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## Pre-service and Novice Teacher Self-Efficacy: A Tool to Understand and Further Develop Confidence for Impacting Change

### Abstract

Teacher efficacy measures a teacher's perception of his or her capacity as a teacher and impacts teacher behavior in a number of different ways. This study examined teacher efficacy as well as pedagogical beliefs/practices in pre-service and novice in-service teachers to determine the nature of the relationship between the two. Results indicated that the novice in-service teachers demonstrated statistically significant higher scores on the efficacy measure. In regards to the relationship between pedagogy and efficacy, there was no statistically significant relation among the pre-service teachers but with the novice in-service teachers, efficacy was statistically significantly correlated with general instructional pedagogy.

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# **Pre-service and Novice Teacher Self-Efficacy: A Tool to Understand and Further Develop Confidence for Impacting Change**

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## **Abstract**

Teacher efficacy measures a teacher's perception of his or her capacity as a teacher and impacts teacher behavior in a number of different ways. This study examined teacher efficacy as well as pedagogical beliefs/practices in pre-service and novice in-service teachers to determine the nature of the relationship between the two. Results indicated that the novice in-service teachers demonstrated statistically significant higher scores on the efficacy measure. In regards to the relationship between pedagogy and efficacy, there was no statistically significant relation among the pre-service teachers but with the novice in-service teachers, efficacy was statistically significantly correlated with general instructional pedagogy.

## **Pre-service and Novice Teacher Self-Efficacy: A Tool to Understand and Further Develop Confidence for Impacting Change**

In the current climate of educational accountability, the inequitable distribution of teachers and the "failure" of teacher education programs have become focal points in the discussion of how to provide a quality education to all students (Duncan, 2009). One factor that has emerged as being important to consider in new teachers is self efficacy.

## **Teacher Efficacy**

Teacher efficacy, a concept common in educational psychology literature, measures a teacher's perception of his or her capacity as a teacher (Tschannen-Moran, Hoy & Hoy, 1998). Teacher efficacy impacts teacher behavior in a number of different ways. For example, Gibson and Dembo (1984), reported that teachers with higher levels of teacher efficacy were less likely to give up on a failing student, more likely to divide students into small groups for instruction, and less likely to criticize incorrect responses.

In his review of the research, Jerald (2007) highlighted some teacher behaviors found to be related to a teacher's sense of efficacy. Teachers with a stronger sense of efficacy: (a) tend to exhibit greater levels of planning and organization, (b) are more open to new ideas and are more willing to experiment with new methods to better meet the needs of students, (c) are more persistent and resilient when things do not go as planned, (d) are less critical of students when they make mistakes, and (e) are less inclined to refer a difficult student to special education.

## **Development of Efficacy**

An important factor in the determination of a teacher's sense of efficacy is experience, or what Bandura (1977), a leader in the development of self-efficacy theory, calls performance accomplishments. In teacher preparation programs, these performance accomplishments could include things such as positive prestudent/student teaching evaluations, noted improved student learning, etc. Hoy and Spero (2005) suggests that "some of the most powerful influences on the development of teacher efficacy are mastery experiences during student teaching and the induction year" (p. 1). Thus, the first years of teaching could be critical to the long-term development of teacher efficacy.

## **Efficacy and Pedagogical Beliefs and Skills**

"Teachers' beliefs in their personal efficacy to motivate and promote learning affect the types of learning environments they create and the level of academic progress their students achieve" (Bandura, 1993, p. 117). Efficacious teachers felt self-empowered to create learning environments that allowed them to motivate and promote student learning. Teachers' sense of teaching efficacy may impact their thoughts, choice of activities, amount of effort exerted, and extent of their persistence (Bandura, 1981). Allinder (1994) report that efficacy is significantly related to instructionally relevant components of innovativeness in teaching, organization and

planning of instruction, and confidence/enthusiasm.

In the current study, teacher efficacy is used as a tool to examine developing and novice teacher qualifications, in order to construct an even richer understanding of how perceived and actual qualifications are distributed (Achinstein, Ogawa & Spiegleman, 2004). The specific research questions addressed were: (a) what is the relationship between reported efficacy and pedagogical practices? and (b) does this vary as a function of stage of teacher development?

## Methodology

### Participants

Students in an initial licensure program, the Master's of Arts in Teaching (MAT) Early Childhood Unified Residency program (ECU-R), were asked to participate. To enter the MAT ECU-R, all of the participants had an earned bachelors degree in a field other than education. During the program, they all work at least half time in a classroom as a paraprofessional or teacher assistant for the first three internships. They work full time in a school during their final internship. The participants were recruited from three cohorts of the MAT ECU-R. Cohort 1 (n=17) graduated and they are currently in their second year of teaching. They completed the surveys during the fall of their second year. Cohort 2 (n=21) just graduated but completed the surveys during their student teaching semester, at the beginning of the semester. Cohort 3, (n=24) is currently still in the program and completed the surveys during their first internship, at the beginning of the semester.

### Measures

The students were asked to complete two measures. To assess teacher efficacy, they were asked to complete the Teacher Efficacy Survey-short Form (Hoy & Woolfolk, 1993). This tool is a 10-item survey. Items are rated on scale of 1-5 (strongly disagree to strongly agree). The items include a number of statements about organizations, people, and teaching. This instrument yields adequate reliability (alphas ranging from .81 to .90).

