

THE RELATIONSHIP BETWEEN TEACHERS' COLLECTIVE EFFICACY AND STUDENT ACHIEVEMENT AT ECONOMICALLY DISADVANTAGED MIDDLE SCHOOL CAMPUSES

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ABSTRACT

The purpose of this study was to examine the relationship between the collective efficacy of teachers and student achievement at economically disadvantaged middle school campuses. The population of the study consisted of Texas campuses that served economically disadvantaged students and received a campus rating of Exemplary or Academically Unacceptable for two consecutive years, according to the Texas Education Agency (TEA). The data shows that significant differences exist between the collective efficacy of teachers from Exemplary and Academically Unacceptable campuses. It was also discovered that the Assessment of Teaching Competence (GC) and Analysis of Teaching Task (TA) is higher for teachers from Exemplary campuses versus that of teachers from Academically Unacceptable campuses. The quantitative findings presented in the study provide further knowledge on the relationship between collective efficacy and student achievement. This study has found that the collective efficacy of a campus can influence student achievement at the middle school level.

Keywords: Teacher Efficacy, Collective Efficacy, Student Achievement, Teaching Competence.

INTRODUCTION

Taking an exam and obtaining a teaching certificate in the state of Texas doesn't make someone an effective teacher. Before teachers can be considered effective at their craft, they must possess specific characteristics that are linked to improving student achievement (Darling-Hammond, 1996). Delso (1993) postulated that the characteristics that teachers possess are developed prior to any formal training. He also added that these characteristics may be something that they are born with and that the ineffective characteristics that they possess may be irreversible. Theuer (2003) discovered that exemplary teachers are made through life-long learning, continuous self-renewal, staff development, and staying abreast with best practices and ideas.

Educators understand the powerful influence that teachers have on their students. Stronge (2007) suggested that teachers directly impact every aspect of learning from the subject matter they learn to the amount

of knowledge they obtain in a given year. There is much debate over what constitutes an effective teacher in schools today, but there is consensus on the positive effect the classroom teacher has on the quality of education a student receives. It is up to them to provide students with top notch education (Goldhaber & Anthony, 2003; Sanders & Rivers, 1996).

If opportunities to succeed in life are expected for all students in spite of their race or socioeconomic class, then public schools must address the inequalities that have become a part of today's education system and that are negatively affecting the performance of economically disadvantaged students (Lazaro, 2005). Learning how schools impact the academic success of students is one of the greatest obstacles confronting researchers studying schools today. Some schools are having greater success with student achievement than other schools serving students from similar backgrounds. Depending on their characteristics, some schools are

more effective and more equitable than others. For that reason, it is important that researchers identify the characteristics of schools that are contributing factors to the academic achievement of students.

During his first year in office, President George W. Bush signed the No Child Left Behind Act of 2001 (NCLB, 2003). This legislation resulted in federal accountability measures for the academic achievement of all students. In spite of recent legislation, the gap between Texas middle school campuses that have earned the state's top rating of Exemplary and the lowest rating of Academically Unacceptable has widened. Between 2004 and 2007, the percentage of campuses in the state of Texas earning Exemplary status has risen from 6.6% in 2004 to 7.9% in 2007. On the contrary, during the same span of time, the percentage of Academically Unacceptable campuses has increased from 1.2% in 2004 to 3.6% in 2007 (TEA, 2007). In order to close the academic gap between student subpopulations, teachers in these schools need additional resources to ensure that the students' academic needs are met.

Even with recent educational legislation such as NCLB, the academic achievement of economically disadvantaged students continues to suffer due to the lack of educational opportunities available to them, and they are often negatively affected by the cultural and structural mechanisms that continue to increase the inequalities of educational opportunity (Lazaro, 2005). It is known that students that are economically disadvantaged live in areas that are deprived, which contributes to the challenges of obtaining an education (Hinojosa, 2005). Evidence by researchers (Puma, Karweit, & Price, 1997), found a correlation among the lack of qualified teachers, community poverty, and academic achievement of students. Accountability for student outcomes has been the primary focus of NCLB. Historically, students from economically disadvantaged backgrounds attend low-performing schools which are considered underperforming based on standardized testing (Hinojosa, 2005).

