

Spring 5-15-2018

# School Facility Conditions and the Relationship to Teacher Job Attitudes: A Replication Study

Andrew T. Curry  
Arkansas Tech University

Follow this and additional works at: [https://orc.library.atu.edu/etds\\_2018](https://orc.library.atu.edu/etds_2018)

Part of the [Education Economics Commons](#)

---

## Recommended Citation

Curry, Andrew T., "School Facility Conditions and the Relationship to Teacher Job Attitudes: A Replication Study" (2018). *Theses and Dissertations from 2018*. 1.  
[https://orc.library.atu.edu/etds\\_2018/1](https://orc.library.atu.edu/etds_2018/1)

This Dissertation is brought to you for free and open access by the Student Research and Publications at Online Research Commons @ ATU. It has been accepted for inclusion in Theses and Dissertations from 2018 by an authorized administrator of Online Research Commons @ ATU. For more information, please contact [cpark@atu.edu](mailto:cpark@atu.edu).



SCHOOL FACILITY CONDITIONS AND THE RELATIONSHIP  
TO TEACHER JOB ATTITUDES: A REPLICATION STUDY

A Dissertation Submitted  
to the Graduate College  
Arkansas Tech University

in partial fulfillment of requirements  
for the degree of

DOCTOR OF EDUCATION

School Leadership

in the Center for Leadership and Learning  
of the College of Education

May 2018

Andrew T. Curry

Bachelor of Arts, Arkansas Tech University, 1998  
Masters of Science in Education, Henderson State University, 2002  
Educational Specialist, Henderson State University, 2008

## Dissertation Approval

This dissertation, “School Facility Conditions and the Relationship to Teacher Job Attitudes: A Replication Study,” by Andrew T. Curry, is approved by:

Dissertation Chair:

---

John A. Freeman  
Professor  
Center for Leadership and Learning

Dissertation Committee:

---

Terry Nichols  
Assistant Professor  
Center for Leadership and Learning

---

Steve Rook  
President  
Ouachita Technical College

Program Director:

---

John A. Freeman  
Professor  
Center for Leadership and Learning

Interim Graduate College Dean:

---

Jeff Robertson  
Professor, Department of Physical Sciences  
Dean, College of Natural & Health Sciences

## Permission

Title: School Facility Conditions and the Relationship to Teacher Job Attitudes: A Replication Study

Program: School Leadership

Degree: Doctor of Education

In presenting this dissertation in partial fulfillment for a graduate degree from Arkansas Tech University, I agree the library of this university shall make it freely available for inspection. I further agree that permission for extensive copying for scholarly purposes may be granted to my dissertation chair, or, in that professor's absence, by the Head of the Department or the Dean of the Graduate College. To the extent that the usage of the dissertation is under control of Arkansas Tech University, it is understood that due recognition shall be given to me and to Arkansas Tech University in any scholarly use which may be made of any material in my dissertation.

---

Signature

---

Date

© 2018 Andrew T. Curry

## Abstract

This study was designed to answer the research questions: a) To what extent are job attitudes of teachers influenced by the conditions of school facilities in Arkansas; b) What are the perceptions of teachers in regards to the conditions of the school buildings; and c) Is there a difference between attitudes of teachers in “newer” facilities versus “older” facilities? The overall purpose of this study was to determine if there was a significant relationship between age of the school building and the attitudes of the teacher. The instruments used in this study to measure the attitudes were the Commonwealth Assessment of Physical Environment (CAPE) and the My Classroom Assessment Protocol (MCAP). The schools in this study were chosen to have a contrast between older and newer facilities. Data from the CAPE was used to determine the physical condition of the school buildings while the MCAP was used as an attitudinal assessment for classroom teachers. Data from the superintendents on the CAPE showed that the newer building was looked at more positively while the results of the MCAP showed a more positive result of the attitudes of the teachers in the older facility. These findings concluded that age of facilities did not have a significant impact on teacher job attitudes.

## Table of Contents

	Page
ABSTRACT.....	v
LIST OF TABLES .....	ix
CHAPTER I: INTRODUCTION.....	1
Background of the Study .....	1
Problem Statement .....	2
Purpose of the Study .....	3
Research Questions .....	3
Significance of the Study .....	3
Delimitations of the Study .....	4
Limitations of the Study.....	5
Basic Assumptions of the Study .....	5
Definition of Terms.....	5
Organization of the Study .....	6
CHAPTER II: LITERATURE REVIEW .....	7
Technology Needs in Schools.....	8
Age of School Buildings.....	12
Indoor Air Quality.....	13
Acoustics.....	14
Lighting.....	16
CHAPTER III: METHODOLOGY .....	21
Setting of the Study.....	21



Population .....	22
Instrumentation .....	22
Research Questions.....	23
Protection of Human Subjects .....	24
Data Collection .....	24
Data Analysis .....	25
Summary of Methodology .....	27
CHAPTER IV: RESULTS .....	29
Data Analysis .....	30
CAPE Total Composite.....	31
MCAP Total Composite .....	32
MCAP Classroom Assessment .....	33
MCAP Attitudinal Assessment.....	34
MCAP Student Learning Assessment.....	35
Male Teachers .....	35
Female Teachers .....	36
Bachelor's Degree.....	37
Post-Bachelor's Degree .....	38
Teachers with 0-10 Years of Teaching Experience .....	38
Teachers with More than 10 Years of Teaching Experience .....	39
Research Questions Addressed .....	40
Summary of the Chapter .....	41
CHAPTER V: DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS .....	42
Discussion of Findings.....	43
Assessment of the School Buildings.....	43

Assessment of Teachers' Attitudes of the School Buildings .....	44
Research Question 1 .....	44
Research Question 2 .....	46
Research Question 3 .....	47
Conclusions.....	49
Implications of the Study .....	50
Recommendations for Further Study .....	51
Summary .....	52
REFERENCES .....	54
APPENDICIES .....	60
Appendix A: IRB Approval Letter .....	61
Appendix B: Permission from School B District Superintendent .....	62
Appendix C: Permission from School A District Superintendent .....	64
Appendix D: Approval to Replicate the Study .....	66
Appendix E: Approval to Use the Surveys .....	67
Appendix F: Copy of CAPE Survey .....	68
Appendix G: Copy of MCAP Survey .....	76

## List of Tables

Table 4.1: Participant Demographic Information .....	30
Table 4.2: <i>t</i> -Test Results Comparing Total Composite CAPE Scores by School .....	32
Table 4.3: Independent Samples <i>t</i> -Tests Comparing Total Composite MCAP Scores by School .....	33
Table 4.4: Independent Samples <i>t</i> -Tests Comparing Classroom Assessment MCAP Scores by School .....	34
Table 4.5: Independent Samples <i>t</i> -Tests Comparing Attitudinal Assessment MCAP Scores by School .....	34
Table 4.6: Independent Samples <i>t</i> -Tests Comparing Student Learning Assessment MCAP Scores by School .....	35
Table 4.7: Independent Samples <i>t</i> -Tests Comparing Male MCAP Scores by School .....	36
Table 4.8: Independent Samples <i>t</i> -Tests Comparing Female MCAP Scores by School .....	37
Table 4.9: Independent Samples <i>t</i> -Tests Comparing Bachelor's MCAP Scores by School .....	37
Table 4.10: Independent Samples <i>t</i> -Tests Comparing Post-Bachelor's MCAP Scores by School .....	38
Table 4.11: Independent Samples <i>t</i> -Tests Comparing Teachers with 0-10 Years of Teaching Experience MCAP Scores by School.....	39
Table 4.12: Independent Samples <i>t</i> -Tests Comparing Teachers with More than 10 Years of Teaching Experience MCAP Scores by School .....	40

## **Chapter I: Introduction**

### **Background of the Study**

Teacher attrition is one of the major problems affecting education in the United States (Simon & Johnson, 2015). Teachers are constantly entering the profession and leaving within a few years which affects faculty experience levels, expertise, and professionalism. This lack of teacher stability impacts the overall effectiveness of schools and student achievement (Cox, 2009).

According to the Herzberg Two-Factor Theory of Motivation, the work environment and its conditions impact the motivation of the employees (Alshmemri, Shahwan-Akl, & Maude, 2017). Based on this theory, it would seem that teachers' motivation may be impacted by the conditions in the workplace, and if so, a study of teacher attitudes in relation to the condition of the facilities in which they work is important in determining how school districts can increase teacher retention rates.

In that context, the present study examined the relationship between the condition of school facilities and the attitudes of teachers toward their work. Since research on teacher effectiveness indicates there is a relationship between teacher attitude and student learning (Leigh, 2012), the more that we understand how to improve teacher attitudes, the better chance we have of improving the learning environment for students. While previous research exists concerning the interaction between school environment and school academic performance (Leigh, 2012), there does not appear to be extensive research conducted in Arkansas. The teacher shortage in the state and nation will make this research even more relevant as district leaders look for ways to attract and retain school teachers.

The physical work environment must be a part of the conversation when discussing teacher accountability. When the physical environment impedes the ability of the teacher to perform at an optimum level, then there need to be changes and adjustments to allow them to have the proper accommodations. The days of the one-room schoolhouse are in the past, and just as technology has changed the way our students learn, teachers need enhancements to the physical environment as well.

### **Problem Statement**

According to the research report on teacher recruitment and retention presented to the Arkansas General Assembly in April of 2016, many teachers in the state of Arkansas are leaving the teaching profession and pursuing jobs in other economic sectors (Bureau of Legislative Research, 2016). This is detrimental to education in terms of the financial costs involved in filling vacancies, seeking qualified candidates, and mentoring new teachers. The problem becomes even more acute when unqualified individuals are recruited to fill the gaps left by those leaving the profession (Caprara, Barbaranelli, Steca, & Malone, 2006).

Recent studies have revealed that the job satisfaction levels of teachers in both developed and developing nations are not improving, which reduces productivity (Leigh, 2012). The implication is that school outcomes and the achievement of students have gradually decreased. Research suggests that a positive relationship exists between school facility conditions and student achievement (Simon & Johnson, 2015). According to Leigh (2012), little research has been done on the relationship between the age of the school facility and teacher attitudes. Therefore, there is a need to further investigate this relationship between the age of school facilities and the professional attitudes of teachers.

**Purpose of the Study**

The purpose of this study was to investigate how conditions of school facilities impact teacher attitudes in Arkansas. By partially replicating a previous study (Leigh, 2012), teachers were surveyed in two high schools in Northwest Arkansas to gather data regarding their attitudes about their job in relation to the conditions of the classroom and overall school environment. The study looked at specific characteristics such as the general maintenance of schools, the lighting system, acoustics, and thermal control.

**Research Questions**

This study is guided by the following questions:

1. To what extent are job attitudes of teachers influenced by the conditions of school facilities in Arkansas?
2. What are the perceptions of teachers in regards to the condition of school buildings?
3. Is there a difference between attitudes of teachers in “new” facilities versus “older” facilities?

**Significance of the Study**

The overall attitude among teachers is directly related to the level of effectiveness of most teachers (Leigh, 2012). An investigation into the age of school facilities and their influence on the attitudes of teachers in Arkansas is essential to state government as it attempts to improve the performance of teachers and students. This study highlights some of the issues affecting the lives of teachers within school facilities.

The Arkansas Department of Education (ADE) may benefit by having a clear understanding of how the performance of teachers can be improved through focusing on

environmental factors such as school facilities. It is therefore important to determine the condition of school facilities and how that influences teaching and learning in the state of Arkansas. This would allow the government to develop state-specific programs to deal with the issue of job dissatisfaction among teachers.

Policy makers may also benefit from this study as it aims at addressing the issue of facility shortage and maintenance of existing facilities to not only improve the performance of teachers but also reduce their dissatisfaction with their profession. Policy makers need to develop strategies that can support positive teacher attitudes that will help minimize the current rate of teacher attrition.

This study may also be beneficial to future scholars as it adds to the current body of knowledge on this topic. The physical and mental health of teachers are important and the findings from this study can be used by policy makers to help understand the relationship between school facilities and the levels of both physical and mental health of teachers.

### **Delimitations of the Study**

The study was delimited geographically to two public high schools in the state of Arkansas in order to replicate the sample size of the Leigh (2012) study. Another factor in delimiting the study to two high schools concerned the amount of time and resources available to conduct the study. Delimiting the study to the influence of school facilities to teachers' job satisfaction provides a favorable foundation to develop meaningful results that can inform educational policies.

**Limitations of the Study**

The study has a small sample size, which limits the generalizability of the findings to other settings. Respondents in the study may also be biased towards their schools, which limits the objectivity of the responses. In addition, allegiance to school leadership may affect the responses given by teachers. Given the limited amount of time, it is also difficult to evaluate the magnitude of all elements of job satisfaction. Although the study may reveal a relationship between different factors, this does not imply a causal relationship.

**Basic Assumptions in the Study**

The researcher assumes that all participants in the study will answer the survey questions honestly and objectively. Another assumption is that the sample of teachers who took part in the study is representative of the teacher population in the northwest region of the state in similar school settings.

