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Teacher Morale, Student Engagement, and Student Achievement Growth in Reading: A Correlational Study

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ABSTRACT

This research study explored the current state of teacher morale in fourth and fifth grade classrooms in three low socio-economic schools in North Carolina. Additional research questions address correlational relationships among the variables of teacher morale, student engagement, and student achievement growth as measured by the NC Teacher Working Conditions Survey, Van Amburg Active Learning Inventory Tool, and the NC End of Grade reading tests, respectively. This study found no significant relationships among the primary variables of teacher morale, student engagement, and student achievement growth. However, significant relationships were found between increasing student engagement and an increase in the number of adults present during reading instruction, as well as an increase in student engagement with small group instruction. A final positive relationship discovered in this study was between the teacher morale construct of teacher leadership and student achievement growth.

CONTEXT

This study was conducted in the spring of 2013 in a large, Piedmont region school system in North Carolina. This was a time of considerable transition for this district. In addition to a new superintendent, there were massive budget cuts coming from the state legislature and a shifting population including a more diverse student body. Three schools within this district were identified based on their similarities in location, size, and demographics. Enrollments at Schools 1, 2, and 3 were approximately six hundred students each. Black and Hispanic students made up at least two thirds of the population at each school. Compared to other schools in the district, these schools serve a higher percentage of minorities and economically disadvantaged

families (U.S. Department of Education Institute of Education Sciences, 2010). All three schools in this study are classified as Title I schools and have from 68% to 92% free or reduced lunch eligibility (U.S. Department of Education Institute of Education Sciences, 2010). None of these schools met Adequately Yearly Progress (AYP) in the year preceding this study.

In analyzing the data available at the time of the study for these three schools, there was a distinctive disparity in teacher morale given similar school demographics. This study sought to explore the possible relationships between the variables of teacher morale, student achievement growth, and student engagement within this context.

RELATED LITERATURE

The literature surrounding the variables in this study defines clear constructs and perimeters of measurement, but also creates a space for additional research and need for further study.

Teacher Morale

Each of the five constructs measured as a part of teacher morale showed a significant, positive relationship with the overall measure of teacher morale. Research by Mackenzie (2007) suggests that teacher time, including workloads inside and outside of school, directly affect the levels of teacher morale. The construct of facilities and resources is directly addressed by the teacher morale research of Hirsch and Emerick (2007) where they demonstrate that teacher morale is influenced by external factors, including the physical facilities and available instructional resources and training. Findings by Leithwood (Spring, 2007) suggest that teacher morale and community involvement are linked because teachers are more likely to remain in their jobs when there is a shared vision and supportive relationship with parents and the wider community. Viadero (2008) discusses the continual issues in teachers' perceptions of student conduct policies and how that influences teachers. Teacher empowerment and

decision-making are strongly correlated with teacher morale (Zembylas & Papanasatasiou, 2005; Mackenzie, 2007).

Student Achievement Growth

Educators have persistently sought the most effective ways to measure student learning. In the context of today's cultural and political expectations, legislation such as No Child Left Behind has mandated measuring student learning through standardized student achievement tests for comparison purposes. Standardized testing creates a continuous stream of quantitative data on student achievement that is readily available to researchers and has relative objectivity, validity, and reliability. There are many ways to analyze the data and there is a divide among those who support performance models versus those who believe growth should be a key indicator (Zvoch & Stevens, 2008).

Researchers are analyzing student achievement test scores using two contrasting methods: status versus growth (Betebenner, 2009). Status models measure the current status of a student as being proficient or not proficient and give information about performance in one specific snapshot. In contrast, growth models measure the individual's change over time (Doran, 2003). Researchers have challenged the use of only status or achievement scores, without regard to background, or improvement (Betebenner, 2009). North Carolina's ABCs recognizes the importance of using growth as a means for comparison and adopted a growth model in 2006 (NCDPI Accountability Division, 2011).

