PERCEPTIONS OF THE CLASSROOM ENVIRONMENT AND ACADEMIC ACHIEVEMENT FOR 7th AND 8TH GRADE STUDENTS IN RURAL CALIFORNIA: A PREDICTIVE CORRELATIONAL STUDY

by

Joshua Kenneth Blackburn

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

The purpose of this quantitative, predictive correlational study is to determine if there is a predictive relationship between perceptions of classroom environment and academic achievement in reading and language usage for 7th and 8th grade students. The study builds on previous research that has explored the relationship between student needs and the learning environment, utilizing Maslow's hierarchy of needs and Skinner's radical behaviorism theory. One hundred and twenty-four 7th and 8th grade students from rural California participated in the study. The students were 7th and 8th grade students for the 2023/24 school year and were all from the same school site. The study utilized the Classroom Environment Scale to assess the perceptions of classroom environment and the NWEA MAP reading and language scores to measure academic achievement. The students completed the Classroom Environment Scale survey and the scores were automatically uploaded into the Mindgarden database. The perceptions of classroom environment scores were collected from Mindgarden database, and reading and language scores were collected from the NWEA MAP database. A multiple regression was conducted on the data. The study's results showed a statistically significant relationship between the perceptions of learning environment and a linear combination of reading and language usage scores 7th and 8th grade students. It is recommended that further research be conducted utilizing the NWEA MAP math score and to further investigate the relationship between students' CES scores.

Keywords: academic achievement, behaviorism, classroom environment, school connectedness

Dedication

Avalyn, Noelle, and Hope:

Always remember that you can use everything that happens to you as an excuse or as motivation. Don’t let anyone, even yourself, prevent you from being the best version of yourself. Every challenge is an opportunity to grow stronger and wiser.

Love,

Dad

Acknowledgments

I would like to express my deepest gratitude to the following individuals and entities who have been instrumental in my journey:

To my Mom, for always pushing me to keep going, even when the going got tough.

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To my daughters, for unknowingly inspiring me to become a better version of myself.

To Dr. Nelson, thank you for your patience and guidance throughout this process.

And last but certainly not least, to God. For the countless prayers sent up to You and for always staying by my side.

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List of Abbreviations

Classroom Environment Scale (CES)

Education for Sustainable Development (ESD)

English Language Arts (ELA)

Measures of Academic Progress (MAP)

Northwest Evaluations Associations (NWEA)

Rasch Unit (RIT)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of this quantitative, predictive correlational study is to determine if there is a predictive relationship between perceptions of classroom environment and academic achievement in reading and language usage for 7th and 8th grade students. In chapter one the background information on student relationships and academic achievement along with a historical overview are examined. Additionally, chapter one provides information on the social implications of the study along with the problem and purpose statement. Finally, the significance of the study, the research questions, and relevant definitions are presented.

Background

Students are required to overcome a significant number of obstacles in their day to day lives while being expected to excel academically (Dawes et al., 2021). Middle school poses a challenging period for young students as they navigate self-discovery and face academic hurdles (Borman et al., 2019). It is crucial for both students and teachers to prioritize a supportive environment, wherein students can explore their identities and self-reflections, while understanding that they are cared for and loved by others (Xuan et al., 2019). When a school has an environment that encourages students to strive to learn students are more willing to try to the best of their abilities (Fisher & Crawford, 2020).

With society constantly changing, it becomes more important for students to be in an environment which helps them succeed (Brooms, 2016). In an ever-changing world, there is no guarantee that students will have support from the adults at home. Students who have someone they know believes in them are more likely to retain information and succeed academically than students who do not have that person who believes in them (Cadman et al., 2020). Those

students who come from a non-traditional home are more likely to struggle in their academic journey, which increases the importance of students feeling connected with an adult at their school (Minolin & Priya, 2018).