**Definition of Terms**

1. Facilities are the equipment and buildings within the school (Simon & Johnson, 2015).
2. Job satisfaction is the feeling that the teacher has towards their job based on the conditions in place and the rewards they receive from the job (Schneider, 2002).
3. School facilities are the classrooms, staffrooms, materials, and equipment used in the daily activities within a school (Simon & Johnson, 2015).
4. Work environment is the characteristics of the conditions in which teachers teach.



5. Building maintenance is a term representing the cleanliness and working conditions of the systems of a building. These systems include ventilation, thermal control, and acoustics (Schneider, 2002).

### **Organization of the Study**

The study report is organized into five chapters. Chapter I presents the background information, problem statement, objectives of the study, delimitations, significance of the study, and the definition of terms. Chapter II includes the literature review of the concepts that informed the problem statement and addresses several aspects of school facilities and their correlation to teacher and student satisfaction as outlined by studies from other scholars. Chapter III focuses on the study design, research method, study population, sample size, data collection, and ethical considerations. Chapter IV deals with data analysis, interpretation of the data, and presentation of results. The last chapter summarizes the results, implications, and provides recommendations based on those results.

## **Chapter II: Literature Review**

The purpose of this study was to investigate the relationship between the schools' physical condition and job satisfaction levels of the teachers in those schools. Literature related to this topic can be found, however there are fewer research studies on the topic of teacher job satisfaction in relation to the age of a school building. In this study, age of the building was used as a proxy for the quality of the conditions in the schools participating in the study. The implication being that there is a direct effect between the condition of the facilities and its age.

School boards and administrators are looking for relevant reasons to ask the patrons of a community for more money for school buildings, and they constantly seek more information to educate the staff and public as to why more money may be needed. Arkansas public schools spent approximately \$1.5 billion on school facilities from 2005-2008 (Filardo, Cheng, Allen, Bar, & Ulsoy, 2010). The Arkansas Facilities Division has a funding mechanism that allows for school districts to apply for partnership funding based on a wealth index calculating the total assessment for the district divided by the total number of students in daily attendance at the school district (Filardo et al., 2010).

This amount of funding allows communities to pass millages for construction of new buildings. For example, if the school district has a wealth index of 60% then the state will contribute the remaining 40% of funding for completion of projects. School boards and superintendents are then tasked with calculating how many mills will be needed to help pay for the remaining 40% (Filardo et al., 2010). The state also took control of what the building specifications will be in order for the building to be funded. The local districts must submit their plans and specifications to the public school

facilities department for thorough review and then must receive approval from the state in order for school construction to begin.

Arkansas has experienced significant investment in school facilities since the *Lake View School District No. 25 v. Huckabee* (2002) case in which school districts sued the state claiming that public schools were funded inadequately and inequitably. This ultimately led to the creation and enhancement of the public school facility school partnership program after recommendations were given to the state legislature by Odden, Picus, and Fermanich (2003). This study was used by the legislature to establish its current partnership school building program and is still used today to determine the adequacy and equitable funding of public schools in the state (Odden et al., 2003).

### **Technology Needs in Schools**

Many new teaching methods mandate the need for greater accessibility as well as a need to use more technology. Schools with “old” designs that do not meet the required specifications make it more difficult for teachers to achieve their goals (Leigh, 2012). “Educational reform requires schools to accommodate new teaching and learning styles, which includes providing laboratory classrooms; flexible instruction areas that can facilitate small-group, large-group, and multi-age instruction; and multimedia centers that offer a variety of technological resources” (Manqele, 2017, p. 177).

With this in mind, the need for updated facilities is especially important for a teacher to meet and exceed expectations of the goals set for them in education. Deficiencies in the way a school building is equipped or designed can cause a major impediment to a teacher performing their best. Cited in studies for example, classroom

lighting and thermal conditions have an effect on the overall feel and attitudes of teachers in the classroom (Claybon, 2008).

Most teaching and learning normally take place in a defined location, and it is more conducive to the process when the environment is more user-friendly. When teachers feel that a building is designed with their needs in mind, they may feel more valued and may have a much better attitude towards the learning process. This feeling of being valued can lead to better performance from a teacher and can impact the learning and achievement levels of their students (Conley, Bacharach, & Bauer, 1989). Buckley, Schneider, and Shang (2004) concluded that benefits from facility improvement were equal to or greater incentive for teachers than pay increases. About 48% of teachers who transferred to another school and 39% of teachers who left the profession cited the need for significant repair of school facilities as a source of dissatisfaction (Leigh, 2012). Noise can also be a factor that causes great dissatisfaction among teachers (Buckley et al., 2004).

Research conducted by Earthman (2002) concluded that school facilities and design have an impact on teacher effectiveness. “Ethnographic and perceptual studies indicate that poor school facilities negatively impact teacher effectiveness and performance” (Leigh, 2012 p. 13). Earthman (2002) concluded that teachers in buildings in poor condition stated that the design and appearance of the facility had a negative impact on the learning climate. “The size of the building and organizational space was reported as having an influence on the learning climate” (Leigh, 2012 p. 13).

In a study conducted by McGowen (2007), there was a statistically significant relationship between teacher turnover and facility conditions. This correlation suggests

that the quality of facilities has a relationship with retaining teachers. When school superintendents, assistant superintendents, and school boards consider the big picture, it is extremely important that they look to this factor as one area that can be controlled and determined by financial means.

It is widely accepted and supported by research that socioeconomic status is a primary determinant of student achievement. For example, the National Center for Education Statistics (2002) stated that student achievement outcomes are closely related to the socioeconomic status of students. This nationwide study on achievement levels among students in grades 4, 8, and 12 yielded results that indicated a high correlation between socioeconomic status and student achievement in both mathematics and science.

This trend shows that students with access to facilities that are new and more conducive to learning are more successful. One theory for this trend could be the correlation between updated school facilities and a community's willingness to support their students' learning. Alternatively, a study in North Carolina concluded that there is a correlation between districts that have poor test scores and poor school facilities (Burton, 1999).

With the growing issues facing education and our inability to fill and retain key positions in the field, it is highly important to further examine why teachers are leaving the profession. Also relevant to the subject is a 2008 study from the American Lung Association (ALA) stating that American school children miss more than 14.4 million school days due to the symptoms caused by asthma-related issues and poor indoor air quality, which lowers teacher and student productivity (ALA, 2012). "The effects of these trends include declining job satisfaction, a reduced ability of teachers to meet

students' needs, significant incidences of psychological disorders leading to increased absenteeism, and high levels of claims for stress-related disabilities" (Leigh, 2012, p. 2).

Job satisfaction of teachers is affected by the condition of the facilities in their schools (Earthman & Lemasters, 2009). According to the Herzberg Two-Factor Theory of Motivation, there are both hygiene and motivating factors. Work environment falls under hygiene factors and employees in a poor work environment are not motivated. Loeb, Darling-Hammond, and Luczak (2005) argue that a lack of adequate maintenance of school buildings, facilities, and equipment undermines the status of teachers in the community. Teachers believe that they are undervalued by society, especially if they are employed in a poor work environment. For example, overcrowded staffrooms, old furniture, and dysfunctional storage facilities diminish the morale of most teachers. There is a strong correlation between teachers' job satisfaction and morale, and the retention of teachers depends on their job satisfaction and morale.

In the research from reports by Lyons (2001) for the Council of Educational Facility Planners International (CEFPI), the author stated that there is a significant correlation between student achievement and the state of the school facility. The author stated "four recent studies that evaluated the relationship between school buildings and student achievement found higher test scores for students learning in better buildings and lower scores for students in substandard buildings" (Lyons, 2001, p. 24).

Lyons (2001) concluded that there are a multitude of issues that differentiate an effective facility from a poor one, including age, lighting, ventilation, temperature, and noise. Only one quarter of school buildings in North Carolina were built after the 1970s, and those buildings do not meet the requirements of the Americans with Disabilities Act.

“Many of the 40-year-old buildings currently in use do not address crowded classrooms, outmoded designs, or poor communication systems. This leads to teachers not having adequate facilities to adequately perform their job and causes frustration that impacts job satisfaction” (Leigh, 2012, p. 12). Leigh (2012) further states the following:

[When faculty work] in a facility that is rundown and lacking in certain features such as thermal control of the environment, adequate lighting and windows, modern science equipment, and controlled acoustical environment among other features, their attitude will not be as positive as that of faculty members working in better kept and modern facilities. (p. 14)

In addition, Cash’s (1993) theoretical model indicates that the condition of the school buildings can have a direct impact on teachers’ attitudes and performance.

### **Age of School Buildings**

According to the National Center for Education Statistics (2000) in a report entitled *Condition of America’s Public-School Facilities*, the average age of school buildings was 40 years old and needed substantial repairs, with over 30% of districts using portable buildings for general classrooms (Leigh, 2012 p. 19). According to research conducted by Ornstein (1994), when a school building is 20-30 years old, frequent replacement of equipment is needed. For buildings aged between 30-40 years old, it was frequently found that the original equipment should have been replaced, including the roof, High Volume Air Control (HVAC), and electrical equipment (Leigh 2012).

Aging buildings affect the areas of lighting, acoustics, plumbing, electrical systems, and HVAC. These factors can in turn greatly impact the learning environment

and result in a teaching performance level that is inadequate. An infrastructure that has been aging since the post-World War II era and a lack of focus from political leaders have led to crumbling infrastructures of school buildings that are leading to lower job satisfaction levels of teachers.

### **Indoor Air Quality**

Schneider (2002) concluded that 66% percent of the educators in Washington, DC and more than half of the educators in Chicago discovered the indoor air quality to be fair or poor. Over 30% of Chicago teachers and 40% of Washington, DC teachers reported that their classrooms were uncomfortable. “A disturbing finding was that over 40% of teachers reported an inability to open their classroom windows, which impacts air quality in the classrooms” (Leigh, 2012, p. 21). In addition, 20% of Washington, DC teachers and 10% of Chicago teachers said they could not even see out of their windows. The study reported that in Washington, DC 33% of teachers lost time due to health problems, with 20% reporting the same in Chicago (Schneider, 2002).

Asthma studies have shown that both students and teachers lose extensive school time due to poor indoor air quality (Leigh, 2012). Poor air quality was reported by two thirds of the teachers in Washington, DC, and about a quarter of the teachers in Chicago reported concerns and issues regarding asthma and respiratory-related issues while another 16% of the Chicago teachers reported health-related problems linked to poor air quality (Buckley et al., 2004).

Research by Wakefield (2002) revealed that there may be thousands of schools across the nation that may have exposed students, teachers, and staff to health risks related to such factors as “mold, pesticides, transmittable diseases, exposure to lethal



chemicals, and dangers related to a crumbling school foundation” (Leigh, 2012). Mold fragments and spores are also a concern since children spend approximately 85% of their time at school (or about seven hours a day) inside a school building. Therefore, the air quality can be affected by the presence of mold spores, which becomes factor to a variety of health concerns (Wakefield, 2002). The research of a compilation of studies in 2009 concluded that there is a positive relationship between school condition and the performance of school students (Leigh, 2012).

According to Lyons (2001), problems with heating and air units can cause students to have problems with existing allergies or asthma. It can cause them to be lethargic and loose concentration. Construction techniques in the 1970s mostly used a reduction in ventilation to conserve energy and make buildings “tighter.”

Another major health risk factor with heating and air units are directly related to mold in the system, the air, and in the classrooms. Molds can be detrimental to students’ health. Mold can easily grow on carpet, paper, paint, and floors in the school environment. Central heating and air systems are also of great alarm. They can house toxins and push them throughout the building, making the air quality damaging with pollutants. Indoor air quality that is not safe have many consequences. It can cause immediate and prolonged health problems for students as well as teachers (Davis, 2001).

### **Acoustics**

The acoustics of a school building are crucial to the learning environment. Students will have a hard time concentrating and learning due to outdoor noise. In a study by Lyons (2001), it is concluded that students need a higher-level insulation to be able to concentrate, hear appropriately, and learn inside a classroom. Difficulty for

students to hear and understand may cause unnecessary limitations and frustrations for the teacher, and the student may not be able to properly focus (Lyons, 2001). Poor acoustics interfere with speech intelligibility as well as the ability of a student to hear and directly interpret communicated instructions. When sounds “echoed” or when outside traffic and noise from the gym class next door interrupts a student’s concentration, it is likely that student will miss or misinterpret part of the teacher’s lesson (E. Johnson, 2001).

For the classroom teacher’s daily work, existing noise pollution can be controlled thereby allowing acoustics to not be as burdensome. Conditions that affect acoustics issues can be controlled in a variety of ways, such as having floors covered with carpet, lining the walls with acoustic tile, and building schools away noisy industry or roadways. High Volume Air Control (HVAC) noise can be an issue as well. Acoustic liners can be installed in the ductwork, which can be a solution to noisy HVAC issues. High-density vinyl barriers within walls can help prevent noise spilling into adjoining classrooms as well (E. Johnson, 2001).

