Evaluating Teacher Candidates' Self-Efficacy and Perceptions Prior to Student Teaching

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Introduction and Need for Research

According to Smith et al. (2024), there is a national shortage of over 200 agricultural educators, and in 2023, only 78% of license-eligible teacher candidates entered the classroom. Since student teaching does not greatly influence one's final decision to enter the classroom (Kasperbauer & Roberts, 2007; Roberts et al., 2009), helping teacher candidates build self-efficacy throughout a teacher preparation program is important to helping them recognize their potential to enter the classroom (Harlin et al., 2007; Krysher et al., 2012). While work has been done to examine the self-efficacy of pre-service teachers during student teaching (Edgar et al., 2009; Edgar et al., 2011; Harlin et al., 2007; Krysher et al., 2012; Swan et al., 2011) and into their careers (Burris et al., 2010; Swan et al., 2011), this work was needed because there is limited research examining self-efficacy the semester prior to student teaching. Assessing the levels of self-efficacy prior to student teaching gives teacher educators an opportunity to provide additional opportunities prior to student teaching so teacher candidates feel more prepared. The purpose of this pilot study was to assess teacher candidates' beliefs and perceptions about teaching prior to student teaching. Objectives were: 1) to measure teacher candidates' sense of efficacy prior to student teaching related to student engagement, instructional strategies, and classroom management, and 2) examine the relationship between a teacher candidate's desire to teach and their sense of efficacy.

Theoretical Framework

Bandura's (1977) self-efficacy theory indicates self-efficacy is one's own belief in their ability to succeed in a task. This study examined teacher candidates' self-efficacy related to engagement, instructional strategies, and classroom management (Tschannen-Moran & Woolfolk, 2001). Self-efficacy is built through: 1) *performance outcomes*, attributed to prior achievements within a competency, 2) *vicarious experiences*, through watching others perform a competency, 3) *verbal persuasion*, or encouragement from others related to a competency, and 4) *physiological feedback*, which is gleaned from feelings received in performing a competency (Bandura, 1977). Through engaging in a cohort model before student teaching and completing performance-based coursework, including simulated microteaching exercises and field experiences, teacher candidates built self-efficacy through instructor, peer, and field experience site supervisors' feedback (performance outcomes and verbal persuasion) and watching one another develop these skills and strategies (vicarious experiences and physiological feedback) (Bandura, 1977).

Methods

An IRB-approved instrument adapted from Tschannen-Moran and Woolfolk (2001) was used for this study. The instrument consisted of three scales: 1) student engagement ($a = 0.87$), 2) instructional strategies ($a = 0.91$), and 3) classroom management ($a = 0.90$), each of which has eight competencies associated with effective teaching. Teacher candidates assessed their perceived ability to demonstrate each competency using a score from 1 (nothing/never) to 9 (a great deal). Nunnally (1978) posits these scales are reliable, as each had strong Cronbach's alpha coefficients, along with an overall coefficient of 0.94, all of which are greater than the advised minimum of 0.70. The instrument was administered to a census of 14 Iowa State University teacher candidates the semester prior to student teaching. All 14 completed the instrument, yielding a 100% response rate. Data collection occurred via Qualtrics; SPSS analysis provided means, standard deviations, and following checks for normality, one-way ANOVAs compared the means of those indicating a desire to teach and those not desiring to teach. All identifiers were removed, and data was reported in aggregate form (Creswell & Creswell, 2018).

Results

Objective 1 sought to measure teacher candidates' sense of efficacy related to prior to student teaching related to student engagement, instructional strategies, and classroom management. Table 1 reveals the teacher candidates' consistently high scores, indicating high levels of confidence relating to student engagement, instructional strategies, and classroom management.

Table 1: *All participants' average scores on each scale (n = 14)*

Scale	μ	σ
Student Engagement	7.11	0.82
Instructional Strategies	7.29	0.79
Classroom Management	7.31	0.88

Note. Scores of 1 (nothing/never) to 9 (a great deal) were used for items in each scale

Objective 2 examined the relationship between one's desire to teach and their scale scores. Table 2 indicates their average scores, along with the p-values from a one-way ANOVA test for each scale. For each scale, there was a statistical difference between those who indicated a desire to teach and those who did not indicate a desire to teach. Further, teachers with no desire to teach had lower average scale scores for each scale compared to those who indicated a desire to teach.

Table 2: *Participants' average scale scores based on current desire to teach (n = 14)*

Scale	*Desire to Teach*		*No Desire to Teach*		*df*	*p*
	μ	σ	μ	σ		
Student Engagement	7.23	0.69	6.81	1.14	13	0.038*
Instructional Strategies	7.46	0.61	6.84	1.12	13	0.009*
Classroom Management	7.51	0.54	6.81	1.42	13	0.015*

**Statistical significance is achieved with* $p \leq 0.05$.

Conclusions and Recommendations

Findings from objective 1 indicate teacher candidates had high levels of self-efficacy prior to student teaching, with the average rating range being between 7.11 and 7.31. However, these high scores may be attributed to their limited day-to-day, long-term classroom experiences and could shift once the realities of student teaching begin (Bandura, 1977). Further, findings from objective 2 indicate teachers who desire to teach have a statistically-significant and higher self-efficacy than those who do not desire to teach. This may be attributed to their prior performance outcomes and verbal persuasion received from feedback received in their coursework and field experiences (Bandura, 1977). Future research using a larger sample size, and also qualitative methods, may assist in uncovering this phenomenon further. Future research should use several years' worth of data to increase the sample size; a small sample size is a limitation. Further, the instrument should be given at the mid- and end-point of student teaching, to see how student teaching influences the scores (Harlin et al., 2007), and to monitor their desire to teach. Interviews can provide additional context as to the engagement, instructional strategies, and classroom management strategies they utilize. For professional practice, teacher educators should provide additional experiences to improve teacher candidates' perceptions and confidence related to engagement, instructional strategies, and classroom management, as these experiences can provide additional sources of building candidates' self-efficacy (Bandura, 1977; Kasperbauer & Roberts, 2007; Roberts et al., 2009). Since there was statistical significance found between candidates' desire or non-desire to teach in each scale, self-efficacy may influence their desire to teach. Self-efficacy can be built through more field experiences (Smalley & Retallick, 2011), innovative approaches (Sheehan & Moore, 2019; Voges et al., 2020), and real-world experiences within the teacher preparation curriculum.

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