Examining Elementary Teachers' Sense of Efficacy in three settings in the Southeast

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This study was conducted to investigate if teachers at urban, rural and suburban elementary schools differ significantly in their sense of self-efficacy. The schools utilized for this research are located in the southeastern United States. Along with being in different geographic areas the schools are also different in their socioeconomic make-up and status. The Teachers' Sense of Efficacy (TSES) created by Tschannen-Moran and Woolfolk Hoy, was utilized. The authors found that, overall, the teachers at the urban elementary school displayed significantly lower scores on the TSES than did the teachers at suburban and rural schools.

Introduction

Many factors are associated with teacher effectiveness. Factors such as training, background, and preparation certainly affect the ability of teachers to reach their students and make a meaningful difference in their education. However, some believe that in order for teachers to be effective in their profession they must believe they are effective. If teachers do not feel as though they are "reaching" their students then this may have a direct impact on their teaching.

Self-Efficacy

Self-efficacy has been widely researched since the concept was pioneered by Albert Bandura as part of his Social Learning Theory in the late 1970's. Bandura posited that self-efficacy is the ability of a person to judge how they will react to a situation and/or the influence they have on the outcome of a situation. There are four primary sources of self-efficacy according to Bandura: "… mastery experiences, vicarious experiences, social persuasion, and

physiological factors" (Putman, 2012, p. 27). In other words, the belief that one possesses the ability to perform their job or tasks with mastery is dependent upon previous experiences, training, and environment.

Considering Bandura's notion of self-efficacy several researchers have examined teachers' sense of self-efficacy. Tschannen-Moran and Woolfolk Hoy developed the *Teacher Self Efficacy Scale (TSES)* (2009), sometimes referred to as the *Ohio State Teacher Efficacy Scales*, for purposes of measuring the level of teacher self-efficacy beliefs. The instrument is available to the general public < http://people.ehe.osu.edu/ahoy/files/2009/02/tses.pdf> and has been validated by other researchers who have utilized it in their research. Heneman, Kimball, and Milanowski (2006) concluded: "Our results, coupled with those of Tschannen-Moran and Hoy (2001), suggest that the *TSES* should be the preferred measure of teachers' sense of efficacy in future research. Its replicable psychometric properties, behavioral richness in capturing the teacher role, and predictive capacity for explaining significant variance in teacher classroom performance all support this conclusion."

A majority of the studies conducted on teacher self-efficacy utilizing the instruments designed by Tschannen-Moran and Woolfolk Hoy focused on differences in the years of experience teachers had spent in the field of education and it was found that this variable is unrelated to teacher efficacy (Tschannen-Moran & Woolfolk Hoy, 2001; Putnam, 2012; Tanriseven, 2012). Many studies also focused on comparing pre-service and classroom teachers and they found that classroom teachers showed a higher level of efficacy in regards to their implementation of new instructional practices (e.g. Wolters and Daugherty, 2007 and Fives and Buehl, 2009).

Holzberger, Philipp, and Kunter (2012) studied the relationship between teachers' self-efficacy and instruction in Germany. They found "... teachers with higher self-efficacy beliefs showed higher instructional quality" (p. 782). A study conducted in Connecticut by McCoach and Colbert (2010) researched collective teacher efficacy in several schools and compared the results with reference to the socio-economic status of the schools in which the teachers were employed. They defined socioeconomic status as the number of students on free/reduced lunch, the number of English Language Learners (ELLs), and the percentage of minority students within a school. While this research focused on collective instead of individual teacher efficacy it did look at schools with different socio-economic demographics. McCoach and Colbert also

factored in the academic achievement of the school with students' success/failure on standardized tests. McCoach and Colbert found that those teachers who collectively identified themselves as "high-ask and high confidence" were more likely to work at schools with a student population from higher socio-economic status (2010, p. 43).

Research

With the research of McCoach and Colbert in mind the authors sought to investigate if the sense of efficacy of teachers in three schools located in the southeastern part of the United States differed based on the location and/or the socioeconomic status of the school in which they were employed. In order to investigate this, the researchers chose to administer the long form of *TSES* to teachers at an urban, a suburban and a rural school. The urban school is located in a major city while the suburban school is located in an adjoining county of the same city. The rural school is located several counties away from the city but within driving distance. These schools were selected for participation in the study because of their affiliation as partner schools with a teacher preparation program at a local university and where the teachers at these schools generally host pre-service teachers from the university. All three of the schools enroll a diverse population of students and serve a significant number of ELLs.