Researchers today have a monumental task trying to identify how schools can influence the academic

success of students. It is known that some schools affect student achievement differently from other schools and that the characteristics of schools can influence the effectiveness of teachers (Goddard, 1998). Therefore, the identification of characteristics that influence the academic achievement of students is essential to building effective schools. Recent studies by Gibson and Dembo (1984), and Woolfolk and Hoy (1990), have discovered that strong correlations exist between teacher efficacy and student achievement. Bandura (1997) determined that the self-efficacy of a teacher is important in shaping the academic achievement of students according to standardized testing. The researcher offered his own definition of self-efficacy as "beliefs in one's capabilities to organize and execute a course of action required to produce a given attainment" (p. 3). If this holds true, the efficacy belief of a teacher becomes an excellent predictor of individual behavior and his or her perceived ability to accomplish the task of teaching students. As a result of its validity in recent years, researchers have extended teacher efficacy to the organizational level to determine an organization's contribution to student achievement.

According to Bandura (1977, 1986, 1997), the key to student success is based on the teachers' collective belief that they can impact student achievement on a campus regardless of the circumstances surrounding the students. The emergence of collective teacher efficacy is based on Bandura's (1977, 1986, 1997) research on social cognitive theory which postulates that behavioral changes of teachers occurs and operates through self-efficacy beliefs. Goddard (1998) offered his own definition of collective efficacy as the average teachers' belief in the faculty's ability and the ability it possesses to positively affect the academic achievement of students. Goddard (1998) postulated that teachers' perceptions influence the school climate and culture which contributes to the different effect schools have on the academic success of students.

This study reviews previous research on self-efficacy, teacher efficacy and collective efficacy, and the role it plays in the academic success of economically

disadvantaged students. In 1993, Bandura introduced the construct of collective efficacy and the positive relationship it shared with the student achievement. He also discovered the power it possessed to counter the inequalities of socioeconomic status on the academic achievement of students. Researchers (Bell, 2001; Etheridge, 2001) have suggested that lessons can be learned from teachers that succeed at increasing the academic achievement of students. Replicating effective practices can help educators to reach students in at-risk situations.

The accountability standards established by federal and state agencies for public schools today continue to increase. Along with the general population, economically disadvantaged students continue to present an even greater challenge for educators and policymakers. Even with the additional funds provided to Title I schools, student achievement continues to be low and far behind that of all students, causing criticism of Title I schools (Hinojosa, 2005). As the standards for the education of students continue to be raised, administrators must continue to provide teachers with the necessary tools to overcome the barriers placed before them in the classroom (Ceyanes, 2004). If student achievement is related to the quality of the teacher, as cited in previous studies, then the leaders of schools must clearly define what constitutes an effective teacher. The first step is to identify teachers that are successful in teaching students in economically disadvantaged schools and replicating the characteristics possessed by these teachers at other campuses (Craig, 2006). The research on collective efficacy is still new and further studies are needed to further develop the construct.

The lack of economically disadvantaged schools that meet the highest campus rating of Exemplary as established by the Texas Education Agency is low in comparison to those that do not serve an economically disadvantaged population. One of the greatest challenges that educators and policymakers face today is the low performance of economically disadvantaged students. Even though some reform for educating economically disadvantaged students has been

implemented with some level of success, a sustainable program with wide-spread success among economically disadvantaged students continues to elude most public schools (Lazaro, 2005). Even with the monetary assistance of the federal government over the last decades, Title I schools are failing to meet the academic need of economically disadvantaged students by providing them the same opportunities for high academic achievement. In spite of all the funding, these failed efforts have given the Title I program a negative image throughout the country (Rees, 1999; Slavin, 2001).

Collective efficacy has shown to be a positive force and contributing factor to student achievement. Unfortunately for middle school students, the level of collective efficacy of their teachers is low when compared to the collective efficacy of elementary campuses (Naumann, 2008). Tschannen-Moran and Hoy (2000) discovered that middle school teachers' confidence levels were low in regards to their ability to manage their classrooms effectively as well as the ability they possessed to provide appropriate instructional strategies.

If the findings from previous studies are true, which state that teacher efficacy affects student achievement more than student demographics, language barriers, or class size (Darling-Hammond, 2000; Sanders & Rivers, 1996), then these characteristics need to be investigated further to determine how they improve student achievement. Researchers have discovered during the past 40 years that the academic achievement of students can be influenced by the teacher's belief in his or her own ability to impact student learning. According to Craig (2006), if the efficacy of a teacher is high, it influences his or her belief about the potential of students. On the contrary, if efficacy is low, it has an adverse affect. In his 2009 study, Donald defined teacher self-efficacy as "teacher's belief in his ability to affect student learning" (p. 40) while Tschannen-Moran and Woolfolk-Hoy (2001) offered their definition of teacher efficacy as "a teacher's judgment of his or her capabilities to bring about desired outcomes of student engagement and learning, even with those students who may be difficult or unmotivated" (p. 783). All the definitions support the fact that efficacy is created by teachers'

individual beliefs in their ability to influence student performance in spite of students' backgrounds, behaviors, or motivational level. Furthermore, the research has implications for assisting administrators in providing support and staff development for teachers, thus enabling faculties to establish and/or strengthen existing collective efficacy. The current study was guided by the following research questions:

- What is the relationship between teachers' collective efficacy and student achievement at economically disadvantaged middle school campuses?
- What is the relationship between teachers' collective Assessment of Teaching Competence (GC) and student achievement at economically disadvantaged middle school campuses?
- What is the relationship between teachers' collective Analysis of Teaching Task (TA) and student achievement at economically disadvantaged middle school campuses?

Methodology

This study utilized quantitative research methods. Group comparison research was conducted to determine the level of relationship between collective teacher efficacy and student achievement in economically disadvantaged middle schools in Texas. Data for the study was collected using the 12-item Likert-scale to measure the level of agreement among a group of participants regarding an attitude item (Gall, Gall, & Borg, 2005). The design of this study was causal comparative in nature. Collective efficacy scores of the participants were the dependent variable, and the academic rating was the independent variable. Comparison of campus means for campuses rated Exemplary or Academically Unacceptable by TEA for the 2008 and 2009 school years were analyzed.

Population

The populations of interest included in this study were all economically disadvantaged middle school campuses in the state of Texas that received an academic rating of either Exemplary or Academically Unacceptable for two consecutive school years. The campuses for this study were chosen because they either excelled in all

subgroups of the TAKS or failed to meet minimal standards in one or more areas.

A total of 88 middle school campuses met the highest accountability standard of Exemplary and a total of 44 middle school campuses met the lowest accountability standard of Academically Unacceptable. Out of the 88 middle school campuses that met Exemplary status for the 2007-2008 school year, only 18 qualified as serving economically disadvantaged students. Of those 18, only 12 were Exemplary for the 2008-2009 school year. Of the 44 middle school campuses that were Academically Unacceptable for the 2007-2008 school year, all met the criterion of serving economically disadvantaged students at their campus. Of those 44 campuses, only six were Academically Unacceptable for the 2008-2009 school year. The researcher drew a random sample of five Exemplary and five Unacceptable campuses from the population of 18 total campuses utilizing SPSS Student version 12. Six of the ten campuses agreed to partake in the study.

Out of the six campuses surveyed, a total of 213 teachers met the requirements to participate in the study. A total of 113 teachers volunteered to complete the Collective Teacher Efficacy (Short Form) which gave the researcher 53.1% participation rate for all campuses. Of those 113 teachers that volunteered to participate, 46 of them were from campuses rated Exemplary while the remaining 67 were from campuses rated Academically Unacceptable.

Results

An exploratory analysis was conducted to determine the relationship between collective teacher efficacy and student achievement. A one-way analysis of variance (one-way ANOVA) was used to analyze the variables in the study. To analyze the collected data, the Statistical Package for the Social Sciences Student Version 12.0 (SPSS) computer statistical software package was used along with a manual for guidance (Green & Salkind, 2005). The data collected from the CES was calculated individually by adding the responses to the 12 survey items. The aggregated scores for all participants of the

study were analyzed to determine if differences existed between the means for teachers' collective efficacy and student achievement. Before the researcher could aggregate the scores for individual teachers, the responses for survey item #3, #4, #8, #9, #11, and #12 were reversed. Once reversed, totals for individual teacher's CES scores were calculated utilizing Microsoft Excel. Campuses were then split up into two different categories according to TEA ratings. Exemplary campuses were assigned a 1, and Academically Unacceptable campuses were assigned a 2.

Table 1 shows the mean score for the 113 Collective Efficacy Scale (CES) surveys which was 49.34 with a standard deviation of 7.85. The median score for all surveys was 49. The minimum score on the survey was 30 with the maximum score of 68 with a range of 38. Exemplary campuses measured by 46 teacher surveys had a mean score of 52.85 with a standard deviation of 6.53 and a median of 53.5. The Academically Unacceptable campuses measured by 67 teacher surveys had a mean score of 46.93 with a standard deviation of 7.81, and a median of 47. This study used the aggregate score of individual teachers on the CES to determine the relationship with student achievement (CampusRating).

Table 2 shows the three survey items from the Exemplary campuses had a median score of six which represents a response of "strongly agree." Four had a median score of five, three had a median score of four, one had a median score of three, and one had a median score of 2.

One survey item from the Academically Unacceptable campuses had a median score of six which represents a response of "strongly agree." Four had a median score of five, three had a median score of four, three had a median score of three, and one had a median score of two.