Classrooms with hovering tile ceilings are also a common source of both sound and air infiltration issues, and by inserting acoustic impact insulation two different solutions can be achieved: First, if a barrier is created the sound and acoustics of a classroom can be dramatically helped. In addition, if this type of barrier has an insulation rating extra insulation can be achieved for costly HVAC units. Another way to have cleaner air and help the acoustics of a buildings is to use carpet on floors that are routinely cleaned and treated for hypoallergenic conditions (E. Johnson, 2001). Carpets must be well maintained and replaced in a timely fashion, as the wear and tear from high

traffic in a school environment makes it extremely difficult to keep carpets clean and maintained.

### **Lighting**

Another problem affecting aged school buildings is the issue of lighting and the lack of natural light. Lyons (2001) states that naturally occurring light has greatly affects the physical and emotional state of a person by affecting the circadian rhythm.

Therefore, it is imperative that construction of new buildings incorporates natural light not only in vestibules, foyers, and related areas but in classrooms as well. Vitamin D deficiencies can cause health issues for children and adults alike. Teachers spend little time outside during the work day and are accustomed to not having time to daily go outside and enjoy the qualities and benefits of sunlight (Lyons, 2001).

A study conducted in California, Washington, DC, and Colorado found that when students were exposed to the maximum amount of sunlight they were found to have more rapid cognition (Heschong, 2002). Additionally, another study concluded that students showed improvement in their school success and attendance when the student had been exposed to maximum sunlight. The exposure to full ultraviolet enhancement or full spectrum lighting showed a significant increase in performance of students (Hathaway, 1995).

Learning and teaching are two complicated tasks that entail the testing of the skillset, physical ability, and motivation of the teacher as well as the student. As a result, it is necessary to conduct a study examining the link between the conditions of the school and the conditions of the school's effect on the attitude of teachers. Such a study is helpful especially in cases where it is necessary to improve a nation's education system

(Earthman & Lemasters, 2009). Although there has been a significant amount of research that relates the state of the school facility to the students' performance, a minimal amount has concentrated on the impact of the school conditions on the teachers' attitudes. Such a research is especially essential in situations where schools are required to link their performance to their evaluation. According to Earthman and Lemasters (2009), teacher attitudes are a reflection of how satisfied they are with their jobs.

Sadik (2006) establishes that various school districts face issues regarding basic conditions of the buildings in various public schools. In addition, the researcher argues that there is a need for a modernization of the ancient or obsolete establishments (Sadik, 2006). The various school districts always face some common issues, such as the need for technology to enhance instruction and the need for facilities that have access to appropriate technology used in the classroom (Sadik, 2006). Considering these factors, it is necessary for schools to offer suitable facilities to attract the most effective teachers. According to a study by Ornstein (1994), building deficiencies normally have an effect on the quality of teaching and also affect the safety and health of the students and staff. The design of school facilities has been linked to the motivation of teachers and achievement of the students (S. M. Johnson, Kraft, & Papay, 2012). The lighting and the thermal comfort of the classroom are normally mentioned by teachers as key elements to achieving high levels of morale and student engagement.

In a majority of cases, teaching is carried out in a particular physical location. Simon and Johnson (2015) argue that the state of the location may have an effect on the capability of the teachers to conduct teaching, on the morale of the teachers, and on the safety and health of the teachers. Various shortages within a learning institution have the

ability to weaken the teaching quality as a result of teachers having a negative attitude towards the profession. It is the negative attitudes that make it difficult for teachers to continue working in the profession, as suggested by Earthman and Lemasters (2009). Research has established that there are various benefits to improving the facilities for the sake of retention that are similar to or greater than those resulting from pay raises (Simon & Johnson, 2015). An estimated 48% of the teachers who transferred to a separate institution and 40% of those who abandoned teaching stated the need to carry out substantial repairs to the facilities in the school as the origin of dissatisfaction (Sakai & Kikuchi, 2009). The element of noise has also been established as an aspect of teacher dissatisfaction in a facility. Teachers have the notion that noise has an impact on academic excellence. About 70% of teachers in Washington, DC have reported that the classes and hallways are quite noisy (U. Sharma, Forlin, Loreman, & Earle, 2006), which as a result has an effect on their ability to conduct teaching in the classes. In light of this situation, it is clear that external noise is a source of unease and minimized effectiveness (Simon & Johnson, 2015).

The facilities in a school have the ability to affect the effectiveness of the teachers. The repair, as well as the renovations of the facilities, are linked to the attitudes that teachers have towards the profession (Loeb et al, 2005). Both perception and ethnographic research have revealed that terrible facilities in a school have an undesirable effect on the effectiveness of a teacher as well as on his or her performance. In one study, the teachers in buildings that were in terrible condition claimed that the facility's appearance and design had a detrimental impact on the learning and teaching atmosphere (R. D. Sharma & Jyoti, 2009). On the other hand, the tutors in buildings that were in

perfect condition stated that the buildings resulted in a positive impact on the learning climate (R. D. Sharma & Jyoti, 2009). The elements of the organization, as well as the size of the space, were stated as having an impact on the learning atmosphere. From the teachers' point of view, maintaining a building appeared to affect the learning climate in a similar manner as the appearance and design of the facility (Buckley et al., 2004).

According to Weiqi (2007), it was established that teacher turnover happened to be one of the variables with a statistically significant link to the state of the school facilities. Furthermore, it was found that the physical surrounding of the institution has an effect on the intention of even the top instructors to remain in the teaching profession (R. D. Sharma & Jyoti, 2009). A study involving teachers from Virginia proved that they were completely discontented with the buildings' physical conditions (Weiqi, 2007). In this case, they listed various issues such as problems regarding controlling climate, overcrowding, and poorly planned spaces (Leigh, 2012)

When it comes to job satisfaction, it has been established that a teacher's morale is quite high in cases where he or she experiences a feeling of achievement from their job (Leigh, 2012). Although researchers have not reached an agreement regarding the particular meaning of morale, evidence shows that specific elements that reduce morale result in the teacher attrition issues and poor performance in class (Buckley et al., 2004). Further research has established that the stresses associated with the workplace result in minimized job satisfaction and ultimately a decision to opt for another career (S. M. Johnson et al., 2012). Furthermore, indiscipline of students and terrible working situations are the major origins of stress (Leigh, 2012). According to the Environmental Protection Agency (EPA), the indoor quality of air is a major factor in determining the

morale of a teacher (Uline & Tschannen-Moran, 2008). The EPA also states that perfect indoor quality of air has the ability to enhance morale, productivity, and a feeling of comfort for the teachers.

There are various impacts related to low satisfaction of teachers. Some of the emotional and psychological impacts of stress entail nervousness, depression, loss of confidence, and anxiety (Buckley et al., 2004). When it comes to behavior, impacts include being impatient with other persons, being absent from work, always postponing, and withdrawing from teaching (Caprara et al., 2006). In addition, the pattern of negative attitudes and performance in the students, as well as poor workplace conditions, recur in cases where teachers become upset and start to lose their patience with students who are performing poorly and having bad attitudes. Teachers who end up experiencing burnout are unlikely to be understanding of their students (Buckley et al., 2004). In addition, these teachers will possess a minimal tolerance for any form of distraction, be less likely to properly plan for their learning, and have a minimal obligation to their respective duties.

### **Chapter III: Methodology**

The focus of this study was to determine whether there is a connection between school facility conditions and teacher attitudes. This chapter sets out to (a) describe the school settings, (b) describe the demographics, (c) chronicle the methods of data collection, and (d) provide analysis, explanation, and describe the procedures to gather data. This study is a partial replication of a study conducted by Leigh (2012).

Permission was granted by Dr. Leigh by email contact on October 18, 2017, and a copy of the email can be found in Appendix D.

#### **Setting of the Study**

The setting for this study was two high schools in Northwest Arkansas, with each school located in a separate district. School A has a student population of 795, while school B has a student population of 1,190. Both districts receive a total of \$6,713.00 per student, which is also the state average among school districts in Arkansas (ADE, 2018). The educational programs of both districts provide a curriculum focused on the basics of language arts, math, science, and social studies that are designed to meet and exceed the Arkansas Common Core State Standards set by the Arkansas Department of Education (ADE, 2018). School districts A and B have a 360-minute instructional day 178 days per year. All 235 districts in Arkansas are required to offer 38 units and four advanced placement courses. Arkansas requires 23 credits for graduation, however, each district can choose to add to the requirements. The two school districts also have similar graduation requirements. Both districts' high schools have the requirement of 360 minutes of daily instruction time and operate on a five-day school week.



**Population**

The population in this study consisted of all licensed teachers in the two high schools selected. The schools chosen have a contrast between old and new facilities, which is a covariant for the condition of the facilities, assuming that the older school would have more facility issues. School A (newer) has a certified education staff of 32 teachers, of which 78.1% are female and 21.9% are male. The starting salary for School A is \$33,508 per year. School B has a certified education teaching staff of 31 teachers, of which 77.4% are female and 22.6% percent are male. The starting salary for School B is \$34,301 per year.

**Instrumentation**

Two different sets of data were collected: 1) a building assessment to determine the condition of the building, completed by the superintendent in each district; and 2) an appraisal of teacher perceptions and attitudes as they relate to their school's facilities. The superintendents were asked to complete the assessment of the buildings due to the fact that these are small districts and the superintendents are more likely to be able to assess the high school buildings in relation to their overall facilities.

The two surveys that were used included the Commonwealth Assessment of Physical Environment (CAPE), which was used to measure the building structures and conditions. The second instrument used was the My Classroom Appraisal Protocol (MCAP), which was completed by teachers in both participating high schools.

The CAPE produces a score that measures the condition of the building and is divided into two categories: one dealing with structural issues and the other with the cosmetic issues of the buildings. Examples of cosmetic issues would include the

presence of graffiti, lack of paint, landscaping, and how frequently the floors are cleaned. Structural issues might include building age, environmental noise, windows, heating and air, roof leaks, lighting, and electrical outlets (Leigh, 2012). The CAPE has been used extensively in research and has been shown to be valid and reliable (Earthman, 2004). The items on the CAPE survey are scored using three possible responses to each item to permit a range of evaluation regarding building conditions (Leigh, 2012).

The second survey, the MCAP, collected teacher attitudes and perceptions about their classroom environment and the scores were used to compare across the two schools to contrast the newer and older schools. The MCAP instrument was designed by Earthman (2004), and permission to use the survey is documented in Appendix E.

The MCAP assessment consists of 48 items covering seven building components and conditions such as thermal control, lighting, acoustics, furniture condition and equipment, space, and presence of graffiti (Leigh, 2012). The survey is divided into five sections: classroom assessment, attitudinal assessments, student learning, building assessment, and demographic data. A copy of the instrument can be found in Appendix G.

### **Research Questions**

This study is guided by the following questions:

1. To what extent are job attitudes of teachers influenced by the conditions of school facilities in Arkansas?
2. What are the perceptions of teachers in regards to the condition of school buildings?

3. Is there a difference between attitudes of teachers in “new” facilities versus “older” facilities?

### **Protection of Human Subjects**

Upon receiving approval from the Arkansas Tech University (IRB; see Appendix A), as well as consent from the school superintendents that participated in the research (see Appendices B and C), consent from school principals at both high schools were also received. After receiving consent from the principals, a meeting with the staff was set at the principals’ discretion and an appropriate time was determined to administer the survey to the staff. A meeting was held with the staff to obtain their consent to participate, during which their rights as participants were discussed. The consent form was obtained from all subjects surveyed before they took the survey. A copy of the survey and the consent form can be found in Appendix G.

### **Data Collection**

After all approvals were obtained and permission to collect data was obtained from IRB, the researcher administered the MCAP surveys to the teachers during a predetermined time and place. The surveys were administered to the teachers at School A (newer) during a called faculty meeting. Although the study was explained in the cover letter to the survey, the researcher went over the rights of participants and the protection of confidentiality. After the consent forms were signed, the paper and pencil surveys were distributed to each teacher in attendance. As the surveys were completed, the researcher collected each survey and secured them in a cardboard container and marked the box with the school’s name. After completing data collection at School A, the researcher then traveled to School B (older) and carried out the same procedures with

the faculty members in that school. Again, after collecting the paper and pencil surveys, the researcher marked the container as School B and secured the surveys in preparation for data entry.

The CAPE survey was presented to each superintendent on the date that the MCAP surveys were administered, and they were asked to complete the CAPE survey and return it to the researcher by scanned email attachment. Since there was only one CAPE survey for each school, administered by the superintendent, it was felt that it would be sufficient to let them send in the surveys in this manner for convenience.

### **Data Analysis**

The data analyses for this study involved two phases: 1) the results from the CAPE survey completed by the two district superintendents and 2) the results from the MCAP survey of the teachers from the two schools. Although the MCAP has been demonstrated to be reliable by Earthman (2004) at  $\alpha = .95$ , there was an error in duplicating the MCAP and two of the items were left off the survey. However, a reliability check on the MCAP data collected with the two missing items indicated that the instrument was still reliable at  $\alpha = .90$ . Based on this finding, it was determined that the study could proceed and the MCAP would provide a reliable analysis of these data.