The growth model is a favorable measure for many research and comparison purposes but the formulas for determining growth are often complex and can vary among researchers (Betebenner, 2009; Doran, 2003; Wiseman & Thomas, 2011). Educators and researchers want to know if changes over the last year made a difference in student learning. Growth measures examine the change overtime for individuals and groups so those links can be analyzed (Wiseman & Thomas, 2011).

Student Engagement

Significant research indicates that the teacher has a direct role in levels of student engagement through classroom environment (Dotterer & Lowe, 2011), student support (Klem & Connell, 2004), student-teacher relationships (Hughes & Kwok, 2007), classroom organization (Pontiz, Rimm-Kaufman, Grimm, & Curby, 2009), planned curriculum, and pedagogy (Van Amburgh, Delvin, Kirwin, & Qualters, 2007). Results from the PISA study indicated that the student teacher relationship is highly relevant to the level of psychological engagement in the classroom (Willms, 2003). Hughes (2007) goes further in stating that classroom engagement is a mechanism of the student-teacher relationship which has a positive impact on student achievement. Teacher support of students is one component exerting influence on student engagement. Klem (2004) supported this claim in his study of elementary and middle school students showing that students who had strong teacher support were engaged and had higher academic achievement. In grades as low as Kindergarten, researchers have shown that the pedagogical methods of teachers have a direct influence on the levels of student engagement in the classroom (Pontiz, Rimm-Kaufman, Grimm, & Curby, 2009).

Some teaching methods produce better participatory engagement among students that has been shown to have a significant positive effect on student achievement (Appleton, Christenson, & Furlong, 2008). Active learning developed as a method for teachers to plan lessons using pedagogy that are highly engaging to students. Van Amburgh et.al (2007) described classroom engagement through active learning as a Didactic Triangle between teachers, students, and content. The pedagogical choices of teachers should encourage active participation and engagement. Active learning techniques have been used to increase student performance through more authentic, spontaneous engagement (Yoder & Hochevar, 2005).

Student experience is the key component in education that influences the academic and social outcomes of the student (Appleton, Christenson, Kim, & Reschly, 2006). Educational research in the field of student engagement has expanded the body of knowledge and understanding of this multidimensional construct. Behavioral engagement continues to be studied most closely due to the more observable and measureable outcomes. Psychological engagement and cognitive engagement are now recognized as equally pertinent dimensions of the construct, although measurement is limited to survey and interview methods. Although measurement of all dimensions of student engagement have improved, the current assessment techniques cannot possibly take into account all the components or indicators of participation and academic involvement (Appleton, Christenson, Kim, & Reschly, 2006). Research studies large and small, local and international have demonstrated that higher levels of active engagement and learning lead to higher levels of student learning and achievement (Willms, 2003).

METHODS

Participants

Participants for this study (n=26) consist of all fourth and fifth grade reading teachers at each of the three schools in an economically disadvantaged area of the same North Carolina school district. These schools were selected based on similarities in population, enrollment demographics, and proximity to one another.

Instruments

A portion of the North Carolina Teacher Working Conditions Survey was used as the basis to measure the teacher morale of all fourth and fifth grade teachers at each of the three schools. Hirsh and Emerick (2007) designed the Working Conditions Survey to determine and rate the eight constructs which contribute to teacher morale. Predictive validity determined by Hirsch and Emerick indicates a strong connection between

specific working conditions and student achievement (2007). The original tool and each of the eight constructs were found to be reliable with alphas over 0.859 (New Teacher Center, 2010). The Teacher Morale Survey that was administered is a shortened version of the Teacher Working Conditions Survey. Professional development, leadership, and mentoring constructs were eliminated because they were not shown to be as highly correlated with overall teacher morale. The administered survey consists of the five constructs of time, facilities and resources, community support and involvement, student conduct, and teacher leadership supplemented with demographic information.