Independent Variable	Mean	St. Dev.	Median	Min	Max	Range
Exemplary	52.85	6.53	53.5	38	68	30
Academically Unacceptable	46.93	7.81	47	30	64	34
Collective Efficacy Scale	49.34	7.85	49	30	68	38

Table 1. Data for Collective Efficacy Scale

A total of 46 teachers from campuses rated as Exemplary completed the 12-item Collective Efficacy Scale survey. The mean score for survey item #1 was 4.26 with a standard deviation of .95. The Exemplary campuses showed a slight negative skew for survey item #1 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed the 12-item Collective Efficacy Scale survey. The mean score for survey item #1 was 3.67 with a standard deviation of 1.16. Academically Unacceptable campuses showed a normal distribution for survey item #1 on the CES. The results of the test for survey item #1 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #1 was -0.59.

A total of 46 teachers from campuses rated as Exemplary completed survey item #2 on the 12-item Collective Efficacy Scale. The mean score for survey item #2 for the 46 responses was 4.83 with a standard deviation of 1.00. The Exemplary campuses showed a negative skew for item #2 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #2 on the CES. The mean score for survey item #2 for the 67 surveys was 4.18 with a standard deviation of 1.19. Academically Unacceptable campuses showed a slight negative skew for item #2 on the CES. The results of the test

Variable	Sub. Cat.	Exemplary			Acad. Unacceptable			Diff. in Means
		Mean	Median	SD	Mean	Median	SD	
Item #1	GC	4.26	4	0.95	3.67	4	1.16	0.59
Item #2	GC	4.83	5	1.00	4.18	4	1.19	0.65
Item #3	GC	5.37	6	1.04	4.66	5	1.44	0.71
Item #4	GC	5.26	6	1.42	5.24	6	1.12	0.02
Item #5	GC	5.46	6	1.00	4.57	5	1.37	0.89
Item #6	TA	3.78	4	1.07	2.88	3	1.35	0.90
Item #7	TA	2.24	2	1.25	2.36	2	1.41	-0.12
Item #8	TA	4.50	5	1.30	3.34	3	1.32	1.16
Item #9	GC	5.02	5	0.95	4.42	5	1.44	0.60
Item #10	TA	3.13	3	1.61	3.18	3	1.32	-0.05
Item #11	TA	4.96	5	1.30	4.76	5	1.32	0.20
Item #12	TA	4.04	4	1.50	3.67	4	1.46	0.37
CES		52.85	5	6.53	46.93	4	7.81	5.92

Table 2. Data for Individual Survey Items

for survey item #2 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #2 was -0.65.

A total of 46 teachers from campuses rated as Exemplary completed survey item #3 on the 12-item Collective Efficacy Scale. The mean score for survey item #3 for the 46 responses was 5.37 with a standard deviation of 1.04. The Exemplary campuses showed a negative skew for survey item #3 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #3 on the CES. The mean score for survey item #3 for the 67 surveys was 4.66 with a standard deviation of 1.44. Academically Unacceptable campuses showed a negative skew for survey item #3 on the CES. The results of the test for survey item #3 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #3 was -0.71.

A total of 46 teachers from campuses rated as Exemplary completed survey item #4 on the 12-item Collective Efficacy Scale. The mean score for survey item #4 for the 46 responses was 5.26 with a standard deviation of 1.42. The Exemplary campuses showed a negative skew for survey item #4 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #4 on the CES. The mean score for survey item #4 for the 67 surveys was 5.24 with a standard deviation of 1.12. Academically Unacceptable campuses showed a negative skew for survey item #4 on the CES. The results of the test for survey item #4 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #4 was -0.02.

A total of 46 teachers from campuses rated as Exemplary completed survey item #5 on the 12-item Collective Efficacy Scale. The mean score for survey item #5 for the 46 responses was 5.46 with a standard deviation of 1.01.

Exemplary campuses showed a negative skew for survey item #5 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #5 on the CES. The mean score for survey item #5 for the 67 surveys was 4.57 with a standard deviation of 1.37. Academically Unacceptable campuses showed a negative skew for item #5 on the CES. The results of the test for survey item #5 showed the difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #5 was -0.89.

A total of 46 teachers from campuses rated as Exemplary completed survey item #6 on the 12-item Collective Efficacy Scale. The mean score for survey item #6 for the 46 responses was 3.78 with a standard deviation of 1.07. Exemplary campuses showed a normal distribution for survey item #6 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #6 on the CES. The mean score for survey item #6 for the 67 surveys was 2.88 with a standard deviation of 1.35. Academically Unacceptable campuses showed a slight positive skew for survey item #6 on the CES. The results of the test for survey item #6 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #6 was -0.90.