The urban school is located in a southeastern city with a population of approximately 201,200. The 2012 unemployment rate for the city was 10.4% and the per capita income was $20,000 (Dept. of Labor, 2013). At the time of this study the school had an enrollment of 464 students and the demographic composition of 79% African American, 14% Hispanic, 3% White, 2% Asian, and 1% Multiracial. Over 91% of the students were eligible for free or reduced lunch. The percentages of students enrolled in special programs were as follows: Special Education – 7.9%; ESOL – 12.9%; Early Intervention Program (EIP) – 23.3%. The ratio of teachers to administrators was 39:1. The school did not meet Adequate Yearly Progress (AYP) in 2011-2012 and is currently labeled as Needs Improvement (GA DOE, 2013).

The rural school is located in a southeastern county with a population of approximately 28,000. The 2012 Unemployment Rate for the county was 10.2% and the per capita income was $18,200 (Dept. of Labor, 2013). The school had an enrollment of 408 students and the demographic composition was: White – 62%, African American – 19%, Hispanic – 14%, Multiracial – 6%. The percentage of students eligible for free or reduced lunch was 74%. The

percentages of students in special programs at the time of the study were: Special Education – 16.9%; ESOL – 7.1%, EIP – 16.4%. The ratio of teachers to administrators was 11:1. The school did meet AYP in 2011-2012 (GA DOE, 2013).

The suburban school is located in a southeastern suburban county with a population of approximately 124,000. The 2012 Unemployment Rate for the county was 6.8% and per capita income was $29,200 (Dept. of Labor, 2013). The school had an enrollment of 618 and the demographic composition was White – 46%, African American – 25%, Hispanic – 20%, Multiracial – 5%, Asian – 3%. The percentage of students eligible for free or reduced lunch was 64%. The percentages of students in special programs were: Special Education – 8.3%; ESOL – 10.7%; EIP – 9.5%. The ratio of teachers to administrators was 23:1. The school met AYP in 2011-2012 (GA DOE, 2013).

Data and Analysis

The participants in this study were practicing classroom teachers at the three elementary schools described above. A total of 114 practicing teachers were given the *TSES* (long form) in addition to a basic demographic questionnaire. There were a total of 67 teachers who completed both instruments, a response rate of 58.7%. The respondents per school were: urban 20; suburban 21; and rural 26. The teachers were asked how many years experience they had in the classroom and also what grade level they taught (Tables 1 and 2).

Table 1: Years Experience in Classroom

Years experience	Number of Teachers	Percentage
0-3	7	10.4
4-5	8	11.9
6-10	9	13.4
11-20	23	34.3
21-30	16	23.9
31-40	4	6
Total	67	100

Table 2: Grade Level Taught

Grade level	Number of teachers	Percentage
Kindergarten	10	14.9
First	9	13.4
Second	11	16.4
Third	11	16.4
Fourth	5	7.5
Fifth	9	13.4
Connections	12	17.9

The reliability of the scales and responses yielded a Cronbach's Alpha of .923 displaying a high standard of reliability. A one-way between-groups analysis of variance was conducted to explore the impact of location on teacher efficacy as measured by *TSES* (long form). Participants were divided into three groups according to the location of the school (urban, suburban, and rural). Results indicated a statistically significant difference at the $p < .05$ level in *TSES* scores for the three groups: $F(2.64) = 7.7$, $p = .001$. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Urban Teachers ($M = 158.90$, $SD = 16.37$) was significantly lower than the Suburban Teachers ($M = 178.76$, $SD = 18.67$) and the Rural Teachers ($M = 173.07$, $SD = 15.14$).

An analysis was conducted to determine the correlation between the teachers' sense of efficacy and their number of years of experience in the profession. This analysis revealed no significant relationship. Also, no relationship was found between the grade level the teachers taught and the scores of *TSES*. Thus, the only significant difference that could be established was based on the location/socioeconomic factors of the school.

