage students in learning and manage their future classrooms. Drawing on the research of previous teacher educators (Husser & Bailey, 2016; Dorel et al., 2016; Flower et al., 2017) and Bandura's foundational work on self-efficacy (1977), this study aims to explore the self-efficacy of preservice teachers (PSTs) at different stages of a teacher preparation program and within continuing education coursework for in-service teachers (ISTs) at a small private university in the Midwest concerning three key areas: student engagement, instructional strategies, and classroom management. This study uses quantitative and qualitative means to measure and understand PSTs' self-efficacy. It analyzes multiple

variables to construct a deeper understanding of how teacher education preparation and graduate continuing education courses influence self-efficacy.

Brief Review of Literature

Teacher efficacy has been researched since Bandura's seminal work on self-efficacy began in the 1970s. Research continues today to understand the role efficacy plays in the lives of ISTs and PSTs alike, and the impact this has on students, schools, and the teaching profession (Husser & Bailey, 2016; Dorel et al., 2016; Flower, McKenna & Haring, 2017; Hoy, 2022). This study situates itself within the PST education frame and what we already know about IST efficacy. We will use Bandura's original definition of self-efficacy as an individual's belief in their ability to execute behaviors needed to succeed in a specific performance (1977a; 1977b).

Higher teacher efficacy is associated with many positive factors for teachers: increased job satisfaction, a greater sense of control, a willingness to experiment with varied teaching practices, and an improved sense of accomplishment while teaching (Shore, 2004). Lower teacher efficacy, conversely, is associated with negative factors for teachers: a declining interest in the teaching profession, a feeling of unpreparedness, inefficiencies in the classroom, and an insecurity with teaching new content (Cameron, 2017; Kunter et al., 2013; Tiwari et al., 2015). These positive and negative factors impact overall student success in these teachers' classrooms (Armor et al., 1976; Boz & Boz, 2010; Woolfolk-Hoy et al., 2009).

This is compounded by Hoy et al.'s (2009) findings that demonstrate teacher efficacy is cyclical. The greater one's self-efficacy, the greater their effort to work harder and grow; conversely, the lower the self-efficacy, the less energy they expend to improve their teaching. Dorel et al. (2016) pointed out that "Effort and success directly relate to efficacy, which positively correlates with success in the classroom" (p. 40), which is supported by Gushue & Whitson's (2006) study. If we want to train quality teachers, understanding teacher efficacy and working to improve student efficacy in teacher preparation programs will be vital.

Perhaps most important for the teaching profession is teacher retention. Brown's (2012) meta-analysis on teacher burnout finds that teachers with a higher sense of teaching efficacy remain in the profession, while those with lower efficacy leave prematurely. COVID-19 exacerbated this effect, and schools were desperate to recruit and retain quality teachers (Zamarro et al., 2022; Bacher-Hicks, Chi & Orellana, 2023). One study indicated that COVID hurt elementary teachers' instructional and engagement efficacy when returning to work after the COVID lockdowns (Pressley, 2021). COVID negatively impacted newly hired teachers who left the profession 31% more often after COVID than in previous years (Bacher-Hicks, Chi & Orellana, 2023). Both Bradbury (2021) and Akcaoglu & Akcaoglu (2022) found that the ever-changing landscape of education, accelerated by the COVID-19 shifts in teaching, influenced teacher retention. That retention was highly determined by teacher efficacy. The abruptness of moving to online learning seemingly impacted the attrition rates of educators and perhaps affected teacher efficacy for both preservice and inservice teachers.

Unfortunately, schools today struggle to find new teacher candidates to replace the onslaught of teachers leaving the field, often prematurely (Bradbury, 2021; Flower et al., 2017; Husser & Bailey, 2016). Looking at how preservice teacher efficacy shifts and is influenced in teacher preparation programs can shed greater light on how we might better prepare future teachers for the new landscape of public education. Additionally, examining inservice teacher efficacy can inform higher education practices in courses leading to additional certifications and endorsements that

continually support teacher efficacy in new approaches and content areas. Thus, this research aims to inform schools and universities how teacher efficacy is influenced and shifts based on various factors to inform them of ways they can increase positive and decrease negative influences.

Methodology

This study uses a mixed-method approach. Quantitative and qualitative data were gathered simultaneously in a concurrent embedded research design. In this approach, both data sets were collected using the same instrument with a relatively equal balance of emphasis on the quantitative and qualitative data. The study aimed to examine and compare PSTs' and ISTs' levels of self-efficacy based on their classroom experiences after the school districts resumed in-person learning. Comparison testing in the form of ANOVA and independent samples *t*-tests was done to examine whether differences in ratings could be observed in multiple participant demographic categories.

Research Questions

This mixed-methods study focused on two research questions. The quantitative question had a sub-question to address differences by demographic categories.

RQ1) How do the self-efficacy ratings of preservice teachers compare to those of inservice teachers?

SQ1) Do self-efficacy ratings differ based on demographic groups?

RQ 2) What factors do preservice and inservice teachers perceive as contributors to or detractors from their self-efficacy?