A total of 46 teachers from campuses rated as Exemplary completed survey item #7 on the 12-item Collective Efficacy Scale. The mean score for survey item #7 for the 46 responses was 2.24 with a standard deviation of 1.25. Exemplary campuses showed a positive skew for survey item #7 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #7 on the CES. The mean score for survey item #7 for the 67 surveys was 2.36 with a standard deviation of 1.41. Academically Unacceptable campuses showed a positive skew for survey item #7 on CES. The results of the test for survey item #7 showed a difference in mean scores for each survey item derived by subtracting the

mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #7 was 0.12.

A total of 46 teachers from campuses rated as Exemplary completed survey item #8 on the 12-item Collective Efficacy Scale. The mean score for survey item #8 for the 46 responses was 4.50 with a standard deviation of 1.30. Exemplary campuses showed a slight negative skew for survey item #8 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #8 on the CES. The mean score for survey item #8 for the 67 surveys was 3.34 with a standard deviation of 1.32. Academically Unacceptable campuses showed a normal distribution for survey item #8 on the CES. The results of the test for survey item #8 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #8 was -1.16. Out of all 12 survey items in the CES, survey item #8 had the greatest difference between means.

A total of 46 teachers from campuses rated as Exemplary completed survey item #9 on the 12-item Collective Efficacy Scale. The mean score for survey item #9 for the 46 responses was 5.02 with a standard deviation of .95. Exemplary campuses showed a negative skew for survey item #9 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #9 on the CES. The mean score for survey item #9 for the 67 surveys was 4.42 with a standard deviation of 1.44. Academically Unacceptable campuses showed a negative skew for survey item #9 on the CES. The results of the test for survey item #9 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #9 was -0.60.

A total of 46 teachers from campuses rated as Exemplary completed survey item #10 on the 12-item Collective Efficacy Scale. The mean score for survey item #10 for the 46 responses was 3.13 with a standard deviation of 1.61. Exemplary campuses showed a slight positive skew for

survey item #10 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #10 on the CES. The mean score for survey item #10 for the 67 surveys was 3.18 with a standard deviation of 1.32. Academically Unacceptable campuses showed a normal distribution for survey item #10 on the CES. The results of the test for survey item #10 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for Item #10 was 0.05.

A total of 46 teachers from campuses rated as Exemplary completed survey item #11 on the 12-item Collective Efficacy Scale. The mean score for survey item #11 for the 46 responses was 4.96 with a standard deviation of 1.30. Exemplary campuses showed a negative skew for survey item #11 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #11 on the CES. The mean score for survey item #11 for the 67 surveys was 4.76 with a standard deviation of 1.32. Academically Unacceptable campuses showed negative skew for survey item #11 on the CES. The results of the test for survey item #11 showed a difference in mean scores for each survey item derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #11 was -0.20.

A total of 46 teachers from campuses rated as Exemplary completed survey item #12 on the 12-item Collective Efficacy Scale. The mean score for survey item #12 for the 46 responses was 4.04 with a standard deviation of 1.50. Exemplary campuses showed a slight negative skew for survey item #12 on the CES. A total of 67 teachers from campuses rated as Academically Unacceptable completed survey item #12 on the CES. The mean score for survey item #12 for the 67 surveys was 3.67 with a standard deviation of 1.46. Academically Unacceptable campuses showed normal distribution on survey item #12 on the CES. The results of the test for survey item #12 showed a difference in mean scores for each survey item

derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for survey item #12 was -0.37.

A total of 46 teachers from campuses rated as Exemplary completed the 12-item Collective Efficacy Scale. The mean CES for these campuses was 52.85 with a standard deviation of 6.53. CES scores for the Exemplary campuses showed a normal distribution. A total of 67 teachers from campuses rated as Academically Unacceptable completed the 12-item Collective Efficacy Scale. The mean CES for these campuses was 46.93 with a standard deviation of 7.81. CES scores for the Academically Unacceptable campuses showed a normal distribution. The results of the test for the CES showed a difference in mean scores for CES derived by subtracting the mean score of the Academically Unacceptable campuses from Exemplary campuses. The difference in mean score for the CES was -5.92.