The tool for student engagement is the Active Learning Inventory Tool developed by Van Amburgh, Delvin, Kirwin and Qualters (2007). It is designed to measure the level of active learning by students in the classroom by a non-participant observer. The reliability of the Active Learning Inventory Tool was determined using multiple observers with varying levels of experience with the tool who administered the tool on previously recorded lessons. Agreement among observers was over 85% and increased with experience (Van Amburgh, Delvin, Kirwin, & Qualters, 2007).

The Active Learning Inventory Tool was augmented slightly to address areas of student engagement which are specific to the elementary reading setting. The tool was then validated by experts in the field of education and then modified based on feedback. Van Amburgh, the original author of the Active Learning Inventory Tool, gave final approval of the changes. A single observer was used for all observations to maintain a higher level of consistency in use of the tool.

The measure of student achievement growth is the c-score, or academic change score, as provided by performance on the North Carolina End of Grade tests. This study looked specifically at the 2011-2012 school year performance on the EOG. Many forms of student achievement scores are available, but growth measures ensure that the student achievement is pertinent to this school year and not other demographic factors.

C-scores are the published growth measured used by the North Carolina ABCs and are calculated by taking the current score (CS) for the 2011-2012 school year and subtracting the average performance on EOGs in previous years, times .92. The formula is: CS – (0.92 x ATPA). Expected growth would be 0. Any additional growth would be shown as a decimal between 0 and 1, and negative decimal would demonstrate a lack of expected growth. Using the EOG c-score allows for measurement of academic change contributed to that specific school year.

Data Collection

Data collection occurred in three phases but in rapid succession in order to maintain the consistency of data during the same school year. In Phase one, teacher surveys were administered at the initial meeting with teachers. Phase two consisted of at least 150 observations of student engagement throughout the spring semester. Observations included at least one announced and four random observations. Each observation was limited to fifteen minutes of whole group or small group reading instruction and took place between February and March 2012. Phase three of data collection was the state administration of End of Grade (EOG) tests to all fourth and fifth graders.

Data Analysis

The data analysis commenced with an in depth examination of the first variable, teacher morale. Due to the nature of the survey design, a report on the response rate from teachers was necessary (26 of the possible 27 participants – 96%). Data from the validated portion of the Teacher Working Conditions Survey presents demographic information on teachers, their average responses for each of the 5 constructs of teacher morale, and their overall morale. The survey yields an abundance of data with several indicators for each construct. Basic descriptive statistics demonstrate trends in the data. For each of the survey questions, descriptive statistics such as general tendencies and

measures of variability were calculated. As a final step in handling the data from the teacher morale survey, a composite score was calculated using the scores from each of the five constructs.

The Active Learning Inventory Tool provides 50 data sets about the levels of student engagement in classrooms at each of the three schools. The student engagement tool tracks information on the frequency, length, and level of student engagement in a classroom. The raw data on engagement levels are classified as low, moderate, and high complexity. Each of these categories were given appoint value (low = 1, moderate = 2, high = 3) and an average score will be determined for each observation. Further analysis of the data involves performing descriptive statistics of general tendencies and measures of variability on the observational data. The levels of student engagement were plotted on a graph to analyze for trends over time for individual teachers, as well as for grade levels and schools. A mean score for student engagement on each teacher was calculated and used for a correlational analysis among the other variables of teacher morale and student achievement growth.

In order to run correlational statistics, each of the three variables were quantitatively defined. Student achievement as measured by growth is the third variable and data in the form of student c-scores for each teacher. Averaging the c-scores for all students in the class provides a single score for each teacher. Student achievement growth data was analyzed by calculating basic descriptive statistics to determine the mean score for each teacher.

Each teacher then had a defined data point for each of the three variables of teacher morale, student engagement, and student achievement growth. Scatter plot graphs were created for each pairing of the variables. Using SPSS, the correlation coefficients were calculated using correlational analysis. Next, a correlation matrix was

created to present the correlation coefficients in table form. Together the scatter plot

graphs and correlation matrix provide information concerning the direction of

association, form of distribution, degree of association, and strength of association

(Creswell, 2012).