Statistics about the physical and aesthetic conditions of the two high schools were self-reported by the two superintendents using the CAPE survey. Therefore, it can only be assumed that the results were reported accurately.

The data from the CAPE survey were entered manually into an Excel file. For coding purposes, the responses to the CAPE survey were set up with a response to A being coded as 1, B as 2, and C as 3. Using these numeric codes for categorical data

allowed for a composite score for each high school to be calculated and used to compare the conditions of the facilities between the two schools. The higher the score on the CAPE survey, the better the condition of the building. An independent samples *t*-test was used to determine whether there was a statistically significant difference between the CAPE scores of the two high schools.

For the MCAP surveys determining the attitudes and perceptions of the teachers in each school as to the conditions of their classroom environments, the raw data from the paper surveys that had been collected from the schools was manually entered into an Excel file by the researcher. Data fidelity was maintained by entering the data for each individual school into a separate Excel file so that there was no chance of confusing the schools or intermingling the data. Once the data were entered into Excel, they were then uploaded into SPSS23 for statistical analysis purposes.

The MCAP surveys from the two high schools were coded numerically using a Likert Scale. Questions 1-40 represent the first three sections of the survey (i.e., Attitudinal Assessments; Classroom Assessments; and Student Learning Assessments) and have four-point Likert responses from 1 = Strongly Disagree to 4 = Strongly Agree. The responses to these first three sections produced a composite score by adding up the number from each item. It should be noted that 18 of the 40 questions in the first three sections are reverse ordered, in that a response of “4 – Strongly Agree” would be considered a negative response. For these 18 questions, the responses were recoded so that responses to all 40 questions were viewed as the higher the composite score, the more positive the results.

Demographic data were collected and coded numerically as well. Questions 4-8 provided information regarding respondents' gender, degree level, years taught, and years taught in the district. For these categorical data, numbers were assigned for calculation purposes but have no number value per se. Once the data were properly coded and entered into SPSS23, a series of independent samples *t*-tests were performed to attempt to answer the stated research questions.

First, descriptive statistical analyses were used to determine the means and standard deviations for all variables and to describe the participants in the study. Composite scores for the MCAP survey were calculated and presented as a total composite score and scores for each subsection: Classroom Assessment, Attitudinal Assessment, and Student Learning Assessment. These scores were then used as mean teacher responses, and a series of independent samples *t*-tests were performed to determine if there was a statistically significant difference between the schools based on the age of the buildings.

In addition to comparing the composite scores between the two high schools, analyses were also included to determine whether any differences can be identified between the older and newer schools based on the demographic variables collected. For instance, do male and female teachers have different attitudes about their schools? Independent samples *t*-test were also used to conduct this analysis.

### **Summary of the Methodology**

This chapter presented the research design and methodology used to conduct the study. It provided a description of the schools involved and the procedures for securing approval for the study. In addition, it included a description of the procedures carried out

to collect data, the instruments used, and the data analysis methods employed for the purpose of answering the research questions.

In the next chapter, the researcher will present the results from the descriptive and inferential statistical analyses used on the data collected. That will be followed in Chapter V by presenting the conclusions drawn from these findings and the implications for practice and future study that arose from the study.

## **Chapter IV: Results**

This chapter shows the outcomes of data gathered from the teacher participants in this study, consisting of 65 teachers and two superintendents. Table 4.1 shows that among these participants, 78.1% (25) were female and 21.9% (7) were male in School A (newer), and 77.4% (24) were female and 22.6% (7) were male in School B (older) providing a similar breakdown by gender between the two schools. Two respondents did not report their gender.

Also in Table 4.1, among the participants in relation to the highest degree achieved, the teachers in School A were evenly divided with 16 teachers with a bachelor's degrees and 16 with an advanced degree. School B had 54.8% (17) teachers with bachelor's degrees and 45.2% (14) teachers with an advanced degree. Again, this demonstrates a similar makeup between the two schools in relation to the highest degree achieved.

The participants were also asked to report their years of teaching experience. School A had 81.3% (26) of the teachers with 0-10 years of teaching experience and 18.8% (6) teachers that had 10 or more years of teaching experience. In School B, 74.2% (23) of the teachers less than 10 years of teaching experience and 25.8% (8) teachers had 10 or more years of teaching experience. Again, this is a very similar breakdown between the schools in terms of overall teaching experience (see Table 4.1).

The last demographic variable that was obtained regarding the participants in the study was the years employed in their present school district. It was felt that this variable may impact perceptions about the facilities. In Table 4.1, School A reported that 78.1%



(25) teachers had been in the district 0-10 years, while 21.9% (7) had been in the district for more than 10 years. School B indicated that 61.3% (19) of its teachers had been in the district 0-10 years, while 38.7% (12) had been in the district for more than 10 years.

Table 4.1

*Participant Demographic Information*

		School A	School B
Gender	Female	25 (78.1%)	24 (77.4%)
	Male	7 (21.9%)	7 (22.6%)
	Total	32 (100%)	31(100%)
Highest Degree	Bachelors	16 (50%)	17 (54.8%)
	Advanced	16 (50%)	14 (45.2%)
	Total	32 (100%)	31 (100%)
Total Years	0-10 Years	26 (81.3%)	23 (74.2%)
	10+ Years	6 (18.8%)	8 (25.8%)
	Total	32 (100%)	31 (100%)
Years in District	0-10 Years	25 (78.1%)	19 (61.3%)
	10+ Years	7 (21.9%)	12 (38.7%)
	Total	32 (100%)	31 (100%)

**Data Analysis**

The overall composite scores for the school facilities were determined by compiling the responses to the Commonwealth Assessment of Physical Environment (CAPE) instrument by each of the two superintendents. Responses were coded so that a higher number value to a survey question would always indicate a more favorable building situation. Data analysis was performed using SPSS in which coded responses from the questionnaire were entered to determine whether the superintendents' responses

corresponded to a significant difference in the condition of the buildings. An explanation of the survey follows each set of tables.

Composite scores for teacher attitudes were determined by coding teacher responses to the MCAP instrument. Coded and recoded teacher responses were entered into SPSS. Questions number 5, 6, 14, 16, 18, 20, 22, 24, 27, 28, 29, 30, 31, 32, 33, 34, 38, and 39 were recoded so that a higher teacher response to a question would always indicate a more positive teacher attitude. Analysis of the data determined whether the responses presented significant differences in the attitudes of teachers in School A (newer) and School B (older) during the 2017-18 academic session. Cronbach's alpha was run on the MCAP instrument and indicated a score of .90.

**CAPE total composite.** The Commonwealth Assessment of Physical Environment (CAPE) provided the composite score regarding the physical conditions of School A (newer) and School B (older) during the 2017-18 academic school session. The CAPE instrument contains 32 assessment questions which were administered to the superintendent of each school district, 27 of which were coded, entered into SPSS, and analyzed. The composite score for School A was 76 with a mean of 2.81, while the composite score for School B was 59 with a mean of 2.19. An independent samples *t*-test was conducted to determine if there was a difference in the means between the two schools on the CAPE composite score (see Table 4.2).

The results indicate that  $p = .080$ , and since the significance level was set at  $p < .05$ , it cannot be concluded that the difference in the mean between the two schools is statistically significant. While it is apparent that the newer school (School A) was scored higher by its superintendent than the older school (School B), the difference was not

significant. This could have more to do with the fact that it is a self-reported comparison of two superintendents. It is possible that they may not have felt comfortable describing their facilities as being too needy. Whatever the reason, it is interesting that there was not a significant difference in this CAPE survey between the older and the newer school.

Table 4.2

*t-Test Results Comparing Total Composite CAPE Scores by School*

	<i>C</i>	<i>M</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	76	2.81	7.94	2.5	.080
School B	59	2.19			

*Note.* Significance is based on  $p < .05$ .

**MCAP total composite.** This section shows the data analysis results regarding the perceptions of teachers working in School A (newer building) compared with the perceptions of teachers working in School B (older building) during the 2017-18 academic session. The MCAP instrument contains 43 questions which were coded, entered into SPSS, and analyzed. The mean total composite score for the 32 teachers in School A was 79.78, while the total composite score for the 31 teachers in School B was a mean of 97.42. Two items were inadvertently left off the MCAP survey. A reliability analysis was run using Cronbach alpha which indicated that the reliability of the survey ( $\alpha = .90$ ) was similar to previous reliability measures that included the two missing items meaning that the survey was not affected to the point of discarding the results.

An independent samples *t*-test was conducted to analyze the total composite scores of teachers in both School A and School B to determine if there was a significant difference in the scores. Table 4.3 shows that there was a statistically significant

difference between the composite MCAP scores for School A ( $M = 79.78$ ,  $SD = 15.04$ ) and School B ( $M = 97.42$ ,  $SD = 14.09$ );  $t(61) = -3.17$ ,  $p = .002$ .

Table 4.3

*Independent Samples t-Tests Comparing Total Composite MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	32	79.78	15.04	-3.17	61	.002*
School B	31	97.42	14.09			

*Note.* Significance is based on  $p < .05$  and indicated by an asterisk.

School B (older school) has a higher mean than School A (newer school), which shows that the overall attitude of teachers in School B regarding their classroom physical environment is more positive than the overall attitude of teachers in School A.

**MCAP classroom assessment.** This section presents the results obtained concerning the attitudes of teachers about the physical nature of their classroom in School A (newer building) and School B (older building) during the 2017-18 academic session. There were 17 questions administered to the teachers in the classroom assessment section of the MCAP instrument, which were coded, entered into SPSS, and analyzed. An independent samples *t*-test was conducted to analyze the classroom assessment scores between School A and School B. Table 4.4 shows that there was a statistically significant difference between the classroom assessment MCAP scores for School A ( $M = 30.84$ ,  $SD = 6.83$ ) and School B ( $M = 35.42$ ,  $SD = 6.25$ );  $t(61) = -2.77$ ,  $p = .007$ . School B (older school) has a higher mean than School A (newer school), which shows that teachers in School B have a more positive attitude about their classrooms' physical condition than the teachers in School A.

Table 4.4

*Independent Samples t-Tests Comparing Classroom Assessment MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	32	30.84	6.83	-2.77	61	.007*
School B	31	35.42	6.25			

*Note.* Significance is based on  $p < .05$  and indicated by an asterisk.

**MCAP attitudinal assessment.** This section shows data concerning how the physical conditions of the classroom influence the teachers' attitudes related to classroom assessment in School A (newer building) and School B (older building) during the 2017-18 academic session. There were 14 questions in the attitudinal assessment section of the MCAP instrument, which were coded, entered into SPSS, and analyzed. An independent samples *t*-test was conducted to analyze the attitudinal assessment scores between School A and School B. Table 4.5 shows that there was a statistically significant difference between the attitudinal assessment MCAP scores for School A ( $M = 28.81$ ,  $SD = 7.13$ ) and School B ( $M = 32.52$ ,  $SD = 5.65$ );  $t(61) = -2.28$ ,  $p = .026$ .

Table 4.5

*Independent Samples t-Tests Comparing Attitudinal Assessment MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	32	28.81	7.13	-2.28	61	.026*
School B	31	32.52	5.65			

*Note.* Significance is based on  $p < .05$  and indicated by an asterisk.

School B (older building) has a higher mean than School A (newer building), which would indicate that teachers in School B have a more favorable attitude about the physical conditions of the school in relation to their overall attitude than teachers in School A.

**MCAP student learning assessment.** This section shows data concerning teacher attitudes about the physical condition of the classroom and how it affects student learning in School A (newer building) and School B (older building) during the 2017-18 academic session. There were 11 questions in the student learning assessment section of the MCAP instrument, which were coded, entered into SPSS, and analyzed. An independent samples *t*-test was conducted to analyze the student learning assessment teacher response scores between School A and School B. Table 4.6 shows that there was a statistically significant difference between the composite MCAP scores for School A ( $M = 20.13$ ,  $SD = 3.62$ ) and School B ( $M = 23.48$ ,  $SD = 4.93$ );  $t(61) = -3.09$ ,  $p = .003$ .

Table 4.6

*Independent Samples t-Tests Comparing Student Learning Assessment MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	32	20.13	3.62	-3.09	61	.003*
School B	31	23.48	4.93			

*Note.* Significance is based on  $p < .05$  and indicated by an asterisk.

School B has a higher mean than School A, which would indicate that teachers in School B (older building) have a more positive attitude about their classroom and its effect on student learning than teachers in School A (newer building).

**Male teachers.** This section shows the overall statistics concerning the attitudes of male teachers in School A (newer building) and School B (older building) during the 2017-18 academic school session. There were 43 questions on the MCAP instrument, which were coded, entered into SPSS, and analyzed. There were seven male teachers in School A and seven male teachers in School B. An independent samples *t*-test was

conducted to analyze the total MCAP scores for male teacher responses in both School A and School B. Table 4.7 shows that there was not a statistically significant difference between the composite MCAP scores for School A ( $M = 72.71$ ,  $SD = 22.61$ ) and School B ( $M = 91.57$ ,  $SD = 11.36$ );  $t(12) = -1.97$ ,  $p = .072$ .