Historical Overview

Schools cannot control who comes to them, but the school can help students that come to them to be better prepared to succeed. Often, students lack hope and do not believe in themselves regarding their academic ability (Zeinalipour, 2021). When students do not feel confident in their abilities, they struggle to be able to become academically successful (Somers et al., 2020; Trieu & Jayakody, 2018; Xuan et al., 2019; Zeinalipour, 2021). Students from non-traditional homes need someone to push them and believe in them; when students have someone whom they connect with, they are more likely to be able to retain information (Cadman et al., 2020). It becomes a priority of schools and teachers, in particular, to create meaningful relationships with their students (Holzberger et al., 2020; Sheikh et al., 2019; Somers et al., 2020; Trieu & Jayakody, 2018; Xuan et al., 2019; Zeinalipour, 2021).

Schools have always focused on academic success for students, but how to achieve that success has been debated. Some educators and theorists believe the need for teacher professional development is a significant factor in the success of students (Graham, 2017). Other arguments suggest transparency, leadership capabilities, or problem centered thinking need to be the focus (Bazemore-Walker, 2016). What the expectations are from teachers and what they need to teach and prepare their students have changed over the years (Zhao, 2018). Academic success, at its base level, is determined by the assessment data utilized by each school, district, state, and country. State testing is often utilized as the primary indicator of school success (Zhao, 2018). Although state standardized testing is a primary data point in ensuring students' academic

success, the needs of students have changed over the years. Further, measuring academic success of students is extremely difficult (York et al., 2015)

The number of students who come from non-traditional homes has increased significantly since the creation of the education system in the United States, and those who come from non-traditional homes have a more substantial challenge to overcome to be successful in their educational experience (Minolin & Priya, 2018). This increase in students coming from non-traditional homes increases the need for students to feel loved and cared for at school. Therefore, schools must focus on the whole child rather than just on teaching academic content (Daily et al., 2020). In addition, the ever-changing society in which schools function requires the school to teach the whole child so that the student can then become academically successful based on the assessments utilized (Minolin & Priya, 2018).

Society-at-Large

Students who are unable to be academically successful and make a meaningful connection with an adult are often more likely to drop out of school (Borman et al., 2019). When students learn their worth and know they are loved, they are able to overcome the obstacles that confront them in life. The skills learned to be able to overcome in school are later used by those same students when they are out in society.

When students can graduate from high school, they are more likely to be productive members of society (Daily et al., 2020). Students are not only more likely to be productive members of society when they graduate, but they are also more likely to be physically healthy than those students who do not graduate from high school (DuFour et al., 2020). Students who do not graduate from high school are more likely to commit a crime and to struggle to keep a job (Daily et al., 2020). Students who fail to graduate with a diploma are also three times more likely

to be unemployed (DuFour et al., 2020). A student who graduates from high school makes significantly more money compared to those who do not graduate from school (Rose & Bowen, 2021). DuFour et al. (2020) points out the average cost to taxpayers of individuals who do not graduate high school is approximately $292,000 over the lifespan of the individual who does not graduate. When a student does not graduate, their lifespan itself is shorter than those who graduate (Rose & Bowen, 2021). An educated individual creates a more educated society; therefore, the importance of ensuring that students are capable of graduating high school starts early on in their educational journey.

The importance of educating students and ensuring their academic success goes further than just receiving a good grade or test score (Daily et al., 2020; DuFour et al., 2020; Rose & Bowen, 2021). Student belief in their own abilities is crucial for them to attain success academically and socially (Somers et al., 2020). As students are capable of learning how to be academically successful, students also learn how to be independent members of society. While school focuses on academic success, students also need to understand that there are consequences for their actions (Rose & Bowen, 2021; Somers et al., 2020). Students that are succeeding academically are less likely to be behavioral issues in school and in the community (Somers et al., 2020).

Theoretical Background

Maslow's (1943) hierarchy of needs is based on the theory that people will first take care of more basic needs before becoming the best versions of themselves. According to Fisher and Crawford (2020), an individual feels loved when in the presence of someone, like a friend or family member, who helps to fulfill that need for love. While love may look different depending

on the situation, it is something that can be utilized to change a school and help better student outcomes (Fisher & Crawford, 2020).

Radical behaviorism theory was primarily created by B. F. Skinner (1945) and is the theory of how the environment around the person is what makes the person who they are. Each person reacts to the things around them, including the punishments or rewards which often accompany certain behaviors (Clark, 2018). Radical behaviorism states that the environment is responsible for the people in a particular place (Skinner, 1945). For example, when a student is learning something in a classroom, they are exposed to their environment which may influence their future success or failure. If the consequences of the student's actions are desirable, the student will be more likely to replicate that action (Clark, 2018). At the same time, if the result of the behavior is an adverse action, the student will be less likely to reproduce that action.