This study sought to address these three specific research questions:

1. What is teacher morale of fourth and fifth grade teachers given the current educational climate as measured by a portion of the Teacher Working Conditions Survey?
2. What is the relationship between teacher morale and the level of student engagement in these elementary classrooms?
3. What is the relationship between teacher morale and student achievement, as measured by growth on the North Carolina End of Grade tests?

RESULTS

In addressing the research questions for this study, a score was calculated for

each variable, teacher morale, student engagement, and student achievement growth

for teacher participants in this study. The single score for each variable was used in a

paired matching of variables to determine the correlation among the variables. Table 1

below provides the Pearson correlation coefficients for each pairing.

Table 1

Correlation Coefficient Matrix

	Teacher Morale	Student Engagement	Achievement Growth
Teacher Morale	1.0	-.192	.192
Student Engagement	-.192	1.0	-.108
Achievement Growth	.192	-.108	1.0

For the data at all three schools, there was not a significant the correlation

between any pairings of the three variables. Given the literature review and foundational

studies, this was a mildly surprising finding. Although the research questions did not find

any significant relationship, there were other surprising findings in the data. Two of the

more interesting data comparisons were whole versus small group instruction as well as

the number of adults, and the impact each had on student engagement. Table 2

compares the mean student engagement for small group and whole group instruction

over the 160 observations completed.

Table 2

Student Engagement by Whole versus Small Group

	n	%	Mean	Minimum	Maximum	Standard Deviation
Whole Group	70	44	.88	.26	2.05	.37
Small Group	90	56	1.34	.26	2.5	.383
All	160	100	1.14	.26	2.5	.439

Whole group instruction had a mean student engagement score of .88, while

small group instruction was 1.34. Both whole and small group instruction had a similar

standard deviation and the exact same minimum score, but the standard deviation for all

the data shows that the data are distributed in a broader way.

Table 3

Student Engagement by the number of Adults

		N	%	Mean Student Engagement	SD	Minimum	Maximum
Adults Present	1	77	48	1.04	.4397	.26	2.21
	2	73	46	1.22	.4365	.26	2.5
	3	10	6	1.23	.3164	.92	1.74
Total		160	100	1.14	.4392	.26	2.5

With only one adult, the mean student engagement score was 1.04 and increased to 1.22 with an additional adult in the classroom. While the number of observations with three adults was only ten, the mean student engagement has the lowest standard deviation at .3164. While the maximum student engagement score with three adults was only 1.74, the minimum score was more than three times higher than with fewer adults.

In further examination of the variable of student engagement, a point bi-serial correlation was run between the number of adults (1 or < 1) and the level of student engagement. The results indicate that there is a slightly positive correlation between the number of adults present during observations and the level of student engagement with r (160) = .203, $p < .05$, r^2 = .041. The number of adults did have a significant relationship with the level of student engagement in the classroom, the implications of which should be considered by further research.

Supporting the prior claims of the NC Teacher Working Conditions Survey, Table 4 below displays each of the constructs and the correlations among these variables.

Table 4

Pearson Correlations for Teacher Morale Constructs

	Time	Facilities	Community	Student Conduct	Teacher Leadership
Time	1.0				
Facilities	.616*	1.0			
Community	.524*	.560**	1.0		
Student Conduct	.466*	.503*	.461*	1.0	
Teacher Leadership Score	.481*	.737*	.391*	.601**	1.0

** Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Each of the five constructs of time, facilities, community, student conduct, and teacher leadership are purported to measure different areas of teacher morale. The Pearson correlational analysis indicates there are strong relationships among all variables, significant at either the .01 or .05 level. This indicates that these constructs may not be separate measures, but rather have overlapping portions.