A one-way analysis of variance (ANOVA) was performed to evaluate each individual survey items from the CES to determine the relationship between campus rating and each individual item. Survey Item #1 - A one-way analysis of variance was conducted to evaluate the relationship between campus rating and survey item #1 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #1 on the Collective Efficacy Scale. The results of the ANOVA indicated a significant difference between campus rating and the means of survey item #1 on the CES, $F(1, 111) = 8.11$, $p < .01$. The η^2 was medium in size, .07, and indicated that 7% of the variance in campus rating could be explained by survey item #1 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #2 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #2 on the Collective Efficacy Scale. The results of the ANOVA indicated a significant difference between campus rating and means for survey item #2 on

the CES, $F(1, 111) = 9.15$, $p < .01$. The η^2 was medium in size, .08, and indicated that 8% of the variance in campus rating could be explained by survey item #2 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #3 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #3 on the Collective Efficacy Scale. The results of the ANOVA indicated a significant difference between campus rating and the means for survey item #3 on the CES, $F(1, 111) = 8.28$, $p < .01$. The η^2 was medium in size, .07, and indicated that 7% of the variance in campus rating could be explained by survey item #3 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #4 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #4 on the Collective Efficacy Scale. The results of the ANOVA indicated no significant differences between campus rating and the means for survey item #4 on the CES, $F(1, 111) = .01$, $p = .93$. The η^2 indicated that 0% of variance in campus rating could be explained by survey item #4 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #5 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #5 on the Collective Efficacy Scale. The results of the ANOVA indicated a significant difference between campus rating and the means for survey item #5 on the CES, $F(1, 111) = 14.10$, $p < .01$. The η^2 was medium in size, .11, and indicated that 11% of the variance in campus rating could be explained by survey item #5 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and

survey item #6 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #6 on the Collective Efficacy Scale. The results of the ANOVA indicated a significant difference between campus rating and the means for survey item #6 on the CES, $F(1, 111) = 14.25, p < .01$. The η^2 was medium in size, .11, and indicated that 11% of the variance in campus rating could be explained by survey item #6 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #7 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #7 on the Collective Efficacy Scale. The results of the ANOVA indicated no significant difference between campus rating and the means for survey item #7 on the CES, $F(1, 111) = .21, p = .65$. The η^2 indicated less than 1% of variance in campus rating could be explained by survey item #7 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #8 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #8 on the Collective Efficacy Scale. The results of the ANOVA indicated a significant difference between campus rating and the means for survey item #8 on the CES, $F(1, 111) = 21.25, p < .01$. The η^2 was large in size, .16, and indicated that 16% of the variance in campus rating could be explained by survey item #8 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #9 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #9 on the Collective Efficacy Scale. The results of the ANOVA indicated a significant differences between campus rating and the means for survey item #9 on the CES, $F(1, 111) = 6.23, p = .014$. The η^2 was

medium in size, .05, and indicated that 5% of the variance in campus rating could be explained by survey item #9 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #10 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #10 on the Collective Efficacy Scale. The results of the ANOVA indicated no significant difference between campus rating and means for survey item #10 on the CES, $F(1, 111) = .031, p = .861$. The η^2 indicated that 0% of the variance in campus rating could be explained by survey item #10 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #11 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #11 on the Collective Efficacy Scale. The results of the ANOVA indicated no difference between campus rating and means for survey item #11 on the CES, $F(1, 111) = .61, p = .44$. The η^2 indicated that 1% of the variance in campus rating could be explained by survey item #11 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and survey item #12 on the CES. The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was survey item #12 on the Collective Efficacy Scale. The results of the ANOVA indicated no difference between campus rating and means for survey item #12 on the CES, $F(1, 111) = 1.73, p = .19$. The η^2 indicated that less than 2% of the variance in campus rating could be explained by survey item #12 on the CES.

A one-way analysis of variance was performed to evaluate the relationship between the teachers' collective efficacy and the academic achievement of economically disadvantaged middle school campuses in Texas according to campus rating. The independent

variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was the total Collective Efficacy score for individual teachers. The ANOVA was significant, $F(1, 111) = 17.85, p < .01$. The strength of relationship between teachers' collective efficacy and student achievement (campus rating), as assessed by η^2 , was strong, with the campus rating factor accounting for 14% of the variance of the dependent variable.

The p value for the ANOVA was less than .05 thus reinforcing the earlier research that found that teachers with a high sense of efficacy believe that all students can learn, while teachers with a low sense of efficacy feel there is nothing they can do to change that (Craig, 2006). Similar findings were also reported by Ashton, Webb, and Doba (1983) in which student achievement was significantly correlated to teacher efficacy. In addition to the previous stated references, the review of the literature also discovered that teachers' collective efficacy had a larger, positive, significant affect on student achievement than the socioeconomic status of the student. (Hoy, Smith, & Sweetland, 2002).