Instrumentation

This study utilized the short form of the Teacher Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy (2001). This instrument requires participants to rate their evaluations of their likelihood of success in teaching using a scale of 1-9, with 1 indicating low self-efficacy and 9 being high self-efficacy. The instrument was tested in three studies and analyzed using principal-axis factoring with varimax rotation when in development. The first study narrowed the items from 52 to 32. The second study narrowed the items to 18 and focused on the current three factors of the instrument. The final study identified reliabilities of 0.91 for instruction, 0.90 for management, and 0.87 for engagement (Tschannen-Moran & Hoy, 2001, p. 799). It was validated by comparing teacher ratings on this form with those on the Gibson and Dembo TES and the Rand items (Tschannen-Moran & Woolfolk Hoy, 2001). Heneman et al. (2006) also validated the instrument using both exploratory factor analysis and confirmatory factor analysis. Researchers identified three major factors among the questions: 1) Instructional strategies, 2) Classroom management, and 3) Student engagement.

Multiple researchers have used the TSES with PST (Heneman et al., 2006; Klassen et al., 2009). Duffin et al. (2012) found that the short form for TSES is less sensitive for PSTs in the beginning stage of teacher development concerning the three factors of classroom management, instructional strategies, and student engagement. The current study involved PSTs who were enrolled in field experiences and had some pedagogical knowledge and classroom experience. Therefore, this study included comparing the overall total for the ratings and the results for the three

categories of instructional strategies, classroom management, and student engagement to determine the extent to which the instrument could detect differences among groups.

Study Group

The research was conducted with 28 PSTs enrolled in the teacher education program and 26 ISTs enrolled in a Master of Arts in Education (MAED) program at a private rural university in the Midwestern United States. Participants in the study were determined using the voluntary sampling method. Students who participated in Field I, Field II, and Field III placements in the spring of 2023 and MAED students enrolled in a summer research course were invited to respond to an online survey (see Table 1). The survey was based on the Teachers' Sense of Efficacy Scale short form (Tschannen-Moran & Woolfolk-Hoy, 2001).

Table 1: *Participant Demographics*

Pre-Service	Categories	Frequency	In-Service	Categories	Frequency
Field Experience	Field I	13	Years of Experience Teaching	1-5 years	5
	Field II	12		6-15 years	18
	Field III	3		16+ years	3
Grade Level Category	Elementary	10	Grade Level Category	Elementary	13
	Grades 1-6	11		Grades 1-6	8
	Middle Grades 6-8	7		Middle Grades 6-8	5
	High School 9-12			High School 9-12	
Subject	Elementary	9	Subject	Elementary	10
	History	3		History	2
	Math	2		Math	1
	Music	1		Music	0
	Physical Education	2		Physical Education	1
	Science	9		Science	1
	Special Education	1		Special Education	8
Age Range	18-22	19	Age Range	18-22	1
	23-30	5		23-30	5
	>30	4		>30	20
Gender	Male	11	Gender	Male	20
	Female	17		Female	6
	Nonbinary	0		Nonbinary	0

Background Experiences	Preschool Teaching	8	Background Experiences	Preschool Teaching	6
	Daycare Supervisor	10		Daycare Supervisor	4
	Paraprofessional	2		Paraprofessional	9
	Substitute Teaching	9		Substitute Teaching	20
	Camp Counselor	9		Camp Counselor	4
	Other	0		Other	5
Setting Experience	Rural	26	Setting Experience	Rural	21
	Suburban	13		Suburban	11
	Urban	1		Urban	5

Coding Methods

For the qualitative data, we used a grounded theory approach of first open coding, second axial coding, then selective coding (Corbin & Strauss, 1990; Charmaz, 2014). The two researchers compared our analytic memos on our initial coding cycle after our first round. From there, we developed a list of codes that we used to recode individually and lump into four major categories. Then, we collaborated to reach a consensus for our final round of selective coding.

Findings

Descriptive Statistics

Quantitative descriptive statistics and histograms were produced separately for each question answered by the PSTs (see Table 2) and the ISTs (see Table 3), the average ratings for each of the three factors: Classroom Management, Student Engagement, and Instructional Strategies, and the overall total ratings for self-efficacy.

Table 2: *Pre-Service Self-Efficacy Descriptive Statistics*

Question	Mean	SD	Skewness	Kurtosis
Classroom Management	**6.875**	**1.292**	**-1.704**	**5.093**
1) How much can you do to control disruptive behavior in the classroom?	6.464	1.503	-0.808	1.704
6) How much can you do to get children to follow classroom rules?	7.286	1.301	-1.337	3.250
7) How much can you do to calm a student who is disruptive or noisy?	6.857	1.325	-1.055	1.958
8) How well can you establish a classroom management system with each group of students?	6.893	1.771	-1.636	3.887
Student Engagement	**6.759**	**1.183**	**-0.536**	**0.269**