In order to find out where the differences where in teacher's self-efficacy we followed the format set by Tschannen-Moran and Woolfolk Hoy: "To determine the *Efficacy in Student Engagement, Efficacy in Instructional Practices*, and Efficacy *in Classroom Management* subscale scores, we computed the unweighted means of the items that load on each factor" (2001, p. 3). We also computed the unweighted means for the items that are part of each of the three factors. A one-way between-groups analysis of variance was conducted to explore the teachers' *Efficacy in Student Engagement*. For reliability of the responses to the questions that are in this factor and analysis showed a Cronbach's Alpha of .815. There was a significant difference at the $p<.05$ level in *TSES* for questions 6 and 12 with urban teachers having the

lowest mean and showing a significant difference as compared to their counterparts in suburban and rural locations (Table 3).

Table 3: Questions from Scale Composing Efficacy in Student Engagement

Question	Suburban mean N=21	Urban mean N=20	Rural mean N=26	F	p
1. How much can you do to get through to the most difficult students?	6.28	5.95	6.00	.32	.721
2. How much can you do to help your students think critically?	7.00	6.45	7.07	1.34	.268
4. How much can you do to motivate students who show low interest in school work?	6.80	6.05	6.15	2.06	.135
6. How much can you do to get students to believe they can do well in school work?	7.57	6.80	7.65	5.01	.009
9. How much can you do to help your students' value learning?	7.14	6.40	6.76	1.48	.235
12. How much can you do to foster student creativity?	7.19	6.25	6.88	4.21	.019
14. How much can you do to improve the understanding of a student who is failing?	6.95	6.40	6.69	1.0	.348
22. How much can you assist families in helping their children do well in school?	6.90	6.00	6.57	2.1	.121

A one-way between-groups analysis of variance was conducted to explore the teachers' *Efficacy in Instructional Practices* by analyzing the unweighted mean items that load into this factor. For reliability of the responses to the questions that are in this factor an analysis revealed a Cronbach's Alpha of .848. There was a significant difference at the $p<.05$ level in *TSES* for seven questions (10, 11, 17, 18, 20, 23, 24) with urban teachers having significantly lower means than their counterparts in suburban areas (Table 4). There was also a significant difference in the means for two questions (10, 17) with urban teachers scoring significantly lower than suburban and rural teachers (Table 4).

Table 4: Questions from Scale Composing Efficacy in Instructional Strategies

Question	Suburban mean N= 21	Urban mean N= 20	Rural mean N= 26	F	p
7. How well can you respond to difficult questions from your students?	7.71	7.25	7.80	1.09	.341
10. How much can you gauge student comprehension of what you have taught?	8.14	7.00	7.30	7.77	.001
11. To what extent can you craft good questions for your students?	7.90	6.80	7.30	6.42	.003
17. How much can you do to adjust your lessons to the proper level for individual students?	8.04	6.75	7.11	8.14	.001
18. How much can you use a variety of assessment strategies?	7.80	6.60	7.34	5.95	.004
20. To what extent can you provide an alternative explanation or example when students are confused?	8.09	7.15	7.76	4.79	.011
23. How well can you implement alternative strategies in your classroom?	7.80	6.70	7.42	4.84	.011
24. How well can you provide appropriate challenges for very capable students?	7.76	6.80	7.42	3.51	.039

In the group of questions concerning *Efficacy in Classroom Management, a* one-way between-groups analysis of variance was conducted to explore the unweighted means on *TSES* items that load into this factor. For reliability of the responses to the questions that loaded on this factor the analysis revealed a Cronbach's Alpha of .859. There was a significant difference at the $p<.05$ level in the *TSES* for two questions (5, 16) with urban teachers having the lowest mean in comparison to their counterparts in suburban areas (Table 5). Question 13 displayed a significant difference in the means between the rural and urban teachers with rural teachers scoring higher. It is also worth mentioning that the means of the rural teachers was higher than those of suburban teachers for this question although it was not significantly higher (Table 5).