The foundational principle of behaviorism in education maintains that the stimuli presented to students during the learning process can either inhibit or enhance the desired learning outcome (Skinner, 1945). This is done when the student receives positive feedback for appropriate behaviors and negative feedback for inappropriate behavior (Clark, 2018). For example, if a student is rewarded when they do something positive, they receive positive reinforcement of the desired outcome from the teacher. The student will then want to do that behavior again to be able to receive those stimuli (Staddon, 2017). On the other hand, when the student gets a harmful repercussion from conduct, the student will not repeat the behavior due to the negative stimuli. According to behaviorism, there are two types of catalysts: operant behavior or respondent behaviors (Clark, 2018). Operant behavior is when the student controls the action, which creates the response (Clark, 2018). In contrast, respondent behavior is made without the

student's power and responds to the stimuli from the environment (Clark, 2018). This can both be negative or positive reinforcement.

Problem Statement

The variability of definitions and variables that have been used to determine school culture have created a complex set of data, making implementation of research-based practices very difficult for educators. Maxwell et al. (2017) found studies focusing on school culture and the correlation of academic achievement are unclear due to the multiple definitions of culture. How culture is defined can determine whether or not culture has an impact on the educational outcomes of students (Demirtas-Zorbaz et al., 2021). However, the culture of a school, or any environment, is essential for the success of those being taught (Karadağ et al., 2020). While there are studies that focus on the school as a whole, others focus on the school culture in a classroom (Holzberger et al., 2020). Corbin et al. (2020) discussed the need to determine how the environment of the classroom impacts middle and elementary school students. Although Fisher and Crawford (2020) focused on improving an entire school utilizing Maslow's hierarchy of needs, the research focused on staff more than students.

Studies, with a clear understanding of school culture and relevant data collection, are needed to direct educators toward making positive changes in the school. Once culture is defined, there must be a definition of what academic success means, or it can get convoluted into something that it is not (Leithwood & Sun, 2018). Academic success can be meeting a standard or it could be measured by growth in certain academic areas. The problem is that research has not clarified on the interaction between classroom environments and academic achievement.

Purpose Statement

The purpose of this quantitative, predictive correlational study is to determine if there is a predictive relationship between perceptions of classroom environment and academic achievement in reading and language usage for 7th and 8th grade students. The criterion variable is defined as the perceptions, or the "actual preferred and expected learning environments of the classroom" (Moos & Trickett, 2002, p. 5). The predictor variable is defined as academic achievement in reading and language usage (NWEA, 2019). Reading is defined as "reading comprehension, understanding of genres and text, and vocabulary" (NWEA, 2019, p. 11). Language usage is defined as "grammar, mechanics, and the elements of writing" (NWEA, 2019, p. 11). The population includes any student in the public school which consisted of 4.2% English Language Learners, 1.1% foster youth, 2.2% homeless, 61.2% socioeconomically disadvantaged, and 11.2% of students who have disabilities school wide. The ethnicity of the school population is 2.5% African American, 3.4% American Indian, 2% Asian, 1.4% Filipino, 23.3% Hispanic, 9% mixed race, 3.7% Pacific Islander, and 54.8% White. There are 14 teachers at the school, four of which teach ELA.

Significance of the Study

This study is significant because it will create a clear definition of the perceived classroom environment by students, along with ensuring that there is a clear definition of academic success. The research will add to the body of knowledge by utilizing a clear understanding of academic success by looking at the NWEA MAP scores. Other studies have utilized other means of defining academic success (Demirtas-Zorbaz et al., 2021; Karadağ et al., 2020; Leithwood & Sun, 2018; Maxwell et al., 2017). There will also be a clear definition of the perceived classroom environment by utilizing the CES. Some articles discuss culture from the