2) How much can you do to motivate students who show low interest in schoolwork?	6.786	1.315	-0.836	1.368
3) How much can you do to get students to believe they can do well in schoolwork?	6.964	1.503	-0.288	-0.560
4) How much can you do to help your students value learning?	6.893	1.423	-0.047	-0.772
11) How much can you assist families in helping their children do well in school?	6.333	1.840	-1.294	2.266
Instructional Strategies	**7.277**	**1.05**	**-0.068**	**-1.174**
5) To what extent can you craft good questions for your students?	7.107	1.315	-0.106	-0.975
9) How much can you do to use a variety of assessment strategies?	7.643	1.367	-0.886	0.375
10) To what extent can you provide an alternative explanation or example when students are confused?	7.444	1.368	-0.507	-1.017
12) How well can you implement alternative strategies in your classroom?	6.815	1.272	0.011	-0.295

Table 3: *In-Service Teachers Descriptive Statistics*

Question	Mean	SD	Skewness	Kurtosis
Classroom Management	**5.538**	**0.724**	**-0.177**	**-0.115**
1) How much can you do to control disruptive behavior in the classroom?	7.615	.941	-0.05	-.787
6) How much can you do to get children to follow classroom rules?	7.320	1.215	-0.223	-0.683
7) How much can you do to calm a student who is disruptive or noisy?	7.320	1.345	-0.754	0.292
8) How well can you establish a classroom management system with each group of students?	8.160	0.688	-0.216	-0.731
Student Engagement	**7.567**	**0.856**	**-0.125**	**-0.504**
2) How much can you do to motivate students who show low interest in schoolwork?	7.615	0.941	-0.050	-0.787
3) How much can you do to get students to believe they can do well in schoolwork?	7.560	1.044	-0.411	0.075
4) How much can you do to help your students value learning?	7.346	1.384	-0.585	0.011
11) How much can you assist families in helping their children do well in school?	7.160	1.281	-0.194	-0.953
Instructional Strategies	**7.462**	**0.994**	**-0.332**	**-0.381**
5) To what extent can you craft good questions for your students?	7.320	1.215	-0.223	-0.683
9) How much can you do to use a variety of assessment strategies?	7.480	1.503	-1.238	1.804

10) To what extent can you provide an alternative explanation or example when students are confused?	7.880	1.013	-0.526	0.155
12) How well can you implement alternative strategies in your classroom?	7.615	1.169	-0.790	-0.295

Inferential Statistics

With an alpha value of 0.05, no significant differences were found when comparing the ratings of PSTs (n = 28) and ISTs (n = 26) for each category (classroom management, student engagement, and instructional strategies), and no significant difference was found for the overall average self-efficacy rating. In comparing the entire sample (N = 54), no significant differences were detected when average self-efficacy ratings for each category were compared by gender, subject, grade band (elementary, middle, high), setting (rural, suburban, urban), or prior experience. However, when comparing the overall average for self-efficacy in a one-way ANOVA, a significant difference was found between the 18-22 age group (n = 20, M = 6.81, SD = 1.03) and the > 30 age group (n = 24, M = 7.56, SD = 0.81), $F(2, 51) = 3.77$, p = .030. Finally, although there was no significant difference in the overall average for PST self-efficacy based on the number of field experiences, there was a significant difference in IST self-efficacy overall average for their years of classroom teaching experience. Teachers with 16+ years of experience (n = 18, M = 8.53, SD = 0.53) rated their self-efficacy significantly higher than those with one to five years of classroom experience (n = 5, M = 7.08, SD = 0.85), $F(2, 23) = 3.587$, p = 044.

Qualitative Results

Nearly two-thirds of all codes occurred within the parent categories of *experiences* and *students*. These areas proved to be the most significant because of increases and decreases in IS and PS teaching efficacy. Both context and mentorship also played a role in teacher efficacy, but were not highlighted nearly as frequently as significant causes of influence. The following highlights the most common insights from both PS and IS teachers alike (see Table 7).

Table 7: *Number of Mentions by Parent Category*

	PS Positive	IS Positive	Total Positive	PS Negative	IS Negative	Total Negative
Experiences	16	21	*37*	20	15	*35*
Students	14	25	*39*	13	13	*26*
Context	10	13	*23*	8	16	*24*
Mentorship	6	15	*21*	11	13	*24*
	46	**74**	**120**	**52**	**57**	**109**

Experiences

Both IS and PS teachers found positive and negative teaching experiences impacted their self-efficacy as teachers the most (see Table 8). Most participants mentioned one or more specific experiences that affected their efficacy as teachers. A veteran teacher pointed out:

> In my career, I have taught a diverse array of students with the mildest to profound disabilities. These experiences have affected my self-efficacy in the way of knowing that I can handle any and all situations, whether they are negative or positive, in a constructive manner.

Preservice teachers more often pointed to positive classroom experiences, but were vague in their descriptions, frequently saying things like, "I had a great classroom experience that helped me grow." However, they were more detailed in their description of the negative experiences they had teaching:

> Some days, regardless of the lesson, one of my classes would not respond or participate in any way. It was like pulling teeth. I tried to be excited and oppose their energy, but nothing seemed to work.

ISTs and PSTs were significantly impacted by their time in the classroom working with students and experiencing the inevitable ebbs and flows of teaching and learning. Positive and negative experiences significantly influenced both PS and IS teachers, but the positives seemingly outweigh the negatives.