Table 4.7

*Independent Samples t-Tests Comparing Male Composite MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	7	72.71	22.61	-1.97	12	.072
School B	7	91.57	11.36			

*Note.* Significance is based on  $p < .05$ .

In Table 4.7, the  $p$ -value of .072 indicates that there was not a significant difference between the mean male teacher attitudinal scores in School A and School B.

**Female teachers.** This section presents data concerning the attitudes of female teachers in School A (newer building) and in School B (older building) during the 2017-18 academic school year. There were 43 questions on the MCAP instrument which were coded, entered into SPSS, and analyzed. There were 25 female teachers in School A and 24 female teachers in School B. An independent samples  $t$ -test was conducted to analyze the total MCAP scores for female teachers in both School A and School B. Table 4.8 shows that there was a statistically significant difference between the female composite MCAP scores for School A ( $M = 81.76$ ,  $SD = 12.08$ ) and School B ( $M = 91.38$ ,  $SD = 15.02$ );  $t(47) = -2.48$ ,  $p = .017$ .

Table 4.8

*Independent Samples t-Tests Comparing Female Composite MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	25	81.76	12.08	-2.48	47	.017*
School B	24	91.38	15.02			

*Note.* Significance is based on  $p < .05$  and indicated by an asterisk.

School B (older building) has a higher mean than School A (newer building), which would indicate that female teachers in School B have a better overall attitude about their classroom than female teachers in School A.

**Bachelor's degree.** This section shows the data concerning the attitudes of teachers who have a bachelor's degree in School A (newer building) and School B (older building) during the 2017-18 academic session. There were 43 questions on the MCAP instrument which were coded, entered into SPSS, and analyzed. There were 16 teachers with a bachelor's degree in School A and 17 teachers with a bachelor's degree in School B. An independent samples *t*-test was conducted to analyze the MCAP scores of teachers with a bachelor's degree in both School A and School B. Table 4.9 shows that there was not a statistically significant difference between the composite MCAP scores for School A ( $M = 82.44$ ,  $SD = 17.29$ ) and School B ( $M = 90.65$ ,  $SD = 12.23$ );  $t(31) = -1.58$ ,  $p = .124$ .

Table 4.9

*Independent Samples t-Tests Comparing Bachelor Degree Composite MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>T</i>	<i>df</i>	<i>Sig.</i>
School A	16	82.44	17.29	-1.58	31	.124
School B	17	90.65	12.23			

*Note.* Significance is based on  $p < .05$ .



**Post-bachelor's degree.** This section shows the data concerning the attitudes of teachers with a post-bachelor's degree in School A (newer building) and in School B (older building) during the 2017-18 academic session. There were 43 questions on the MCAP instrument which were coded, entered into SPSS, and analyzed. There were 16 teachers with a post-bachelor's degree in School A and 14 teachers with a post-bachelor's degree in School B.

An independent samples *t*-test was conducted to analyze the MCAP scores of teachers with a post-bachelor's degree in both School A and School B. Table 4.10 shows that there was a statistically significant difference between the composite MCAP scores for School A ( $M = 77.13$ ,  $SD = 12.39$ ) and School B ( $M = 92.36$ ,  $SD = 16.51$ );  $t(28) = -2.88$ ,  $p = .008$ .

Table 4.10

*Independent Samples t-Tests Comparing Post Bachelors Composite MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	16	77.13	12.39	-2.88	28	.008*
School B	14	92.36	16.51			

*Note.* Significance is based on  $p < .05$  and indicated by an asterisk.

School B (older building) has a higher mean than School A (newer building), which would indicate that teachers with a post-bachelor's degree in School B have an overall better attitude about their classroom than teachers with a post-bachelor's degree in School A.

**Teachers with 0-10 years of teaching experience.** This section shows the data concerning the attitudes of teachers with 0-10 years of teaching experience in School A

(newer building) and in School B (older building) during the 2017-18 academic session. There were 43 questions on the MCAP instrument which were coded, entered into SPSS, and analyzed. There were 26 teachers with 0-10 years of teaching experience in School A and 23 teachers with 0-10 years of teaching experience in School B. An independent samples *t*-test was conducted to analyze the MCAP scores of teachers with 0-10 years teaching experience in both School A and School B. Table 4.11 shows that there was a statistically significant difference between the composite MCAP scores for School A ( $M = 82.19$ ,  $SD = 15.19$ ) and School B ( $M = 92.57$ ,  $SD = 11.89$ );  $t(47) = -2.64$ ,  $p = .011$ .

Table 4.11

*Independent Samples t-Tests Comparing Teachers' with 0-10 years of Experience  
Composite MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	26	82.19	15.19	-2.64	47	.011*
School B	23	92.57	11.89			

*Note.* Significance is based on  $p < .05$  and indicated by an asterisk.

School B (older building) has a higher mean than School A (newer building), which would indicate that teachers with 0-10 years of teaching experience in School B have an overall better attitude about their classroom than teachers with 0-10 years of teaching experience in School A.

**Teachers with more than 10 years of teaching experience.** This section shows the data concerning the attitudes of teachers with more than 10 years of teaching experience in School A (newer building) and in School B (older building) during the 2017-18 academic session. There were 43 questions on the MCAP instrument which were coded, entered into SPSS, and analyzed. There were six teachers with more than 10 years of teaching experience in School A and eight teachers with more than 10 years of

teaching experience in School B. An independent samples *t*-test was conducted to analyze the MCAP scores of teachers with more than 10 years of teaching experience in both School A and School B. Table 4.12 shows that there was not a statistically significant difference between the composite MCAP scores for School A ( $M = 69.33$ ,  $SD = 9.40$ ) and School B ( $M = 88.13$ ,  $SD = 19.77$ );  $t(12) = -2.14$ ,  $p = .054$ .

Table 4.12

*Independent Samples t-Tests Comparing Teachers with more than 10 years of Experience Composite MCAP Scores by School*

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
School A	6	69.33	9.40	-2.14	12	.054*
School B	8	88.13	19.77			

*Note.* Significance is based on  $p < .05$  and indicated by an asterisk.

## Research Questions Addressed

This study is guided by the following questions:

1. To what extent are job attitudes of teachers influenced by the conditions of school facilities in Arkansas?
2. What are the perceptions of teachers in regards to the condition of school buildings?
3. Is there a difference between attitudes of teachers in “new” facilities versus “older” facilities?

Based upon the results presented in this chapter, the answers to the research questions are as follows:

Question 1: Based upon the independent samples *t*-test results run on MCAP data, both composite and by sub-areas (i.e., classroom assessment, attitudinal assessment, and student learning assessment), it does appear that the condition of the building as

exemplified by the age of the building does create differences in teachers' attitudes about their job. However, the findings are in direct contradiction to the results found in the Leigh (2012) study which is the basis for this replication. In this study, the older school actually scored higher than the newer school in most areas. This may be complicated by the fact that there did not appear to be a statistically significant difference in the conditions of the buildings as measured by the CAPE survey. In other words, the conditions of the buildings may not have been that different despite the difference in the age. By this assessment, the age of the building as an independent variable may not be relevant. The actual condition may be more important in terms of attitudes about their job that may or may not be related to the age of the building.

Question 2: The perceptions of the teachers in these two schools as measured by the MCAP survey indicate that in both schools the teachers were pretty positive about their classroom environment and even more positive in School B, which was the older school.

Question 3: There was a difference in attitudes and perceptions of teachers in these two specific schools. Again, it was somewhat counterintuitive in contrast to the Leigh (2012) study. An attempt to explain this difference in results will be made in Chapter V. There may be several confounding variables that were not included in the study that may have impacted the results.

### **Summary of the Chapter**

The results presented in this chapter reveal that there were statistically significant differences in the attitudes and perceptions of the teachers in School A (newer) and School B (older).

## **Chapter V: Discussion, Implications, and Recommendations**

The purpose of this study was to investigate how conditions of school facilities impact teacher attitudes in Arkansas. This study was a partial replication of a study previously undertaken by Leigh (2012). In the current study, teachers of two high schools in Northwest Arkansas completed a survey designed to collect data concerning their job attitudes in relation to their classroom and overall school conditions.

According to Leigh (2012), most teachers' attitudes towards their teaching job have a direct influence on their effectiveness. Since the *Lake View School District No. 25 v. Huckabee* (2002) case where school districts sued the state based on inadequate and inequitable funding of its public schools, many of the state's school facilities have been significantly upgraded. Simon and Johnson (2015) found that the condition of school facilities have an impact on student achievement. This led the researcher to question whether the current conditions of Arkansas schools impacted positively or negatively on student achievement and teachers' attitudes.

Many teachers in Arkansas leave the education profession in pursuit of employment in other economic sectors (Bureau of Legislative Research, 2016). This has significant implications for teaching quality in Arkansas schools since teachers typically leave their employment within the first five years, leaving novice teachers to teach the students (Cox, 2009; Simon & Johnson, 2015). The implication is that school outcomes and the achievement of students have gradually decreased. Should it be found that the condition of classrooms and the overall condition of the school have a detrimental effect on teachers' attitude towards their jobs, it should be brought to the attention of the education department to address with urgency.

This chapter presents both the summary of the findings and conclusions based on the research results of the present study. It also includes a list of implications for practice and recommendations for further study.

### **Discussion of Findings**

The results are based on a snap-shot of those teachers' attitudes during the 2017-2018 school year. A summary of the findings follows.

**Assessment of the school buildings.** The CAPE survey was administered to determine the self-reported condition of both high school buildings. This survey was completed by the superintendents of the two school districts involved in the study and reflect their own individual perceptions of the conditions of the buildings. A composite score was determined for both buildings and compared to establish whether there was a significant difference between the responses of both superintendents. Question 29 on the CAPE survey asked the superintendents: How would you rate the overall condition of your school, taking into consideration all building, classroom, and technology characteristics? School A's (newer school) superintendent reported that the school's condition was Outstanding, while School B's (older school) superintendent responded that the school's condition Needs Improvement.

A comparison of the mean responses of both superintendents on the CAPE survey indicated that there was no statistically significant difference between the composite scores on the CAPE of the two superintendents' assessments. Although the superintendent of School B (older school) indicated that the school needed repair work, according to the overall score, the school was not significantly in worse condition compared to School A (newer school). Since the analysis involved only two responses

the validity of the statistical results are questionable. However, the numeric composite score did seem to contrast with the self-reported status of the condition of the two buildings.

**Assessment of teachers' attitudes of the school buildings.** Previous studies reported that environmental problems in schools impact the teachers' ability to teach effectively, leading to teacher attrition (Ahram, Stembridge, Fergus, & Noguera, 2011; Almy & Tooley, 2012; Leigh, 2012). In an attempt to determine whether the condition of these two high schools impacted teacher attitudes, the MCAP survey was administered to all teachers in the schools. Those results were presented in Chapter IV and will be summarized and discussed in relation to each research question.

***Research Question 1.*** To what extent are job attitudes of teachers influenced by the conditions of school facilities in Arkansas?

In answering the first research question, the composite results of the MCAP were analyzed to determine whether the teachers' attitudes were different between School A (newer school) and School B (older school). An independent samples *t*-test was run to compare the mean responses. It determined that teachers in School B (older school) had a more positive attitude about their school building than the teachers in School A (newer school). The MCAP attitudinal assessment provided an indication of whether classroom conditions had an influence on the attitudes of teachers in School A and School B. A comparison of the mean responses of teachers for the attitudinal assessment section of the MCAP showed that teachers in School B had a better attitude about how their classroom made them feel than the teachers in School A.

Whereas the CAPE mean difference reflects a difference in favor of School A, the MCAP differences all reflect the highest mean scores for School B. The highest difference in the job attitude of teachers was achieved between teachers with post bachelor's degrees, notably a difference of 20.23. The second largest difference was that of male teachers where a mean difference of 18.86 was noted. Teachers with more than 10 years' experience came in third with a difference of 18.8, followed by the MCAP total composite mean difference of 17.64. Teachers' assessment of student learning achieved the smallest difference (3.35) with the attitudinal assessment of teachers closely thereafter (3.71).

Two of these differences are found in the Leigh (2012) study as well; namely, there was also a statistically significant difference between the mean scores of the male teachers, but in the case of the Leigh (2012) study, it was the males at the newer school who achieved higher scores. The same goes for student assessment by the teachers, which were the lowest mean difference in both studies with the exception that in the Leigh (2012) study it was the teachers in the newer school who noted the higher score. According to Leigh (2012) and McGowen (2007), the structural condition, design, and appearance of the school building impacted on teaching quality and student success. The question that arises is: What accounts for the differences in these two studies that can account for the direct opposite results?