DISCUSSION

Teacher Morale

The first research question deals strictly with the variable of teacher morale. This research used a shortened, validated portion of the NC Teacher Working Conditions Survey. Data showed that School 2 has the highest level of teacher morale with 100% of the target population at that school agreeing that their school is "a good place to work and learn." School 1 had 67% of the target population agree with the same statement, while School 3 had only 44%. The data from this study is supported by the published results of the 2012 NC Teacher Working Conditions Survey (NC Teacher Working Conditions Initiative, 2012), which ranks these schools in the same order with School 2 having the highest, followed by School 1, and School 3 having the lowest teacher morale.

Teacher morale does not have a widely accepted definition, however there are several influential factors that are consistently measured as part of teacher morale. Factors such as time (Hong, 2001), facilities/resources (Hirsch & Emerick, 2007), community or political support and pressure (Zembylas & Papanasatasiou, 2005), student conduct (Hirsch & Emerick, 2007), and teacher leadership or empowerment through decision making (Hunter-Boykin & Evans, 1995) are key constructs to the measuring the multifaceted topic of teacher morale. The survey for this study utilized the

five constructs of time, facilities, community involvement, student conduct, and teacher leadership which were portions of the 2012 North Carolina Teacher Working Conditions Survey.

Of the five constructs measured as part of teacher morale, time had the lowest scores in School 1 and School 2 and was the second lowest in School 3. The survey statement "Efforts are made to minimize the amount of paperwork teachers are required to do" was the lowest of all time indicators, reflecting a concern by teachers in this target population over the time spent on paperwork. Teachers were less concerned about class size and professional development. In addition to having the lowest overall scores, the construct of time also had the least variance in scores. This indicates that it is indeed a concern of teachers and that it is a consistent concern for participants.

School facilities and resources was the second measured construct and was the highest rated construct in School 1 and School 2 and second highest in School 3. This indicates that facilities and resources is not a major area of concern for the target population as a whole. Community involvement and support was the third construct and the data for the schools demonstrates that most teachers gave the indicators a negative rating of "Disagree" or "Strongly Disagree." Teachers felt as though they provided community members and parents plenty of information although the data at all three schools indicates that parents are not active decision makers in the schools. Community was not the lowest construct for any of the schools, but the negative teacher ratings means that the relationship between the schools and community needs to be strengthened in order to support two way communication, decision making, and educational goals.

The score for the fourth construct of student conduct varied by school and indicated a range of concerns and successes. At School 2 and School 3, student conduct was the second highest construct, but the scores at School 1 indicate it is the greatest area of concern for teachers behind time. The lowest indicators for student conduct were "School administrators consistently enforce rules for student conduct" and "Teachers consistently enforce rules for student conduct." For the schools in this study that are looking to improve this construct, the focus should be less on the actual student conduct and more on the consistency of enforcement among adults.

Teacher leadership is the final construct of teacher morale measured in this study. In School 1 it ranked as the second highest construct at .73 and in School 2 as the third at .79. School 3, however, had a teacher leadership score of .52 with it being the lowest of the constructs. This indicates that teacher leadership is not a concern for the entire population but may be a significant concern in School 3.

The current state of teacher morale within the target population at these schools reflects common concerns over paperwork, sufficient time for instruction, consistency in administrations' support of student conduct, and the need for increased community involvement by parents in becoming decision makers at their schools. There were common concerns, but the data demonstrate that teacher morale is indicative of school level issues and not larger issues in education, such as testing or pay. The findings of this research study supports the claim that each of the five constructs measured in this study, time, facilities, community, student conduct, and teacher leadership, have shown to have a significant correlation with teacher morale.

Teacher Morale and Student Engagement

The second research question was: What is the relationship between teacher morale and the level of student engagement in these elementary classrooms? The data in showed that there was not a significant relationship between the two measures used to determine teacher morale and student engagement. The Pearson correlation coefficient was -.192, which was not significant. While there was variance between the correlations of teacher morale and student engagement at each school, there was not a significant relationship on any level.