Both PS and IS teachers focused on their classroom management skills. One PST found "Being able to take control of the classroom for a whole class period. Getting that experience of being in control helps [me]." ISTs had very specific teaching experiences they shared that molded their perceptions of their teaching craft:

> Over the years, I have had many students with behavior plans. I work with these students to overcome their impulsiveness and teach them positive ways to handle different situations. I incorporate modeling self-help skills in my classroom along with a social-emotional lesson each day.

Teaching experiences were not all positive; "Lessons I taught [that] went poorly" negatively affected one PST's self-efficacy. They often pointed to negative student behavior as the culprit of their decreased efficacy. IST shared that the "difficult students" challenged their efficacy and created doubt in them.

Classroom experiences were the most referred to mechanism for both improving and lowering PST and IST efficacy. This indicates that the time spent in the classroom is vitally important for shaping their perceptions of being successful teachers.

Table 8: *Number of Mentions by Sub-Codes for Experiences*

	PS Positive	**IS Positive**	**Total Positive**	**PS Negative**	**IS Negative**	**Total Negative**
Experiences: Teaching	12	8	*20*	5	2	*7*
Experiences: Self	2	4	*6*	8	8	*16*
Experiences: Reflection	0	3	*3*	4	2	*6*

Experiences: Learning (PD)	1	6	*7*	1	0	*1*
Experiences: Setting	0	0	*0*	1	3	*4*
Experiences: Planning	1	0	*1*	1	0	*1*
	16	**21**	***36***	**20**	**15**	***35***

Students

Students and their teaching efficacy were the second most significant variable for both IS and PS teachers (see Table 9). Both PS and IS teachers focused more on the positive interactions than the negative ones with students, especially surrounding their s*tudents' accomplishments.* About one-third of all participants shared experiences with students like this: "Seeing a student finally get something has helped my self-efficacy." One PST pointed to the incremental growth of first working with students one-on-one and how that built her confidence to help all students succeed in her classroom:

> When I succeed[ed] at helping students individually, I gain[ed] confidence to help my students as a whole class or a large group. This allow[ed] me to see that I [was] helping my students succeed, which is the whole point of my job as a teacher.

Feelings of making a difference and seeing student growth were paramount to positive teacher efficacy.

Student behavior had the most significant negative effect on everyone's self-efficacy: "I … struggle when a student's behavior does not seem to be improving, even after multiple interventions." Both PS and IS teachers alike discussed failed efforts at student behavior remediation. Others pointed to students not listening and refusals to work as particularly problematic to their teaching efficacy. Unfortunately, a common refrain was, "Dealing with challenging student behavior, low motivation, or academic difficulties can sometimes undermine my self-efficacy." This demonstrates that working with difficult students can challenge a teacher and weaken their beliefs in their abilities to be successful educators. Primarily, ISTs felt student behaviors strongly impacted their positive self-efficacy, pointing to student engagement and positive reactions to their lessons when placed in well-structured and disciplined classroom settings.

Table 9: *Number of Mentions by Sub-Codes for Students*

	PS Positive	**IS Positive**	**Total Positive**	**PS Negative**	**IS Negative**	**Total Negative**
Students: Relationships	3	6	*9*	3	0	*3*
Students: Accomplishments	7	9	*16*	1	2	*3*
Students: Behaviors	2	7	*9*	9	11	*20*

Students: Feedback	2	3	*5*	0	0	*0*
	14	**25**	***39***	**13**	**13**	***26***

Context & Mentorship

The context or schools within both IS and PS teachers taught were less likely to matter, but they certainly did play a minor role for many (see Table 10). ISTs found that the context within which they worked mattered more significantly than PSTs did. Teachers focused primarily on negative school culture and climate, perpetuated according to them predominantly by their building administration and colleagues. "My administrator would not listen to his teacher's concerns and would retaliate against his teachers. Therefore, I felt that my voice would not be heard, and I wasn't given an opportunity to offer suggestions for any given situation." Teachers pointed to COVID's impact on the school environment, as well as a lack of parental support, poor administration, and, most commonly, colleagues who were vocal about their dissatisfaction in various ways.

However, ISTs felt positive administrative interactions, especially surrounding teacher evaluation, helped build their teacher efficacy:

> A supportive and understanding principal. When the principal shows trust in my decisions and values my opinions, I feel like a stronger teacher. Also, when I can work with other teachers who challenge me to go out of my comfort zone and push me to be a better teacher rather than becoming complacent.

Both engaging with administration and teacher colleagues built IS teachers' efficacy.

According to participants, negative relationships with teacher colleagues for inservice teachers and cooperating teachers for preservice teachers harmed efficacy; however, positive relationships with colleagues could counterbalance the negative relationships with colleagues for inservice teachers. This counterbalance does not appear to happen for pre-service teachers with their cooperating teachers (see Table 11). Most commonly, they pointed to a lack of support or general negativity among faculty as diminishing their efficacy. "Being around negative people who have made me question my approach to certain tasks" harmed one teacher's efficacy. For preservice teachers, the most common complaints focused on cooperating teachers having a different teaching style or classroom management strategy than they would, making it difficult to step in and teach students who were used to a very different classroom dynamic.