A one-way analysis of variance was performed to evaluate the relationship between campus rating and the collective score of the six items on the CES pertaining to the Assessment of Teaching Competence (GC). The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was the total score of the six items based on Assessment of Teaching Competence (GC). The results of the ANOVA indicated a significant difference between campus rating and the collective means for Assessment of Teaching Competence (GC). The ANOVA was significant, $F(1, 111) = 16.54, p < .01$. The η^2 was medium in size, .13, and indicated that 13% of the variance in campus rating could be explained by the six items on the CES pertaining to the Assessment of Teaching Competence (GC).

The p value for the ANOVA was less than .05. According to the findings, teachers from Exemplary campuses had a higher sense of Assessment of Teaching Competence (CG) than teachers from Academically Unacceptable

campuses. As a collective group, teachers from Exemplary campuses believed that they and their colleagues have the ability to impact student achievement at their campus. On the other hand, teachers from Academically Unacceptable campuses did not show the same belief in their collective ability to impact student achievement. This finding supports the research of Marzano, Pickering, and Pollock (2001) that teachers' collective efficacy, along with their self-efficacy, improved by working at a successful campus. The Exemplary campuses continue to exceed state standards for student achievement.

A one-way analysis of variance was performed to evaluate the relationship between campus rating and the collective score of the six items on the CES based on Analysis of Teaching Task (TA). The independent variable, campus rating, included two levels, Exemplary and Academically Unacceptable. The dependent variable was the total score of the six items based on Analysis of Teaching Task (TA). The results of the ANOVA indicated a significant difference between campus rating and the collective means for Analysis of Teaching Task (TA), $F(1, 111) = 7.39, p < .01$. The η^2 was medium in size, .06, and indicated that 6% of the variance in campus rating could be explained by the six items on the CES pertaining to the Analysis of Teaching Task (TA).

The p value for the ANOVA was less than .05. Though not as strong as the difference between GC and student achievement, the difference between TA and student achievement was still significant at the .05 level. The findings indicated that the teachers' from Academically Unacceptable campuses averaged 2.46 lower on the six items on the CES pertaining to the Analysis of Teaching Task. The Academically Unacceptable teachers' assessment of their TA and GC combined contributed to the finding that indicated that teachers' collective efficacy is related to student achievement.

Discussion

The analysis of data indicated that there was a relationship between teachers' collective efficacy and student achievement. The collective efficacy of teachers

from Exemplary campuses was significantly higher than that of teachers from Academically Unacceptable campuses. On average, teachers from Exemplary campuses had a mean CES score of 52.85 with a standard deviation of 6.53 while teachers from Academically Unacceptable campuses had a mean CES score of 46.93 with a standard deviation of 7.81.

These findings suggest that the collective efficacy of a campus can influence the achievement level of the students they serve. The CES of teachers from Exemplary campuses was significantly higher than the CES of teachers from Academically Unacceptable campuses. These findings are consistent with research from previous studies on the impact collective efficacy has on student achievement (Gibson & Dembo, 1984; Meijer & Foster, 1988; Bandura, 1997; Goddard et al., 2000). Although studies have found relationships between collective teacher efficacy and student achievement, this is the first study that highlights collective efficacy of middle school teachers and its link to student achievement. This study shows the impact teachers' collective efficacy has on student achievement, regardless of students' socioeconomic background.

The Exemplary campuses selected for this study had a history of meeting the state's highest academic rating for consecutive years. Inferences can be made that the teachers at these campuses contributed to the academic success of the students in spite of being economically disadvantaged. According to the research by Goodard et al. (2000), collective efficacy begins with mastery experience and, as a group, teachers experience success and failures. Their resilience to overcome failure is developed by overcoming difficulty through persistence.

It is unknown how the collective efficacy of the Exemplary campuses was higher than the Academically Unacceptable campuses. The researcher postulated that the academic success of the students could have contributed to an increase in teacher confidence, thus increasing mastery experience in the process. An inference can also be made that the Exemplary campuses' collective efficacy was influenced by the

resilience of the faculties shared vision for success of their students, which assisted them in overcoming the socioeconomic barriers that prevent so many other middle school campuses from obtaining an Exemplary rating. This is not a death sentence for Academically Unacceptable campuses, Collective teacher efficacy can increase over time through staff development, positive campus climate, and mastery experience. Findings from Ross et al. (2003) determined that schools that were previously low-performing can reverse the trend and become efficacious campuses through a positive campus culture and school climate.