The literature review for this study presented research by Appleton, Christenson, Kim and Reschly (2009), which indicated a possible relationship between teacher morale and student engagement, therefore the insignificance of this relationship according to the data from this study was an unanticipated event that has further implications. The Active Learning Inventory Tool, which was employed for data collection on student engagement, is intended to measure behavioral engagement, not cognitive or emotional engagement. Behavioral engagement focuses on the active participation of students in the classroom and school context. Given that these actions are usually observable and measurable, behavioral engagement is commonly used as the primary measurement of overall engagement (Li, Lerner, & Lerner, 2010). Although it is most commonly used, behavioral engagement relies upon only the observer to make judgments about the level of participation of students, with no input from students. Given the elementary setting of this study, this was a reasonable decision. However, this measure of behavioral student engagement neglected to account for the cognitive and emotional engagement of students, which may have contributed to the insignificant relationship between teacher morale and student engagement. The lack of correlation in this study between teacher morale and student engagement strengthens an argument for further study and

measures of student engagement, which include not only behavioral measures, but also cognitive and emotional ones.

There is not a significant relationship between teacher morale and behavioral student engagement, as measured in this study. The lack of relationship does not indicate they are not important concepts in education today. Rather, that they are different and further study is needed with instruments, which provide better insight into all areas of student engagement.

Teacher Morale and Student Achievement Growth

The final research question addressed in this study was: What is the relationship between teacher morale and student achievement growth, as measured by growth on the North Carolina End of Grade Reading test? The Pearson correlation coefficient for teacher morale and student achievement growth was .192, which was supported by the visual representation of the data in a scatterplot. These measures indicate that there is not a significant relationship between the variables of overall teacher morale and student achievement growth.

When teacher morale was divided by construct, the measure of teacher leadership did have a significant relationship with student engagement. The Pearson correlation coefficient for the teacher leadership construct and average student achievement growth was .412 which is significant at the .05 level. Findings in prior research indicate that there is not a direct relationship between teacher empowerment and student achievement (Zembylas & Papanasatasiou, 2005). In contrast, this study provides quantitative support for a direct, significant relationship between the teacher leadership construct of teacher morale and student achievement growth. The continued study of these variables remains important to the future of education and the measures by which we succeed and show areas for further improvement.

Conclusions

The findings of this study indicate that given the setting and measures employed in this study, there is not a significant relationship among the variables of teacher morale, student engagement, and student achievement growth. Each of these variables has differing traits and has not shown to be correlated in any significant way. The major conclusions from this study include insights into each of the variables of teacher morale, student engagement, and student achievement growth.

Research from the literature review indicated that factors such as time (Hong, 2001), facilities/resources (Hirsch & Emerick, 2007), community or political support and pressure (Zembylas & Papanasatasiou, 2005), student conduct (Hirsch & Emerick, 2007), and teacher leadership or empowerment through decision making (Hunter-Boykin & Evans, 1995) were components of teacher morale. This study supports the previous research with all five constructs of time, facilities, community, student conduct, and teacher leadership all demonstrating a strong correlation with overall teacher morale, indicating they are salient factors to take into account when examining teacher morale.

Student engagement was measured using observable indicators, which indicate students' behavioral engagement. Models of student engagement include not only the behavioral engagement, but indicate that psychological and cognitive engagement is equally important to overall student engagement (Harris, 2008; Skinner, 1993). Additional tools for measuring cognitive and emotional engagement are needed for the elementary setting in order for research to expand in this arena.

Although the variables of number of adults and whole versus small group instruction were not addressed in the literature review, they were each components of the Active Learning Inventory Tool. This study found that as the number of adults in the classroom increased, so did the student engagement; with a correlation of .195,

significant at the .05 level. Engagement also increased with small group instruction, with a correlation of .521, significant at the .01 level. Based on the trends in the behavioral student engagement data, there are two recommendations for increasing student engagement in classrooms. First, increase the number of adults in the classroom and second, increase small group instruction. These unexpected results are also a starting point for further research in the area of student engagement.