There were fewer positive comments surrounding climate and culture, along with colleagues and administration, but there were a few, such as "Having a strong, supportive leader helped me to grow in my abilities to differentiate instruction and to analyze test performance data." This teacher grew as an educator with the support of their school leaders. Others leaned into their colleagues for support, "team teachers, and others in my school that have helped me to become a better teacher." Individually, teachers saw their development as teachers in conjunction with positive relationships with faculty. Generally speaking, teachers noticed the positive impact of the school culture on themselves:

> The supportive school culture that I am a part of values and supports all teachers and staff, which impacts my self-efficacy.

Although both categories of context and mentorship had fewer mentions than the other two categories, comments from both IST and PST showed that perceptions of context and mentorship developed from observations and experiences that left lasting impressions on these teachers.

Table 10: *Number of Mentions by Sub-Codes for Context*

	PS Positive	**IS Positive**	**Total Positive**	**PS Negative**	**IS Negative**	**Total Negative**
Context: Setting	7	5	*12*	3	3	*6*
Context: Culture/Climate	1	3	*4*	3	8	*11*
Context: Parents	2	1	*3*	2	3	*5*
Context: Parent Feedback	0	2	*2*	0	2	*2*
Context: Parent Relationships	0	2	*2*	0	0	*0*
	10	**13**	***23***	**8**	**16**	***24***

Table 11: *Number of Mentions by Sub-Codes for Mentorship*

	PS Positive	**IS Positive**	**Total Positive**	**PS Negative**	**IS Negative**	**Total Negative**
Mentorship: Colleagues	1	7	*8*	1	7	*8*
Mentorship: Administration	0	8	*8*	1	6	*7*
Mentorship: Cooperating Teachers	1	0	*1*	7	0	*7*
Mentorship: Professors	2	0	*2*	1	0	*1*
Mentorship: Supervisors	2	0	*2*	1	0	*1*
	6	**15**	***22***	**11**	**13**	***24***

Discussion

The researchers were interested in understanding at a university level how well we prepared PS and IS teachers in our undergraduate and graduate programs for their lives in the education profession. Our focus has been on finding ways to ensure the PS and IS teachers we serve develop and maintain healthy levels of self-efficacy that will keep them in the classroom and teaching profession longer. We wanted to examine the quality and effectiveness of our programs so our students could benefit and develop into successful practitioners who persist in the teaching profession despite its current challenges.

The qualitative data suggests that PS and IS teachers grow and can improve their teaching efficacy through positive and productive experiences with students in the classroom. Increasing

the quality and quantity of time PSTs spend in excellent classroom spaces could ensure PSTs gain those much-needed experiences necessary to improve their efficacy levels. The data also suggests that teacher preparation programs should work diligently to prevent students from observing and practicing their craft in classrooms with poor classroom management. Avoiding schools with negative cultural climates could prevent harming students' self-efficacy. Negative schools and classrooms detract from self-efficacy, and universities should be conscious of the placements they put PSTs in to observe and practice teaching. Clinical experience, as past research finds, is a critical element in ensuring students feel prepared to enter the classroom and be successful (Darling-Hammond, 2014).

PSTs and ISTs alike struggled with poor student behavior and found it negatively affected their efficacy. This could indicate that guidance in classroom management, explicit instruction, and support surrounding positive behavior management could positively influence teachers and their efficacy (Tschannen-Moran & Woolfolk-Hoy, 2002). PSTs and ISTs reported that insufficient tools to manage student behaviors decreased their efficacy. Universities could provide better instruction and a myriad of techniques to help teachers and pre-teachers have options as they work in classrooms with various students and in various contexts (Tsouloupa et al., 2014). Other research has already suggested that teacher preparation could better prepare future teachers to manage classroom behaviors (Flower et al., 2017).

IST's relationships with administrators, evaluators, and colleagues played a role in teaching efficacy. Past research has already suggested that personal and school culture play a role in teachers' efficacy in managing student behaviors (Tsouloupas et al., 2014). Teachers focused primarily on two factors: 1) how data is used to improve practice as opposed to data being used as a punitive measure, and 2) the school's climate and how administrators and their colleagues influenced the school's culture positively or negatively. Teachers felt blamed and critiqued in their current climate. The data suggests that teachers' relationships with the administration and the school climate are critical to keeping teachers in the profession and engaged in continuous improvement. IST felt that positive coaching from administration and peers was a vital growth point for themselves. Teacher burnout has seen an uptick (Zamarro et al., 2022), and work at the university level could potentially combat this recent development. Discussing school climate more explicitly and its impact on teachers and school communities has the potential to build consciousness around the importance of the cultural climate of schools. Particularly in principal preparation programs, a discussion on school climate could impact how future leaders work with teachers to foster positive school cultures that entice teachers to stay in the profession longer and in those schools. Crafting detailed and positive experiences around evaluation and descriptive feedback could also positively influence PSTs as ISTs, which could affect their perceptions of their teaching craft as they enter the classroom (Tschannen-Moran & Woolfolk-Hoy, 2007).