Teachers might be satisfied by buildings that are clean and safe with principals who provide strong leadership and provide opportunities for teachers to develop their skills further (Allison, 2017). It can be argued that teachers of School B are more influenced by other factors, such as those listed by Allison (2017), and that the condition



of the school classrooms and building do not influence them strongly. On the other hand, taking the CAPE rating of School B superintendent into consideration, it is also possible that the facilities and overall impression of School B are not very different from School A.

***Research Question 2.*** What are the perceptions of teachers in regards to the condition of school buildings?

The MCAP classroom assessment was given to determine if the classrooms' physical setting had any influence on teachers' perceptions in School A and School B. A comparison of the mean of responses of teachers for the classroom assessment section of the MCAP showed that teachers in School B perceived the influence of their classrooms' physical environment more positively than teachers in School A. Similarly, the MCAP student learning assessment was used to conclude whether physical condition influenced teachers' perceptions in School A and School B. A comparison of the mean responses of teachers for the student learning section of the MCAP showed that teachers in School B perceived their classrooms' physical conditions to influence student learning more positively than the teachers in School A.

The classroom perceptions of the teachers at School B differed from those in the Leigh (2012) study. Whereas the teachers of the older school in the Leigh (2012) study were demotivated by the physical appearance of their classrooms, in the current study the teachers did not find the physical appearance of the older school (B) detrimental to their motivational levels or attitude towards the school, teaching, or the ability of the students to learn.

**Research Question 3.** Is there a difference between attitudes of teachers in “new” facilities versus “older” facilities?

Although the MCAP provides for some detailed responses from teachers about the suitability of their classrooms for teaching activities, it is not very detailed. For instance, the teachers only have one out of two choices when judging the overall school buildings. This might have an influence on the measurements of School A and School B, especially if teachers are more driven by other motivational factors as indicated by Allison (2017).

The MCAP composite scores revealed a mean difference of 17.64 in favor of School B—the older school. In comparing the composite scores for male teachers, the differences were not significant which means that the attitudes of male teachers of School A and School B towards their classrooms were not more or less positive in relation to student learning. On the other hand, there was a statistically significant difference between the mean responses of female teachers in School A and School B. This value signifies that the attitude of female teachers in School B towards their classrooms’ physical conditions and its influence on student learning was more positive than that of the female teachers in School A.

In comparing the mean differences of teachers based on level of teacher education, it was found that the attitudes of teachers with bachelor’s degrees did not differ significantly in the composite MCAP scores for School A and School B. In contrast, the attitudes of teachers with post-bachelor’s degrees regarding the influence of the building conditions were found to differ significantly between School A and School B. An evaluation of the mean responses of the teachers with a post-bachelor’s degree

indicated that teachers with a post-bachelor's degree in School B had a more positive attitude towards their school's physical environment than the teachers with a post bachelor's degree in School A. The attitudes of both groups of teachers with 0-10 years' experience and more than 10 years' experience of School B were more positive towards the physical environment of their school the teachers of School A.

The findings of this study differ from the Leigh (2012) study where the MCAP mean score differences were in favor of the newer school. This means that teachers were more motivated and displayed a more positive attitude towards working in a newer school compared to an older school. In a survey done by the National Center for Education Statistics (2005), it was found that approximately 48% of teachers transferred to another school based on the physical condition of the school. More alarming was the finding that 39% of teachers leaving the profession stated that the need for significant repair of school facilities was one of the main sources of dissatisfaction (National Center for Education Statistics, 2005).

As stated earlier, there may not be a single reason for these differences in the findings of the current study. The findings from Allison's (2017) study are indicative of the fact that teachers in Arkansas were motivated by the contribution they make in the lives of students and the community, the quality of school leadership, and interpersonal relationships with staff members. Albert (2017) suggested that the impact of the physical condition of schools needed to be updated as situations and attitudes may differ with time. This seems to be the case in this study as the findings are totally different from what could be expected from the literature.

## Conclusions

The expectation of this study, based on the previous study of Leigh (2012), was that there would be a relationship between school facility conditions and teacher attitudes. Assessments were given to determine whether there were significant differences between building conditions and teacher attitudes in a newer building compared to an older building. There was persuasive evidence of a definite relationship between teacher attitudes and school facility conditions, although opposite to the findings of Leigh (2012). While the findings were not consistent with reviewed literature or previous studies, it led me to believe that there might be other factors present affecting teaching attitudes.

School B is older and had the opportunity to build a reputation for itself and establish a positive school climate. The teachers who reported on the number of years' experience could have worked at School B for some years which would afford them the opportunity to build interpersonal relationships with the other staff members and principal. At School B, the principal might have been there for an extended period, which could positively influence the effectivity of the leadership and relations built with the teachers and community. According to the Allison (2017) study, these factors contributed to teachers' decision to stay at a school which in turn could be interpreted as instilling a positive attitude and perception about teaching at a particular school.

Based on the findings in this study, the perceptions of teachers were more positive when working in the older school building. The perceptions of teachers in the newer school building were not as positive. This would indicate a definite difference in attitudes of teachers in newer and older buildings, albeit not in favor of the newer

buildings as was expected initially. As stated earlier, the teachers' attitudes about a school might not be answered by the age of the school buildings only.

### **Implications of the Study**

This study focused solely on two high schools in the northwest part of Arkansas, and therefore the data were limited, and the results did not represent all high schools in Arkansas. The statistical analyses did conclude that there is a relationship between teacher attitudes and school facility conditions in schools where buildings are considered both older and newer. Because the results were opposite of the study being replicated, here are some suggestions for school leaders, facility managers, and educators to consider.

1. A well-maintained school facility can be an important factor that attracts and retains quality educators, which is vital to the overall health of a successful school district.
2. School districts should stay abreast with the latest technology to ensure that quality teaching and learning are taking place (Leigh, 2012) and that older schools can accommodate new technology in the school facilities. Teacher and student surveys should be conducted yearly to assess the learning environment, and the results should be analyzed and taken into consideration.
3. In light of the findings of this study, it might not be necessary to rebuild schools. The findings proved that teachers' attitudes towards the school building might not be negatively influenced by the age of the building. A thorough assessment of the current status pertaining to teachers' perceptions and attitudes towards the school could be indicated before deciding on

replacing a school or renovating the facilities.

4. It seems from the results of this study that the teachers might not experience new schools as only positive. Districts could, therefore, establish forums or distribute open-ended question surveys to teachers of new schools to determine which features of the new schools might cause frustration or negativity amongst the teachers. These comments could be utilized when designing new schools to ensure the more customized design of the school.

### **Recommendations for Further Study**

Based on the findings, the following recommendations for further study were formulated:

1. Conduct a state-wide study that would assess the relationship between school facilities and teacher attitudes at the elementary level. This study would assess every elementary school in Arkansas in order to determine whether there is a relationship between school facility conditions and teacher attitudes in elementary schools across the entire state of Arkansas.
2. Conduct a state-wide regional study that would assess the relationship between school facilities and teacher attitudes in the four regions of the state of Arkansas across grades K-12. This study would assess schools in each region in Arkansas across grades K-12 in order to determine whether there is a correlation between school facility conditions and teacher attitudes in grades K-12 which is dependent on which region of the state the school is located.
3. Create an assessment that combines existing school culture audit surveys with components that have similar attributes to the MCAP. Important components

of the assessment survey created should be to measure the perception of effective leadership in that school building, the condition of the school facility, and teacher attitudes.

4. Conduct a study using this assessment that would measure the school culture as well as the age of the school building.
5. Conduct a study or studies in which the teacher attitudes towards the building and school climate include the length of stay at the school being studied. Include in such a study questions about the staff relationships and the effectiveness of the leadership. Such a study could be focused on Arkansas only or include different states.
6. By taking a different methodological approach, this study might have shed more light as to why the teachers of School B had attitudes that are more positive towards their school compared to the teachers of School A. It is therefore suggested that a qualitative study is conducted to determine teachers' reasons for their positive relationship to an older school.

### **Summary**

It can be speculated that one of the reasons for the difference in findings might stem from the fact that Leigh (2012) targeted elementary school teachers whereas the current study focused on high school teachers. In a study by Hargreaves (2000) the emotional relationships of elementary and high school teachers were compared. Hargreaves (2000) found that elementary school teachers displayed more emotion and established warm professional relationships with the students. The social and emotional relationships between teachers and students formed the basis of all school activities. In

contrast, high school teachers did not engage emotionally with students but had a more professional subject-oriented focus. Hargreaves (2000) reported that high school teachers valued students' respect, acknowledgment, and appreciation towards the teachers. It could be speculated that due to the professional distance that high school teachers maintain at school that their perceptions and attitudes towards the school buildings and classroom facilities differ from that of elementary school teachers.

At the outset of this study, I expected to get similar results to that of the Leigh (2012) study, which could be used to argue for an extensive renewal of the school buildings in Arkansas. It was somewhat surprising to get the exact opposite results, causing me to search the literature for possible explanations of the differences in results. Throughout the study, I aimed to remain professional and focused on the study process and methodology to ensure objectivity when replicating Leigh's (2012) study. Throughout this journey, nothing has prepared me for the results being the exact opposite of Leigh's (2012) study and other literature. These outcomes serve to confirm that humans are complex and that no singular reason for their behavior or attitudes may exist. The intricate pattern of systems and relationships together with perceptions and emotions of individuals and groups bring about a unique response. In the case of this study, one has to conclude that the age and appearance of school buildings might not be important in establishing teachers' attitudes towards their school. After all, teaching is an activity by humans for humans, and it may be that relationship and perceived school culture weigh more than the age of the school buildings.



## References

- Ahram, R., Stenbridge, A., Fergus, E., & Noguera, P. (2011). *Framing urban school challenges: The problems to examine when implementing response to intervention*. Retrieved from <http://www.rtinetwork.org/learn/diversity/urban-school-challenges>
- Albert, E. (2017). *Overcoming the challenges of retaining novice teachers in a county public school* (Doctoral dissertation, Walden University). Retrieved from ProQuest (No. 07c8f480f39a248fab8f2a6d9da3f719)
- Allison, H. (2017). *Factors that influence teachers to remain in priority schools in Arkansas* (Doctoral dissertation, Arkansas State University). Retrieved from ProQuest (No. 8605fab8b045bf66267baf74ddb11304)
- Almy, S., & Tooley, M. (2012). *Building and sustaining talent: Creating conditions in high-poverty schools that support effective teaching and learning*. Retrieved from [https://1k9gl1yevnfp2lpq1dhrqe17-wpengine.netdna-ssl.com/wp-content/uploads/2013/10/Building\\_and\\_Sustaining\\_Talent.pdf](https://1k9gl1yevnfp2lpq1dhrqe17-wpengine.netdna-ssl.com/wp-content/uploads/2013/10/Building_and_Sustaining_Talent.pdf)
- Alshmemri, M., Shahwan-Akl, L., & Maude, P. (2017). Herzberg's two-factor theory. *Life Science Journal*, 14(5), 12-16.
- American Lung Association. (2012). *Why use the asthma-friendly schools initiative?* Retrieved from <http://www.lung.org/lung-health-and-diseases/lung-disease-lookup/asthma/asthma-education-advocacy/asthma-friendly-schools-initiative/why-use-the-asthma-friendly.html>

- Arkansas Department of Education. (2018, March 31). *Preliminary state aid notice 2017-18*. Retrieved from [http://www.arkansased.gov/public/userfiles/Fiscal\\_and\\_Admin\\_Services/Publication%20and%20reports/State%20Aid/STAIDFINAL%202017\\_18%203%2031%2018.pdf](http://www.arkansased.gov/public/userfiles/Fiscal_and_Admin_Services/Publication%20and%20reports/State%20Aid/STAIDFINAL%202017_18%203%2031%2018.pdf)
- Buckley, J., Schneider, M., & Shang, Y. (2004, February). *The effects of school facility quality on teacher retention in urban school districts*. Retrieved from National Clearinghouse for Educational Facilities website: <http://www.ncef.org/pubs/teacherretention.pdf>
- Bureau of Legislative Research. (2016). *Teacher recruitment and retention*. Little Rock, AR: Author.
- Burton, R. L. (1999). A study of disparities among school facilities in North Carolina: Effects of race and economic status. *Educational Policy*, 13(2), 280-295.  
doi:10.1177/0895904899013002003
- Caprara, G. V., Barbaranelli, C., Steca, P., & Malone, P. S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, 44(6), 473-490.
- Cash, C. S. (1993). *Building condition and student achievement and behavior* (Unpublished doctoral dissertation). Virginia Polytechnic Institute and State University, Blacksburg, VA.