The analysis of data also indicated that there were significant differences between teachers' collective Assessment of Teaching Competence (GC) and student achievement. The findings suggest that teachers from Exemplary campuses had a higher total for the six items pertaining to GC as compared to teachers from Academically Unacceptable campuses. The study showed that teachers from Exemplary campuses had greater confidence in their colleagues and their own ability to influence student achievement when compared to teachers from Academically Unacceptable campuses.

Finally, the analysis of data indicated that there were significant differences between teachers' collective Analysis of Teaching Task (TA) and student achievement. In regards to Analysis of Teaching Task, both campuses mean scores were collectively low but were significant at the .05 level, meaning that teachers from Exemplary campuses had a higher collective efficacy in regards to TA in comparison to teachers from Academically Unacceptable campuses. This study contributes to the position that teachers from Exemplary campuses had greater confidence in their abilities to teach students regardless of the circumstances in the students' lives.

From the analysis of data, it was shown that teachers' collective efficacy does influence student achievement at economically disadvantaged middle schools in Texas. Teachers in the current study demonstrated a higher level of collective efficacy in campuses that were rated Exemplary in comparison to campuses rated as

Academically Unacceptable. The findings from this study support the review of literature (Bandura, 1997; Goddard et. al, 2000; Garcia, 2004) in which a relationship was found between teachers' collective efficacy and student achievement.

Also supported by the literature were the characteristics exhibited by teachers from Exemplary campuses. Efficacious teachers took greater ownership in the students they taught. The findings from this study determine that teachers from Exemplary campuses did not make excuses for the students' ability to learn based on their surroundings. These teachers knew they possessed the skills to teach students regardless of their socioeconomic status. Previous studies (Bandura, 1997; Weber and Omotani, 1994; Ashton et al., 1984) have reported that efficacious teachers not only set goals for themselves, they also set goals for students and have higher expectations for their students. They also believe they can contribute to student learning through their extra efforts and teaching techniques.

Some schools are more successful than others in regards to student achievement even when serving students from similar backgrounds. Depending on their characteristics, some schools across the state of Texas are more effective and more equitable than others. In spite of No Child Left Behind, the gap between Texas middle school campuses in the state of Texas that have earned the state's top rating of Exemplary and the lowest rating of Academically Unacceptable has widened.

It is also known that economically disadvantaged students continue to suffer due to the lack of educational opportunities available to them, and they are often negatively affected by the cultural and structural mechanisms that continue to increase the inequalities of educational opportunity (Lazaro, 2005). As shown in the review of literature (Hinojosa, 2005), economically disadvantaged students lack the necessary means that afford them the opportunity to attain a good education. Evidence by researchers (Puma, Karweit, & Price, 1997; U. S. Department of Education, 1998) has found a correlation among the poverty of the community, the academic achievement of students, and the lack of

qualified teachers.

Recommendations

Quantitative findings presented in the current study provide further knowledge on the relationship between collective efficacy and student achievement. The study was intended to provide information that could be utilized by administrators of public schools to assist in creating campuses that have high collective efficacy. Specifically, the results of this study can assist low performing campuses across the state of Texas that have struggled to meet minimal state accountability standards. Research on the relationship between collective efficacy and student achievement is still relatively new and additional studies are needed in this area. The following recommendations were derived as a result of this study:

- Measure the collective efficacy of campuses on a yearly basis to provide teachers with the necessary staff development needed to build or maintain their level of efficacy.
- Celebrate and replicate mastery experiences on campus to build a faculty's sense of collective efficacy.
- Team teachers with low efficacy with teachers with high efficacy in order to influence the efficacy of campus teachers through vicarious experiences.
- Encourage visits to other high performing campuses with similar demographics that have a proven record of high academic student success.
- Utilize the power of social persuasion. Instill in the faculty that they possess the ability to achieve student achievement and campus goals.

Conclusion

The purpose of this study was to test the theory on collective efficacy and the impact it has on student achievement. The findings support the review of literature stating that teachers' collective efficacy is significantly related to the achievement of students, according to campus rating. The collective efficacy of teachers from campuses rated as Exemplary was significantly higher than the collective efficacy of teachers from campuses rated as Academically Unacceptable. When analyzed at the subcategory level, a significant relationship was also

found between student achievement and both Assessment of Teaching Competence (GC) and Analysis of Teaching Task (TA). These findings support the research that efficacious campuses can impact student achievement through their belief in their colleagues' ability to impact student achievement regardless of the students' background and socioeconomic status. This study determined that the teachers' collective efficacy can impact student achievement thus improving the academic rating that is given to a campus by the Texas Education Agency. These findings suggest that teachers do have the potential to make a difference in the lives of the children they teach.

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