Limitations

A few factors serve as limitations for this study. The study was limited by the number of preservice teachers who chose to participate. Only three students in Field III completed the survey, which limited the power of the data for that demographic. In addition, the study only included ISTs enrolled in one educational research course for the summer. These students attended the same university in a relatively rural part of Illinois. While it might not be transferable to other contexts, it does shed light on the often neglected rural school setting.

Because self-efficacy perceptions change, another limitation is the timing of the survey completion. Participants completed their ratings at the end of the spring term and the beginning of the summer term. Therefore, their ratings may have been different if the survey had been completed at a different time of year. Thus, interpretation of these findings should take into account these limiting factors.

Although Duffin et al. (2012) found that preservice teachers who were at the beginning stage of teacher development lacked sufficient pedagogical knowledge and experience to differentiate between the three categories measured by TSES, we hoped that using the short form of TSES with students who were in their field experience would shed light on their knowledge pertaining to the three categories of classroom management, instructional strategies, and student engagement. However, the factor analysis did not align with the 3-factor structure in this data set. Therefore, the use of the short form of TSES was a limitation.

Recommendations for Further Research

The quantitative data yielded very little difference between IS and PS teachers. One hypothesis for this lack of variation between IS and PS teachers is that, generally, the effects of COVID and surrounding negativity about schools post-pandemic weakened veteran teachers' efficacy to be more aligned with preservice confidence levels. Exploring past teacher efficacy in relation to their current self-efficacy would indicate if general teacher efficacy is waxing or waning overall. An alternative hypothesis is that incoming teachers overestimate teaching efficacy because of the Dunning-Kruger effect (Kruger & Dunning, 1999). They just have so little experience in the classroom that they are unaware of what they do not know, which positively influences their self-efficacy in teaching. In contrast, ISTs know and have experienced more, so they know that they might not be able to control all circumstances.

An additional recommendation would be to consider whether and how PSTs' and ISTs' measures of growth mindset compare to self-efficacy ratings. If the Dunning-Kruger effect is observed, it would be helpful to explore whether data regarding PSTs' growth mindset could reveal more about the students' willingness to learn when encountering challenging situations. It could also be beneficial to have growth mindset data for ISTs and investigate whether particular factors or situations trigger a growth or fixed mindset in practicing teachers.

Due to the PST's numerous references to cooperating teachers, another recommendation would be to explore the self-efficacy of cooperating teachers and further investigate PST's perceptions of the influence on their self-efficacy. Researchers in other settings have found that the mentorship relationship between cooperating teachers and PSTs can have a lasting impression on developing teachers and their teaching approaches (Jita & Munje, 2022). According to O'Gallchoir et al. (2019), the PSTs in their study compared themselves and their practices to those of their cooperating teachers, classifying these practices as "good" or "bad" in these comparisons. Therefore, exploring this dynamic merits further attention to guide local decision-making regarding PSTs' placement with cooperating teachers near this setting.

Finally, we recommend a follow-up investigation that tracks students' self-efficacy ratings over time. Such a study could collect data pre- and post-ratings for each field experience (I, II, III), pre- and post-ratings for student teaching, and then again after one year of teaching. If participants reflect on the changes in their ratings over time, such longitudinal data could provide greater insights into circumstances that PST and IST perceive as contributing to and detracting from their self-efficacy.

Recommendations for Practice

As teacher educators, we also see the benefit of translating research into practice. Hoy's (2022) recent work on teacher efficacy focuses on ways universities might develop and support efficacy with both PS and IS teachers in their programs. We suggest fostering connections with cooperating school districts where PSTs will be placed for Fields I, II, III, and student teaching to serve multiple purposes. ISTs may benefit from more explicit guidance on supporting their mentee PSTs in the varied stages of engagement (Moulding et al., 2014). Such relationships may support ISTs in developing a clearer understanding of the potential impact they can have on PST practices and self-efficacy. With a worldwide shortage of teachers, fostering relationships between PSTs and ISTs may help school systems attract more potential teachers.

Universities should also work in concert with area schools to ensure PSTs gain positive classroom experiences that will positively impact their overall teaching efficacy as they try out their new roles as educators. Both schools and universities must avoid placing students in classrooms with poor classroom management and extensive discipline problems. These harm future teachers' self-efficacy and can prevent them from becoming educators. Seeing functional classroom management has a far more powerful influence on teachers' beliefs and should be the gold standard to work toward in field experiences. We know clinical experiences are a vital part of helping future teachers feel prepared to face the realities of the classroom (Darling-Hammond, 2014). This research suggests that prioritizing positive classroom experiences with successful educators is essential to positively impacting PSTs' self-efficacy.