- Claybon, K. M. (2008). *The relationship between job satisfaction and selected demographics and teacher retention* (Doctoral dissertation). Retrieved from Education Database, ProQuest Central. (860133924)
- Conley, S. C., Bacharach, S. B., & Bauer, S. (1989). The school work environment and teacher career dissatisfaction. *Educational Administration Quarterly*, 25(1), 58-81.
- Cox, L. (2009). *A study of the impact of salary supplements on teacher turnover in North Carolina school districts* (Doctoral dissertation, The University of North Carolina at Chapel Hill). Retrieved from <https://cdr.lib.unc.edu/indexablecontent/uuid:85e455ea-2ac4-449c-8970-f115d10e5361>
- Davis, P. J. (2001). *Molds, toxic molds, and indoor air quality*. Sacramento, CA: California State Library, California Research Bureau.
- Earthman, G. I. (2002). *School facility conditions and student academic achievement*. Los Angeles, CA: UCLA's Institute for Democracy, Education, & Access.
- Earthman, G. I. (2004). *Prioritization of 31 criteria for school building adequacy*. Baltimore, MD: American Civil Liberties Union Foundation of Maryland.
- Earthman, G. I., & Lemasters, L. K. (2009). Teacher attitudes about classroom conditions. *Journal of Educational Administration*, 47(3), 323-335.  
doi:10.1108/09578230910955764
- Filardo, M., Cheng, S., Allen, M., Bar, M., & Ulsoy, J. (2010). *State capital spending on PK-12 school facilities*. Washington DC: 21st Century School Fund.

- Hargreaves, A. (2000). Mixed Emotions: Teachers' perceptions of their interactions with students. *Teaching and Teacher Education*, 16(8), 811-826.
- Hathaway, W. E. (1995). Effects of school lighting on physical development and school performance. *The Journal of Educational Research*, 88(4), 228-242.
- Heschong, L. (2002). Daylighting and human performance. *ASHRAE Journal*, 44(6), 65.
- Johnson, E. (2001). Let's hear it for learning. *American School & University*, 73(11), 28-30.
- Johnson, S. M., Kraft, M. A., & Papay, J. P. (2012). How context matters in high-need schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. *Teachers College Record*, 114(10), 1-39.
- Lake View School District No. 25 v. Huckabee*, 351 Ark 31, 91 SW3d 472 (2002).
- Leigh, R. M., Jr. (2012). *School facility conditions and the relationship between teacher attitudes* (Doctoral dissertation, Virginia Polytechnic University). Retrieved from <http://search.proquest.com/docview/1690278626>
- Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education*, 80(3), 44-70.
- Lyons, J. B. (2001). *Do school facilities really impact a child's education?* Scottsdale, AZ: Council of Educational Facility Planners.
- Manqele, C. M. (2017). *An evaluation of learner-centered teaching as part of curriculum delivery in under-resourced schools* (Unpublished doctoral dissertation). University of South Africa, Pretoria, South Africa.

- McGowen, R. S. (2007). *The impact of school facilities on student achievement, attendance, behavior, completion rate and teacher turnover rate in selected Texas high schools* (Unpublished doctoral dissertation). Texas A & M University, College Station, TX.
- National Center for Education Statistics. (2000). *Condition of American's public school facilities: 1999* (NCES Publication No. 2000-032). Retrieved from <https://nces.ed.gov/pubs2000/2000032.pdf>
- National Center for Education Statistics. (2002). *The condition of education 2002* (NCES Publication No. 2002-025). Retrieved from <https://nces.ed.gov/pubs2002/2002025.pdf>
- National Center for Education Statistics. (2005). *The condition of education 2005* (NCES Publication No. 2005-094). Retrieved from <https://nces.ed.gov/pubs2005/2005094.pdf>
- Odden, A., Picus, L. O., & Fermanich, M. (2003, September 1). *An evidence-based approach to school finance adequacy in Arkansas* (Final Report). Retrieved from [http://picusodden.com/wp-content/uploads/2013/09/AR\\_2003\\_EB\\_Report.pdf](http://picusodden.com/wp-content/uploads/2013/09/AR_2003_EB_Report.pdf)
- Ornstein, A. C. (1994). School finance and the condition of schools. *Theory into Practice*, 33(2), 118-125. doi:10.1080/00405849409543627.
- Sadik, A. (2006). Factors influencing teachers' attitudes toward personal use and school use of computers: New evidence from a developing nation. *Evaluation Review*, 30(1), 86-113.
- Sakai, H., & Kikuchi, K. (2009). An analysis of demotivators in the EFL classroom. *System*, 37(1), 57-69.

- Schneider, M. (2002). *Do school facilities affect academic outcomes?* Washington, DC: National Clearinghouse for Educational Facilities.
- Sharma, R. D., & Jyoti, J. (2009). Job satisfaction of university teachers: An empirical study. *Journal of Services Research*, 9(2), 51-80.
- Sharma, U., Forlin, C., Loreman, T., & Earle, C. (2006). Pre-service teachers' attitudes, concerns and sentiments about inclusive education: An international comparison of novice pre-service teachers. *International Journal of Special Education*, 21(2), 80-93.
- Simon, N. S., & Johnson, S. M. (2015). Teacher turnover in high-poverty schools: What we know and can do. *Teachers College Record*, 117(3), 1-36.
- Uline, C., & Tschannen-Moran, M. (2008). The walls speak: The interplay of quality facilities, school climate, and student achievement. *Journal of Educational Administration*, 46(1), 55-73.
- Wakefield, J. (2002). Learning the hard way: The poor environment of America's schools. *Environmental Health Perspectives*, 110(6), A298-A305.
- Weiqi, C. (2007). The structure of secondary school teacher job satisfaction and its relationship with attrition and work enthusiasm. *Chinese Education & Society*, 40(5), 17-31.

## Appendices

## Appendix A



ARKANSAS TECH  
UNIVERSITY

*Office of Sponsored Programs  
and University Initiatives*  
Administration Building, Room 207  
1508 North Boulder Avenue  
Russellville, Arkansas 72801

Office: 479-885-4377  
[www.atsu.edu](http://www.atsu.edu)

12/15/17

To Whom It May Concern:

Andrew T. Curry's IRB application "School Facility Conditions and the Relationship to Teacher Job Attitudes: A Replication Study" is approved through December 15, 2020. The approval code is Curry\_121517.

Thank you,



Jeff Aulgur, Ed.D.,  
IRB Chair



## Appendix B

November 1, 2017

Dr. Andrea Martin  
Superintendent Greenland Public Schools  
10 North Main Street  
Greenland, Arkansas 72737

Dear Dr. Martin,

Hello, I am writing you in regards to seeking permission to do research at your school site of the Greenland High School. I am a Doctoral candidate for the Arkansas Tech University, Center for Leadership and Learning in Russellville, Arkansas. I am asking for your permission to conduct two different types of assessments for my doctoral dissertation. The dissertation will be researching job related attitudes towards the condition of the school facility. I will be glad to share the results with you upon request at the end of the project. The project is designed to provide insight for administrators into how the current learning environment is effecting staff and to help Superintendents and board members to have talking points if needed in the future for millage campaigns or building projects.

One assessment will be the Commonwealth Assessment of Physical Environments (CAPE) that I will be asking you to fill out and return concerning building condition data. The other assessment that I will be using with staff is called the My Classroom Appraisal Protocol (MCAP), this assessment is designed to measure the teachers attitude of their individual classroom and learning environment. Both surveys will be anonymous and I will explain that point with consent of principals and staff. I am also including copies of the assessment with this letter for your review.

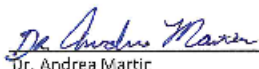
The timeline for the research will be after the Thanksgiving break and before the Christmas break. I will need 15-20 minutes with your high school staff to conduct the survey. I will contact you and your principal if you are gracious enough to allow me to use your facility for research. I will be contacting you soon to discuss next steps. Thank you for considering this request and if you so choose please sign at the bottom of the page and return implying consent to move forward. Thank you.

Sincerely,

Andrew Curry  
Arkansas Tech University

Doctoral Student

I, Dr. Andrea Martin grant Andrew Curry, Doctoral Student with Arkansas Tech University permission to conduct research on Greenland high school and staff concerning teacher job attitudes and the relation to school facility. I fully understand that Mr. Curry will have to survey staff and have their consent as well.



---

Dr. Andrea Martin

## Appendix C

November 1, 2017

Mr. Dan Jordan  
Elkins School District  
349 N. Center  
Elkins, Arkansas 72727

Dear Mr. Jordan,

Hello, I am writing you in regards to seeking permission to do research at your school site of the Elkins High School. I am a Doctoral candidate for the Arkansas Tech University, Center for Leadership and Learning in Russellville, Arkansas. I am asking for your permission to conduct two different types of assessments for my doctoral dissertation. The dissertation will be researching job related attitudes towards the condition of the school facility. I will be glad to share the results with you upon request at the end of the project. The project is designed to provide insight for administrators into how the current learning environment is effecting staff and to help Superintendents and board members to have talking points if needed in the future for millage campaigns or building projects.

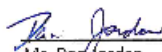
One assessment will be the Commonwealth Assessment of Physical Environments (CAPE) that I will be asking you to fill out and return concerning building condition data. The other assessment that I will be using with staff is called the My Classroom Appraisal Protocol (MCAP), this assessment is designed to measure the teachers attitude of their individual classroom and learning environment. Both surveys will be anonymous and I will explain that point with consent of principals and staff. I am also including copies of the assessment with this letter for your review.

The timeline for the research will be after the Thanksgiving break and before the Christmas break. I will need to come on campus to conduct the brief survey with staff if you have a scheduled meeting or time available for this. I will contact you and the principal if you are gracious enough to allow me to use your facility for research I will be contacting you soon to discuss next steps. Thank you for considering this request and if you so choose please sign at the bottom of the page and return implying consent to move forward. Thank you.

Sincerely,

Andrew Curry  
Arkansas Tech University  
Doctoral Student

I Dan Jordan grant Andrew Curry, Doctoral Student with Arkansas Tech University permission to conduct research on Elkins high school and staff concerning teacher job attitudes and the relation to school facility. I fully understand that Mr. Curry will have to survey staff and have their consent as well. (Please sign and return)



---

Mr. Dan Jordan  
Superintendent of Elkins Public School

## Appendix D

10/23/2017

Gmail - Hello



Andrew Curry <acurry1865@gmail.com>

Hello

Ronald Leigh <ronaldleigh@apsk12.net>  
To: Andrew Curry <acurry1865@gmail.com>

Wed, Oct 18, 2017 at 11:40 AM

Mr. Curry,

You have my permission to replicate my study? I'll can be of any help don't hesitate to ask. Best of luck!

Ron M. Leigh, Ed.D.  
Principal  
King's Fork High School  
"Home of the Bulldogs"  
[Quoted text hidden]

https://mail.google.com/mail/u/1/?ui=25&ik=22f638a13&prev=1970f7WZsolur&view=pt&asj=1530500d832ba01&asr=atlaigh%20apsk12.net&q... 1/1

## Appendix E

3/9/2018

Gmail - Hello



Andrew Curry <acurry1865@gmail.com>

---

**Hello**

**Glen Earthman** <earthman@vt.edu>  
To: Andrew Curry <acurry1865@gmail.com>

Tue, Sep 7, 2017 at 8:37 AM

Andrew - First of all you should get permission to use both of these instruments from their authors and you need to state this in your dissertation. I will give you permission to use both instruments. You should review the Carol Cash dissertation (1993) for the development of the CAPE, available from the Virginia Tech library. The MCAP was developed for a report written for CEPPI and is available on their web site. I am attaching several commentaries on the instruments which may or may not be helpful. There are some other commentaries that I will try to find and send to you. Good luck on your dissertation. Glen Earthman


[Quoted text hidden]


--  
Glen L. Earthman  
Educational Leadership  
Virginia Tech  
Room 2008  
1750 Kraft Drive (0302)  
Blacksburg, VA 24060

Phone: 540-231-4551  
Fax: 540-231-7845  
E-mail: earthman@vt.edu

---

**3 attachments**

 **Appraisal Instrument Analysis.doc**  
48K

 **Scoring for the Assessment of Building and Classroom Conditions in Elementary Schools in Virginia.doc**  
26K

 **The CAPE is composed of 27 Items.doc**  
25K

## Appendix F

1/1/2017

Commonwealth Assessment of Physical Environment

### Commonwealth Assessment of Physical Environment

Please indicate the status of the school facility in each area by choosing the most appropriate description for each of the following questions. You may provide additional information in the space provided after each question.

\* Required

Email address \*

#### Part 1 - Questions Relating to the school building in general:

1. What is the age of the facility? (A facility's age is your best estimate of the time period during which most of the space used by students was built.) \*

Mark only one oval.

- ☐ 60 years or older  
☐ 50-59 years old  
☐ 40-49 years old  
☐ 30-39 years old  
☐ 20-29 years old  
☐ 10-19 years old  
☐ Under 10 years old  
☐ Other:

2. What description best fits the school building? \*

Mark only one oval.

- ☐ The building was originally designed and built as a Secondary School and was not renovated before conversion to an Elementary School.  
☐ The building was originally designed as a Secondary School but underwent some renovations before conversion to an Elementary School.  
☐ The building was originally designed as a Secondary School but underwent major renovations before conversion to an Elementary School.  
☐ The building was originally designed and built as an Elementary School.