Table 5: Questions from Scale Composing Efficacy in Classroom Management

Question	Suburban mean N=21	Urban mean N=20	Rural mean N=26	F	p
3. How much can you do to control disruptive behavior in the classroom?	6.80	6.20	7.11	2.30	.108
5. To what extent can you make your expectations clear about student behavior?	8.42	7.50	8.15	3.95	.024
8. How well can you establish routines to keep activities running smoothly?	8.14	7.40	8.11	2.97	.058
13. How much can you do to get children to follow classroom rules?	7.52	6.70	7.69	3.69	.030
15. How much can you do to calm a student who is disruptive or noisy?	7.00	6.25	6.69	1.31	.275
16. How well can you establish a classroom management system with each group of students?	7.80	7.00	8.00	5.79	.005
19. How well can you keep a few problem students form ruining an entire lesson?	6.85	6.10	6.76	1.71	.188
21. How well can you respond to defiant students?	7.04	6.40	7.23	.13	2.059

Discussion

Based on an analysis of data, there was a significant difference in the total overall means scores between each type of school, urban and suburban and urban and rural. The significant difference was shown in the lower mean scores of teachers' overall sense of efficacy at urban schools when compared to suburban and rural. Elementary teachers in the urban setting chosen appeared to have a lower overall sense of efficacy than elementary teachers in suburban and rural settings. There were no significant differences in the mean scores of teachers' overall sense of efficacy between the suburban and rural schools.

It is speculated that the significantly lower self-efficacy of the teachers who are employed at the urban school can be attributed to the fact that the urban school did not meet adequately yearly progress during the previous school year. The increased focus on standardized testing and

the resulting test preparation regarding curricular mandates seems to have placed an added urgency on teachers to have students perform well.

Another factor that could be influencing the urban teachers' beliefs concerning their overall sense of efficacy could be related to the fact that at the time of the study, the school was under the leadership of a new administrator. The previous administrator had served the school for a number of years and the transition to a new administrator could be cause for teacher insecurity. An additional issue noted as possibly impacting teacher overall sense of efficacy was the perceived lack of parental support at the school. Teachers at the school indicated that it is difficult to get parents to attend meetings or events at the school. Lack of parental visibility can negatively impact student achievement.

Increased class sizes, loss of paraprofessional support, and Common Core Training have particularly overwhelmed urban elementary teachers in recent years. Also, budget cuts have gradually lowered the adult to child ratios in the classrooms by eliminating paraprofessionals from the first through third grade classrooms as has an increase in class size. While the elimination of paraprofessionals has directly impacted the lower grades, it has indirectly impacted the upper grades where paraprofessionals have been relied upon for clerical assistance. Relative to the increase in class size, urban teacher responsibilities in the remediation process of Response To Intervention have also increased. Finally, top down decisions from the county regarding curricular issues, teacher evaluation, and professional development are speculated as negatively influencing the urban teachers' overall sense of efficacy within the urban school setting.

As noted in the analysis, the questions were separated into three groups (*Efficacy in Student Engagement, Efficacy in Instructional Strategies,* and *Efficacy in Classroom Management)*. This separation allowed us to obtain a better understanding of where the significant differences in the means for each group lie. While there were only two questions that displayed a significant difference in *Efficacy in Student Engagement* the results show that urban teachers have a lower sense of self-efficacy than suburban and rural teachers. Questions pertaining to Efficacy *in Instructional Strategies* displayed significant differences with, once again, urban teachers having a lower mean. At this school, a curriculum was implemented that required the implementation of pre-packaged lessons, Curriculum Maps, Benchmark tests, etc… and teachers were given less authority in their classrooms to create what they believed were

more meaningful and appropriate opportunities for their students. This top-down pressure can cause teachers to lose their voice and the ability to construct lessons they feel their population of students really need.

The area of Classroom Management is of the utmost importance to any teacher. The analysis of the results did display some significant differences between urban and suburban teachers, but none that was more glaring than that between rural and urban teachers. Urban teachers displayed a lowered perception of their ability to get students to follow classroom rules. However, this significant difference and the higher mean of the rural over suburban might be attributed to the fact that the rural school is set in a small farming community where teachers know the parents and there is very little turnover of students in the school. It can be assumed that teachers have an easier time getting students to follow directions simply because everyone knows everyone.

Implications for Future Research

This study was limited in its utilization of three schools. Further study should be conducted to determine if and why teachers in the urban settings experience less of a sense of efficacy than their peers in rural and suburban settings. This can be done by either comparing additional schools of each type in locations other than the one used in this study. Interviewing teachers from each type of school might yield further clarification of factors that influence self-efficacy as well as ways the problem can be alleviated.

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