perspective of staff engagement (Holzberger et al., 2020; Sheikh et al., 2019; Van den Broeck et al., 2020), the engagement of minority students (Brooms, 2016; Redding & Nguyen, 2020; Trieu & Jayakody, 2018), school leadership, (Çimen & Karadağ, 2019; Karadağ et al., 2020; Leithwood & Sun, 2018) along with multiple other areas of focus. When looking at the effects of culture on academic success, it is imperative that there is a clear understanding of what area of the culture makes the impact and that the word culture or climate is not used as a one-size-fits-all statement when looking at academic success. With a clear understanding of the perceived classroom environment and academic success, the research will improve the lives of educators by allowing them to see the impact of the perceived classroom environment on their student's academic success. The research may also improve the environment for the students in the classroom by researching the students' perceived classroom environment and how that may impact their academic success.

Research Question

RQ1: How accurately can perceptions of learning environment be predicted from a linear combination of reading and language usage scores for 7th and 8th grade students in rural California?

Definitions

1. *Academic Achievement* – Obtaining the desired skill or knowledge (NWEA, 2019; York et al., 2015).
2. *Family Engagement* – Parental involvement in their child's academic success (Ortiz-de-Villate et al., 2021).
3. *Language Usage* – "grammar, mechanics, and the elements of writing" (NWEA, 2019, p. 11).

4. *Language Usage Scale Scores* – Measures by NWEA, ELA Language Scores focus on grammar, mechanics, and other parts of writing (NWEA, 2019).
5. *Learning Environment* – The classroom content, the teacher's personality, class composition, class characteristics, and teaching methods (Moos & Trickett, 1974).
6. *Personality Traits* – Student's self-attribution (Moscato et al., 2023), perfectionism in students (Endleman et al., 2021), executive function in students (Albert et al., 2020), and academic behavior (Albert et al., 2020).
7. *Reading* – "reading comprehension, understanding of genres and text, and vocabulary" (NWEA, 2019, p. 11).
8. *Reading Scale Scores* – Measured by NWEA, ELA Reading scores focus on the student's ability to read (NWEA, 2019).
9. *School Climate* – School climate is the unwritten feel of a school, which can be seen in its norms, values, and expectations (Maxwell et al., 2017).
10. *School Culture* – Culture is a belief and value system that drives the organization (Gruenert & Whitaker, 2015).
11. *Student Teacher Relationships* – The connection between educators and learners (Bosman et al., 2021).

CHAPTER TWO: LITERATURE REVIEW

Overview

A review of the literature was conducted to explore the connection between the perceived culture of being cared about by an adult at a school and its correlation with students' academic achievement. The chapter will show a review of the literature currently available related to the topic of study. The first section will address Maslow's hierarchy of needs and Skinner's behaviorism theory. Then, there will be a synthesis of the literature relevant to school culture and how it affects students' subpopulations, NWEA MAP data, and then literature about academic achievement. Finally, literature about classroom environment relating to academic achievement will be presented.

Theoretical Framework

Maslow’s hierarchy of needs (1943) and Skinner’s theory of behaviorism will both be discussed in this following section. The theory of Maslow's (1943) hierarchy of needs can help explain the importance of school culture and its correlation with academic achievement. Additional work was done on Skinner's (1945) behaviorism theory which provides a manner to determine how the stimuli of meeting those needs enable students to succeed academically. A student's needs, as outlined out in Maslow's hierarchy of needs, must be met for the student to be able to perform academically in the classroom.

Hierarchy of Needs

Maslow’s hierarchy of needs is based on the theory people take care of basic needs first before they can become the improved version of themselves (Maslow, 1943). Maslow believed a person’s needs must be met in the following order: physiological, safety, belonging and love, social needs or esteem, and self-actualization. Later in his career, Maslow added transcendence

to the pyramid. Oved (2017) recognized a need to move love higher up on Maslow's hierarchy of needs since love is what drives people to put others before themselves and makes people willing to sacrifice themselves for the betterment of others. This need for love, when met, can help students be willing to work hard and achieve their academic goals (Basford et al., 2020).