3. What year was the last major renovation of the building completed? (If no renovations have ever been done, write none.) \*

[https://docs.google.com/forms/d/1Xnk-B0Ct1pLTZ4Vc\\_kleWKA4d\\_Fym35Fg\\_LNKN0w/edit](https://docs.google.com/forms/d/1Xnk-B0Ct1pLTZ4Vc_kleWKA4d_Fym35Fg_LNKN0w/edit)

1/6

11/1/2017

Commonwealth Assessment of Physical Environment

## 5. 4. Are there visible indications of roof leaks in the building? \*

Mark only one oval.

- ☐ Ceiling is deteriorating due to water damage and/or water falls in some areas of the facility, requiring buckets of water collection.
- ☐ Option 4
- ☐ Ceiling is currently developing a few new stains due to minor leaks.
- ☐ No visible signs or only a few old water spots in the ceiling.
- ☐ Other:

## 6. 5. When was the last time the interior walls, including classroom spaces, were painted? \*

Mark only one oval.

- ☐ over 15 years ago
- ☐ between 8 - 15 years
- ☐ less than 8 years ago
- ☐ Other:

## 7. 6. When was the last time the exterior walls or windows and trim were painted? \*

Mark only one oval.

- ☐ over 7 years ago
- ☐ between 4-7 years ago
- ☐ within the last 4 years or no exterior surface requires painting
- ☐ Other:

## 8. 7. How would you rate electrical service in the school building? \*

Mark only one oval.

- ☐ Electrical service is not sufficient to meet current building needs.
- ☐ There is sufficient electrical service to meet all current building needs with little room for expansion.
- ☐ There is sufficient electrical service to meet all current building needs with room for expansion.
- ☐ Other:

## 9. 8. What kind of flooring is found in the majority of instructional spaces? \*

Mark only one oval.

- ☐ Wood floor
- ☐ Tile or Terrazzo
- ☐ Carpet
- ☐ Other:



11/1/2017

Commonwealth Assessment of Physical Environment

10. 9. Is the school located near a busy, major highway, a frequently used rail line, an area where aircraft frequently pass overhead, or another loud noise producing environment? \*

Mark only one oval.

- ☐ Yes, and no measure have been taken to reduce the level of noise within the facility
- ☐ Yes, but measures have been taken to reduce the level of noise within the facility
- ☐ No
- ☐ Other:

11. 10. How would you rate the overall maintenance of the school building? When answering this question, consider such maintenance items as general repairs, light bulb replacement, the maintenance of plumbing, electrical and similar systems, ect. \*

Mark only one oval.

- ☐ Poor
- ☐ Needs Improvement
- ☐ Satisfactory
- ☐ Very Good
- ☐ Outstanding
- ☐ Other:

12. 11. How would you rate the structural condition of the school building? \*

Mark only one oval.

- ☐ Poor
- ☐ Needs Improvement
- ☐ Satisfactory
- ☐ Very Good
- ☐ Outstanding
- ☐ Other:

## Part 2 - Questions relating to the school's classrooms:

13. 12. (a) Total number of classrooms in your school? \*

Enter the number of classrooms in your school.

14. 12. (b) Total number of classrooms located in permanent structure? \*

Enter the number of classrooms located in permanent structure.

15. 12. (c) Total number of mobile classrooms or trailers? \*

Enter the number of mobile classrooms or trailers.

11/1/2017

Commonwealth Assessment of Physical Environment

**Questions 13 - 28 apply only to the classrooms in your permanent structure. Do not consider trailers when answering these questions.**

---

16. 13. Are there windows in each instructional space? \*

Mark only one oval.

- ☐ Windows are less than 1/4th of the instructional spaces.
- ☐ Windows are in at least 1/4th, but fewer than 3/4ths of the instructional spaces.
- ☐ Windows are in at least 3/4ths of the instructional spaces.
- ☐ Other:

Untitled Title

---

Untitled Title

---

Untitled Title

---

Untitled Title

---

17. 14. Which of the following best describes the heating system in the school? \*

Mark only one oval.

- ☐ Uneven heat/unable to control each room.
- ☐ Even heat/unable to control each room.
- ☐ Even heat/able to control each room.
- ☐ Other:

18. 15. Which of the following best describes the air conditioning system in the school's instructional areas? \*

Mark only one oval.

- ☐ No air conditioning in instructional spaces.
- ☐ Air conditioning in some instructional spaces, or air conditioning in all spaces, but not regulated.
- ☐ Air conditioning in all instructional spaces which can be well-regulated.
- ☐ Other:

11/1/2017

Commonwealth Assessment of Physical Environment

19. 16. What type of lighting is available in the majority of the classrooms? \*

Mark only one oval.

☐ Fluorescent lighting - cold☐ Fluorescent lighting - hot☐ Incandescent lighting☐ Other:

20. 17. What color are the walls in the instructional areas? \*

Mark only one oval.

☐ Dark colors☐ White or off-white☐ Pastel Colors☐ Other:

21. 18. What type of material is used for the majority of interior classrooms ceilings? \*

Mark only one oval.

☐ Metal☐ Wood☐ Plaster☐ Acoustical tiles☐ Other:

22. 19. How often are classroom floors swept (if wood, tile, or terrazzo) or vacuumed (if carpeted)? \*

Mark only one oval.

☐ Monthly☐ Weekly☐ Daily or more frequently☐ Other:

23. 20. How often are classroom floors mopped (if wood, tile, or terrazzo) or cleaned (if carpeted)? \*

Mark only one oval.

☐ Annually☐ Monthly☐ Weekly or daily☐ Other:

11/1/2017

Commonwealth Assessment of Physical Environment

24. 21. Which of the following best describes electrical service in classrooms? \*

Mark only one oval.

- ☐ There is one outlet in each classroom.
- ☐ There are two or three outlets in each classroom.
- ☐ There is at least one outlet per wall in each classroom, or four or more outlets.
- ☐ Other: \_\_\_\_\_

25. 22. Do classrooms have connections to a school-wide local area computer network? \*

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

26. 23. Do classrooms have connections to a district-wide or other area computer network? \*

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

27. 24. Do classrooms have Internet access? \*

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

28. 25. Do classrooms have cable connections to a central television antenna or other cable television system? \*

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Other: \_\_\_\_\_

29. 26. Which of the following best describes classroom furniture? \*

Mark only one oval.

- ☐ Most classrooms have furniture that is either facially soiled or functionally damaged.
- ☐ Though at least half the rooms may have some minor facial scars on the student desks, all of the furniture is functionally sound and looks satisfactory.
- ☐ All of the classrooms have furniture that is functionally sound and facially attractive.
- ☐ Other: \_\_\_\_\_

11/1/2017

Commonwealth Assessment of Physical Environment

30. 27. Which of the following best describes the structural characteristics of the school's classrooms? \*

Mark only one oval.

- ☐ Classes are held in open space areas shared with other classes.
- ☐ Classrooms are modified open spaces using movable partitions or furniture to identify classroom boundaries.
- ☐ Classrooms are self-contained spaces with a door that can be closed.
- ☐ Other:

31. 28. How would you rate the overall cosmetic conditions in the classroom? \*

Mark only one oval.

- ☐ Poor
- ☐ Needs Improvement
- ☐ Satisfactory
- ☐ Very Good
- ☐ Outstanding
- ☐ Other:

### Part 3 - General questions relating to the school:

32. 29. How would you rate the overall condition of the school, taking into consideration all building, classroom, and technology characteristics? \*

Mark only one oval.

- ☐ Poor
- ☐ Needs Improvement
- ☐ Satisfactory
- ☐ Very Good
- ☐ Outstanding
- ☐ Other:

33. 30. What is the school's enrollment as of this date? \*

34. 31. What percentage of the school's enrollment qualified for free or reduced price lunches as of this date? \*

35. 32. What is the approximate acreage of the school site? \*

11/1/2017

Commonwealth Assessment of Physical Environment


36. Is there any additional information you would like to provide about the condition of the school building or classrooms? If so, please use this space for that purpose.

There is no additional information to provide about the condition of the school building or classrooms. The school building is in good condition and the classrooms are well-maintained. The school is a modern building with many new features and the classrooms are well-lit and comfortable.

37. Are there any comments you wish to make that you think might aid in the study of the role school facilities play in teacher attitudes. If so it would be appreciated.

There are no comments to make that might aid in the study of the role school facilities play in teacher attitudes. The school facilities are in good condition and the teachers are happy and satisfied with the school environment.

**This survey is derived from the Commonwealth Assessment of Physical Environment developed by Dr. Carol Cash (1993), the State Assessment of Facilities in Education by Dr. Carol Cash and Dr. Glen Earthman (1995) and from the Assessment of Building and Classroom Conditions in Elementary Schools in Virginia by Dr. James Lanham, III (1998).**

Powered by  
 Google Forms

## Appendix G

10/1/2017

My Classroom Assessment Portfolio

## My Classroom Assessment Protocol

\* Required

### Classroom Assessment

1. I can easily control the temperature in my room. <sup>a</sup>

Mark only one oval.

- ☐ Strongly disagree (4)  
☐ Disagree (3)  
☐ Agree (2)  
☐ Strongly agree (1)

2. The air quality in my classroom is good.

*Black early corn cereals*

- ☐ Strongly disagree (4)  
☐ Disagree (3)  
☐ Agree (2)  
☐ Strongly agree (1)

3. The classroom is well lighted. \*

black only print used

- ☐ Strongly disagree (4)  
☐ Disagree (3)  
☐ Agree (2)  
☐ Strongly agree (1)

4. The equipment in the classroom is in good order and modern. \*

Mark only one used.

- ☐ Strongly disagree (4)  
☐ Disagree (3)  
☐ Agree (2)  
☐ Strongly agree (1)

<https://doi.org/10.1101/2020.05.14.245444>

9.

11/2/2017

My Classroom Assessment Protocol

5. There is more graffiti in the school than I like. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

6. There is sufficient wall writing surface (chalkboard/whiteboard.) \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

7. The wall writing surface is in good condition. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

8. There is sufficient space for computers in the classroom. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

9. The physical attributes of my classroom are attractive. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

10. My classroom is comfortable in winter months. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)



11/1/2017

My Classroom Assessment Protocol

11. My classroom is comfortable in fall months. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

12. My classroom is comfortable in spring months. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

13. I would like to change the physical features of my classroom. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

14. My school is in a very good location. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

15. The ceiling in my classroom leaks during a rain storm. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

16. My classroom is free of pests (mice, ants, roaches, etc.) \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

11/1/2017

My Classroom Assessment Protocol

### Attitudinal Assessment

The condition of my classroom...

17. ...causes me problems \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

18. ...makes me want to come to work every morning. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

19. ...makes me want to leave teaching as a career. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

20. ...is so inviting that I really feel good about the classroom. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

21. ...makes me want to transfer to a different school in our system. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)



11/16/2017

My Classroom Assessment Protocol

28. ....is not in a good location. \*

*Mark only one oval.*

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

29. ....reflects the age of the building. \*

*Mark only one oval.*

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

30. ....reflects lack of recent painting. \*

*Mark only one oval.*

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

### Student Learning Assessment

---

31. The noise level in the classroom hinders student learning. \*

*Mark only one oval.*

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

32. The outside noise hinders student learning. \*

*Mark only one oval.*

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

11/1/2017

My Classroom Assessment Protocol

33. There are more students in my classroom than what should be. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

34. There is sufficient wall space (tack board) to display student work. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

35. There are appropriate spaces for student interest centers. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

36. My classroom hinders the students from learning effectively. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

37. My classroom causes the students some periodic health problems. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

38. My classroom enables students to learn effectively. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

12/16/2017

My Classroom Assessment Protocol

39. The classroom makes the students feel happy. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

40. Student's desks and chairs are in good condition. \*

Mark only one oval.

- ☐ Strongly disagree (4)
- ☐ Disagree (3)
- ☐ Agree (2)
- ☐ Strongly agree (1)

### Building Assessment

---

41. How would you assess the condition of your school building?

Mark only one oval.

- ☐ Satisfactory (1)
- ☐ Unsatisfactory (0)

### Demographic Data

---

To assist us in analyzing the above data would you be kind enough to supply the following data. All data will be kept confidential and will be reported only as group data. No individual data will be released to anyone and no one will be identified.

42. What is your gender? \*

Mark only one oval.

- ☐ Female
- ☐ Male

43. What is your highest academic achievement? \*

Mark only one oval.

- ☐ Bachelors
- ☐ Advanced

44. How many years have you taught? \*

Mark only one oval.

- ☐ 1-10 years of experience
- ☐ 10 or more years of experience

1/11/2017

My Classroom Assessment Protocol

45. What grade level do you teach? \*

Mark only one oval.


- ☐ Pre-K - 1
- ☐ 2-3
- ☐ 4-5
- ☐ 6-8
- ☐ 9-12

46. How long have you been employed in the present school district? \*

Mark only one oval.

- ☐ 1-10 years
- ☐ more than 10 years

Powered by

 Google Forms