In addition, administrator preparation programs can also benefit from examining practices regarding guidance for mentoring new and experienced teachers in effectively using data for instructional and long-term planning initiatives (Kraft & Gilmour, 2016; Mireles-Rios & Becchio, 2018). This research points out that ISTs gain a lot from positive and constructive interactions with building administration. This collaboration can promote teacher efficacy and positively influence teacher retention if done well. Fostering the administrators' mentorship skills to focus on constructive feedback in non-punitive ways can support teacher efficacy and build positive relationships between administrators and teachers. It could also, in turn, produce a favorable school climate. Thus, such positive relationships may encourage educators to stay in the profession during more challenging times.

Conclusion

This study has a significant relationship between PST and IST general teacher efficacy and several factors: classroom experiences, student relationships and behaviors, school context/climate, and the mentorship they receive. This data and these findings are used in a continuous improvement cycle to improve teacher preparation programs. It further supports and validates the Teacher Self-Efficacy Scale (Tschannen-Moran & Woolfolk-Hoy, 2001). It has allowed us to evaluate our teacher preparation and graduate programs and identify ways in which we might improve PST and IST efficacy through positive field experiences and support in building relationships with administrators, colleagues, and students.

Schools today need confident and competent teachers who are prepared to meet the unique demands of our current climate. It is incumbent on teacher preparation programs to offer quality programs that continuously evaluate and improve their instructional model to meet those new demands. It confirms that the quality and quantity of time PS and IS teachers spend in the classroom

matter (Hoy, 2022). It suggests a more focused effort to address student behaviors and what mentorship looks like to improve teacher efficacy.

References

Akcaoglu, M., & Akcaoglu, M. O. (2022). Understanding the relationship among self-efficacy, utility value, and the community of inquiry framework in preservice teacher education. *International Review of Research in Open and Distributed Learning*, *23*(2), 86-106. https://doi.org/10.19173/irrodl.v23i1.5717

Bacher-Hicks, A., Chi, O. L., & Orellana, A. (2023). Two years later: How COVID-19 has shaped the teacher workforce. *Educational Researcher, 52*(4), 219-229. https://doi.org/10.3102/0013189X231153659

Bandura, A. (1977a). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall. https://doi.org/10.1177/105960117700200317

Bandura, A. (1977b). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. https://doi.org/10.1037/0033-295X.84.2.191

Bradbury, B. L. (2021). *The nexus of teaching and demographics: Context and connections from colonial times to today.* Lexington Books.

Brown, C. G. (2012). A systematic review of the relationship between self-efficacy and burnout in teachers. *Educational and Child Psychology*, *29*(4), 47-63. https://doi.org/10.53841/bpsecp.2012.29.4.47

Cameron, D. L. (2017). Teacher preparation for inclusion in Norway: A study of beliefs, skills, and intended practices. *International Journal of Inclusive Education, 21*(10), 1028–1044. https://doi.org/10.1080/13603116.2017.1326177

Charmaz, K. (2014). *Constructing Grounded Theory.* Sage.

Corbin, J. M., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology, 13*(1), 3-21. https://doi.org/10.1007/BF00988593

Darling-Hammond, L. (2014). Strengthening clinical preparation: The holy grail of teacher education. *Peabody Journal of Education, 89*(4), 547–561. https://doi.org/10.1080/0161956X.2014.939009

Dorel, T.G., Kearney, W.S., Garza, E. (2016) Ready from day one? The relationship between length of preservice teacher field residency and teacher efficacy. *Critical Questions in Education, 7*(1), 38-52. https://academyforeducationalstudies.org/wp-content/uploads/2016/01/dorel_kearney_garza-final-7_1.pdf

Duffin, L. C., French, B. F. & Patrick, H. (2012). The Teachers' Sense of Efficacy Scale: Confirming the factor structure with beginning pre-service teachers. *Teaching and Teacher Education*, *28*(6), 827-834. https://doi.org/10.1016/j.tate.2012.03.004

Flower, A., McKenna, J. W., & Haring, C. D. (2017). Behavior and classroom management: Are teacher preparation programs really preparing our teachers? *Preventing School Failure. 62*(2), 163-169. https://doi.org/10.1080/1045988X.2016.1231109

Gushue, G. V., & Whitson, M. L. (2006). The relationship among support, ethnic identity, career decision self-efficacy, and outcome expectations in African American high school students. *Journal of Career Development, 33*(2), 112-124. https://doi.org/10.1177/0894845306293416

Hamilton, V. M., & Reeves, T. D. (2022). Relationships between course taking and teacher self-efficacy and anxiety for data-driven decision making. *The Teacher Educator, 57*(2), 136-154. https://doi.org/10.1080/08878730.2021.1965682

Heneman, H. G., III, Kimball, S., & Milanowski, A. (2006, October). The teacher sense of efficacy scale: Validation evidence and behavioral prediction (WCER Working Paper No. 2006- 7). Madison: University of Wisconsin–Madison, Wisconsin Center for Education Research. Retrieved from http://www.wcer.wisc.edu/publications/workingPapers/papers.php

Hoy, A. W. (2022). *Gaining efficacy with experience: From teacher education to classroom practice.* Routledge. https://doi.org/10.4324/9781138609877-REE19-1

Hoy, A. W., Hoy, W. K., & Davis, H. A. (2009). Teachers' self-efficacy beliefs. In K. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 627–653). New York: Routledge.