Student engagement and teacher morale were not previously linked through a direct relationship and this study sought to determine the nature of this relationship. Skinner (1993) demonstrated the reciprocal nature of teacher behaviors and student engagement. While Appleton, Christenson, Kim, & Reschly (2006) stated that student experience is the key component in education that influences the academic and social outcomes of the student. This study found a Pearson correlation of r = -.192, which was not significant. An indirect, negative relationship is possible, but this study did not support a direct relationship between these two variables.

Research in the literature review indicated a possible relationship between student engagement and student achievement. Ladd and Dinella (2009) have demonstrated that levels of student engagement in primary grades are predictive of achievement through eighth grade. The gains contributed to student engagement continue to be significant even when controlled for other factors (Willms, 2003). The findings of this study indicate a Pearson correlation coefficient of -.108 which was not significant. This research does not support previous research claims of a direct relationship between student engagement and student achievement.

Student achievement growth did not have a significant relationship with overall teacher morale or student engagement. However, for the Pearson correlation between student engagement and the teacher leadership construct r = .402 with a significance of .036. This is statistical support for further examination of this relationship between

teacher leadership and student achievement growth, as well as consideration at the school level of the levels of teacher leadership as an addition factor influencing student achievement growth.

Additional recommendations for student growth are not centered on improving student growth, but in improving the measures by which student achievement growth is calculated. The c-score calculation used for this study is taken from the North Carolina ABC's method for calculating growth (2011). One additional method available is the EVAAS program, which employs complex calculations to predict growth. Additional methods for capturing student achievement growth, and the teacher contribution to that, need to be explored before being fully implemented at the state level.

Limitations

Outlining the possible limitations of a study allows consumers of research to gauge the ability to generalize results and can be useful to other potential researchers who seek to conduct a similar study. This study of teacher morale, student engagement, and student achievement growth is limited by the number of teacher participants. According to Creswell (2012), the recommended participant number for a correlational analysis is 30 participants, while only 26 were available for this study. This study relies upon the survey responses from teachers regarding morale to be honest about their attitudes about time, facilities and resources, community support, student conduct, and teacher leadership

Student achievement growth was measured by c-scores, which are calculated based on the projected growth versus actual growth of each student on the North Carolina End of Grade Reading test. The use of standardized, multiple-choice tests creates some limitations to the study. This test provides only a single snapshot of student academic achievement. In addition to the limitations of standardized tests, there

will be limitations to the immediate application of c-scores due to the adoption of Common Core State Standards and the matching assessments that were not in place during the data collection period. Finally, this study was conducted in the fourth and fifth grade classrooms of three, economically disadvantaged schools in a single school district of North Carolina, which limits the ability to generalize to other districts or schools.

Recommendations for further study

This study was inconclusive about a possible link between engagement and transition time. Student engagement data was collected in fifteen-minute observations. A longer observation time could yield better data about transition time. A future study that is designed to record transition time more accurately would return better data. This study was designed to collected data during a one- month window in the spring. Conducting a longitudinal study of student engagement over the course of an entire school year would provide data over time which this study could not do. While the Van Amburgh Active Learning Inventory Tool was employed for measurement of student engagement for this study, it only recorded the behavioral engagement of students and neglected to collect any levels of cognitive or emotional engagement. Additional tools or methods of measurement might allow for tracking of specific students and the other types of engagement would add to the current body of knowledge on engagement.

This study sought to identify and reaffirm relationships among the variables of teacher morale, student engagement, and student achievement growth. Although there was not a significant, direct relationship between any pairing of these variables, valuable insights were discovered in supporting the current constructs of teacher morale. The findings of this study support a relationship between increasing the number of adults in the classroom and the student engagement in that classroom; as well as a positive

relationship between small group instruction and student engagement, Key areas for

further research include the influences of transition time on student engagement as well

as additional tools for assessment different forms of engagement.

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