To assess pedagogical beliefs and skills, the students completed the *Teacher Background Survey* (Lonigan, Phillips, & Menchetti, 2008). This survey has been used in numerous large-scale studies examining teachers' knowledge and beliefs about instruction and pedagogy. Questions on this survey were divided into two categories (1) beliefs, and (b) frequency of use of pedagogical practices. Items on the surveys were examined for conceptual appropriateness and two composite variables were created, (1) instructional pedagogy (e.g., how often do you use small group instruction?), and (b) content-specific pedagogy (e.g., how often do you work

on estimating?).

## Procedure

Each student received an email with a link to the surveys. The surveys were completed online through GoogleDocs at the beginning of the fall semester. As aforementioned, for Cohort 1, this would have been in the fall of their second year of teaching. For Cohort 2, this would have been at the beginning of their student teaching semester and for Cohort 3, it would have been at the beginning of their first internship. Students were not required to complete the surveys or participate in the study.

## Results

For data analysis purposes, Cohort 2 and 3 were combined into a group we called “pre-service.” Those in Cohort 1 we called “in-service.” Table 1 illustrates descriptive statistics for the two groups.

To determine if there were group differences in these scores, analysis of variance (ANOVA) was used. In the area of content-specific pedagogy, results of the ANOVA indicated that there were no statistical differences between in-service and pre-service teachers,  $F(61) = 1.988, p < .16$ . For instructional pedagogy, results of the ANOVA indicated that there were no statistical differences between pre-service and in-service teachers,  $F(61) = 0.224, p < .640$ . Finally, for efficacy, results of the ANOVA indicated there were statistical differences between pre-service and in-service teachers,  $F(61) = 28.17, p < .001$ . Follow up tests indicated that the in-service teachers scored higher on the efficacy scale ( $M = 31.10$ ) than did those in the pre-service group ( $M = 29.92$ ).

To examine the relationship between teacher efficacy and pedagogical beliefs and skills, bivariate correlations were computed. Table 2 provides an overview of the results within the pre-service teacher group. Table 3 provides an overview of the results within the in-service teacher group.

For the pre-service teachers, pedagogical practices were not related to efficacy. For our in-service teachers, general instructional pedagogical practices were statistically related to efficacy.

## Discussion

To summarize, there were differences in efficacy between our new in-service teachers and our pre-service teachers, with in-service teachers scoring higher on the measure of efficacy. In terms of pedagogical beliefs and skills, for those still in a teacher preparation program, there was no statistically significant relationship between pedagogy and efficacy. This was different for those who were in their second year of teaching. For this group, instructional pedagogical practices were statistically related to efficacy.

Bandura (1977, 1997) postulated four sources of efficacy expectations: mastery experiences, physiological and emotional states, vicarious experiences, and social persuasion. Mastery experiences are the most powerful source of efficacy information. Residents in Cohort 1 (i.e., our “in-service” teachers) have had more opportunities to have mastery experiences and those could be contributing to their higher level of efficacy. Attention to the factors that support the development of a strong sense of efficacy among pre-service and novice teachers seems to be worth what effort and care may be involved because, once established, efficacy beliefs of experienced teachers seem resistant to change.

There are a few limitations to this study. First, these students are all part of an alternative licensure pathway. This could mean that they differ, in some fashion, from a traditional undergraduate student going through a traditional teacher preparation program. In addition, another limitation could be that the constructs of pedagogy and efficacy may not be easily measurable with survey items.

Future research can focus on the different experiences “traditional” pre-service teachers have as they transition from being a student to being a teacher and how those experiences impact efficacy. In addition, as Bandura (1977) mentions, efficacy can be developed through vicarious experiences as well. Future research could exam the impact of the cohort model of teacher preparation (where students enter as a group and matriculate through the program as a group) and co-teaching (students partnered with and co-teaching with master teachers) has on novice teachers’ sense of efficacy.

Implications for teacher education that stem from this project include empirical evidence for (a) the need for performance accomplishments during the pre-service years, (b) the potential usefulness of embedding efficacy development into pedagogical courses, and (c) the development of long-term plans to examine how our students continue to develop confidence in the classroom and a belief that they can impact change over the course of their early career development.

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**Table 1***Descriptive Statistics*

Residents	Instructional Pedagogy		Content-Specific Pedagogy		Efficacy	
	M	SD	M	SD	M	SD
Pre-service	16.08	3.09	33.31	4.05	29.92	1.25
In-service	16.95	2.48	32.58	7.0	31.10	3.73

Note. N=45 in pre-service group, N=17 in in-service group.

**Table 2**

## Correlations Between Efficacy and Pedagogy: Pre-service Teachers

Variable	1	2	3
1. Content-specific pedagogy	--		
2. Instructional Pedagogy	-.52	--	
3. Efficacy	-.08	-.08	--

Note. N=45

**Table 3**

## Correlations between Efficacy and Pedagogy: In-service Teachers

Variable	1	2	3
1. Content-specific pedagogy	--		
2. Instructional Pedagogy	.50*	--	
3. Efficacy	.02	.53*	--

Note. N=17, \*=p<.05.