Husser, W. J., & Bailey, T. M. (2016). Projections of education statistics to 2023 (NCES 2015-073). United States Department of Education, National Center for Education Statistics. https://nces.ed.gov/pubs2015/2015073.pdf

Jita, T. & Munje, P. N. (2022). Preservice teachers' mentorship experiences during teaching practice in a South African teacher preparation program. *International Journal of Higher Education 11*(1), 140-150. https://files.eric.ed.gov/fulltext/EJ1340582.pdf

Klassen, R. M., Bong, M. Usher, E. L., Chong, W. H., Huan, V. S., Wong, I. Y. F., & Georgiou, T. (2009). Exploring the validity of a teachers' self-efficacy scale in five countries. *Contemporary Educational Psychology 34*(1), 67-76. https://doi.org/10.1016/j.cedpsych.2008.08.001

Kraft, M. A., & Gilmour, A. F. (2016). Can principals promote teacher development as evaluators? A case study of principals' views and experiences. *Educational Administration Quarterly, 52*(5), 711-753. https://doi.org/10.1177/0013161X16653445

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology, 77*(6), 1121. https://doi.org/10.1037/0022-3514.77.6.1121

Kunter, M., Klusmann, U., Baumert, J., Richter, D., Voss, T., & Hachfeld, A. (2013). Professional competence of teachers: Effects on instructional quality and student development. *Journal of Educational Psychology, 105*(3), 805–820. https://doi.org/10.1037/a0032583

Mireles-Rios, R., & Becchio, J. A. (2018). The evaluation process, administrator feedback, and teacher self-efficacy. *Journal of School Leadership, 28*(4), 462–487. http://doi.org/10.1177/105268461802800402

Moulding, L. R., Stewart, P. W., & Dunmeyer, M. L. (2014). Preservice teachers' sense of efficacy: Relationship to academic ability, student teaching placement characteristics, and mentor support. *Teaching and Teacher Education, 41,* 60-66. https://doi.org/10.1016/j.tate.2014.03.007

O'Gallchoir, C., O'Flaherty, J., & Hinchion, C. (2019). My cooperating teacher and I: How preservice teachers story mentorship during school placement. *Journal of Education for Teaching 45*(4), 373-388. https://doi.org/10.1080/02607476.2019.1639258

Pressley, T. (2021). Returning to teaching during COVID-19: An empirical study on elementary teachers' self-efficacy. *Psychology in the Schools, 58*(8), 1611-1623. https://doi.org/10.1002/pits.22528

Shore, J. R. (2004). Teacher education and multiple intelligences: A case study of multiple intelligences and teacher efficacy in two teacher preparation courses. *Teachers College Record, 106*(1), 112-139. https://doi.org/10.1111/j.1467-9620.2004.00323.x

Tiwari, A., Das, A. K., & Sharma, M. (2015). Inclusive education a "rhetoric" or "reality"? Teachers' perspectives and beliefs. *Teaching and Teacher Education, 52*, 128–136. https://doi.org/10.1016/j.tate.2015.09.002

Tschannen-Moran, M., & Woolfolk-Hoy, A. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805. https://doi.org/10.1016/S0742-051X(01)00036-1

Tschannen-Moran, M., & Woolfolk-Hoy, A. (2002). The influence of resources and support on teachers' efficacy beliefs. Paper presented at the Annual Meeting of the American Educational Research Association.

Tschannen-Moran, M., & Woolfolk-Hoy, A. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 23*, 944 – 956. https://doi.org/10.1016/j.tate.2006.05.003

Tsouloupas, C. N., Carson, R. L., & Matthews, R. A. (2014). Personal and school cultural factors associated with the perceptions of teachers' efficacy in handling student misbehavior. *Psychology in the Schools, 51*(2), 164-180. http://dx.doi.org/10.1002/pits.21739

Woolfolk-Hoy, A., Hoy, W., & Davis, H. (2009). Teachers' self-efficacy beliefs. In K. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp. 627–653). New York: Routledge.

Zamarro, G., Camp, A., Fuchsman, D., & McGee, J. B. (2022). Understanding how COVID-19 has changed teachers' chances of remaining in the classroom. Sinquefield Center for Applied Economic Research Working Paper, 22-01, Available at SSRN: https://ssrn.com/abstract=4047354 or http://dx.doi.org/10.2139/ssrn.4047354

Katie Alford is the Director of Teacher Education and Associate Professor of Education at McKendree University. She holds her PhD. From Arizona State University in English Education. After 20+ years of teaching, she has extensive experience at both the 9-12 and college level in both English and teacher preparation.

Jennie Winters is a Lecturer for the School of Education at McKendree University. She earned her PhD. At Walden University, specializing in Assessment, Evaluation, and Accountability. With 26 years of experience in the field of education, she has taught every level of learner from Kindergarten through Doctoral students. Jennie served as a teacher, administrator, and professional development provider in the Pre-K to 12th grade setting before transitioning to higher education, where she teaches in both the teacher preparation and doctoral programs.