Maslow's (1943) hierarchy of needs is founded on the principle that individuals tend to prioritize meeting their basic needs before striving for self-actualization and realizing their full potential. Physiological needs - like water, food, and shelter - are essential for someone to survive. Safety represents another basic need for someone to be safe in their environment. Belonging and love is the first psychological need and focuses on the innate need to be loved and have a place to which a person belongs. The second psychological need is the need to feel accomplished, as when a long-desired goal is met. This need is recognized in the hierarchy as esteem. Finally, self-actualization is the self-fulfillment which leads to achieving ones full potential.

Maslow (1943) created the hierarchy of needs during the middle of World War II. Undoubtedly, current events played a role in Maslow recognizing that certain needs trump others in importance (Oved, 2017). Oved (2017) highlighted how our world has always focused on love dating back to the creation of the world and Adam and Eve. God gave Eve to Adam because it was not good for man to be alone. The world has many examples of people putting others before themselves and sacrificing their lives for those around them (Oved, 2017). Love drives people to put others before themselves and makes people willing to sacrifice themselves to better others. Mothers and fathers have given their lives for their children since the world's creation. Oved (2017) believes love should be listed before safety because love is desired more than safety.

Maslow's (1943) hierarchy of needs is utilized in various ways in education. Allen et al. (2021) discuss how it is essential, when thinking about interventions in schools, to ensure students' needs are being met before you try and help them academically. When thinking about a classroom, if the student cares about their teacher and the teacher cares about their student, particular needs, according to Maslow (1943), are being met. Therefore, educational and academic interventions can occur (Allen et al., 2021). In the pursuit of educational fairness, it is crucial to ensure that the needs of each student are met equitably, no matter their race or ethnicity (Patte et al., 2021). When thinking about teacher and student relationships, it becomes crucial to develop an understanding that the reception of love varies among students. Ethnicity can change a student's perspective of a loving and caring classroom.

Current research regarding the COVID-19 pandemic has also shown the importance of ensuring student's basic needs are being met before any educational expectations can be placed on the students (Allen et al., 2021; Fayez et al., 2023; Mutch, 2021). The COVID-19 pandemic took away much of the interaction and fulfillment students had previously received from their teachers and peers (Allen et al., 2021; Mutch, 2021). The students were lacking in both affirmation and support, not only from their teachers, but also from their peers (Fayez et al., 2023). The seclusion of students from interactions, brought about by the pandemic, exerted a substantial impact on their academic progress. The school has always been a community for students to thrive. When students cannot be a part of that community, their social and emotional well-being is negatively affected (Grover et al., 2021).

When students are not feeling supported by their peers or feel the pressure of bullying, the student's needs are altered away from that of focusing on education (Basford et al., 2020; Desmet & Fokkinga, 2020; Grover et al., 2021; Lu et al., 2022). Students must feel safe around

their peers before they are willing to focus on the education occurring in the classroom (Lu et al., 2022). According to Desmet and Fokkinga (2020), it is imperative that a students' needs, which vary from student to student, are met. Some things that may be seen as joking around by one student may be seen as bullying by another student (Lu et al., 2022). The experiences of students can impact the rest of their lives. If a school is more acutely focused on meeting students' basic needs before focusing on educational needs, many more students could be helped from taking a path toward incarceration (Basford et al., 2020).

Behaviorism

Radical behaviorism theory was primarily created by B. F. Skinner (1945) and is the theory of how one's environment makes a person who they are. Everyone reacts to the things around them, including the punishments/rewards that happen when certain behaviors occur (Clark, 2018). Radical behaviorism states that the environment is responsible for the people in a particular place (Skinner, 1945). For example, when students try to learn something in a classroom, their exposure to this environment, determines if they will be successful. If the consequences of the student's actions are good, the student will be more likely to replicate that action (Clark, 2018). At the same time, if the result of the behavior is an adverse action, the student will be less likely to reproduce that action. This behavior conditioning, also known as operant conditioning, comes in two ways: operant behavior or respondent behavior (Skinner, 1945). Operant behavior is when the student controls the action, which creates the response. In contrast, respondent behavior is made outside of the student's power and involves the student responding to the environment's stimuli.

B. F. Skinner's radical behaviorism theory asserts that an individual's identity is predominately influenced by the external environment (Skinner, 1945). Skinner's theory has

been utilized throughout education to help better understand students and how to help them learn (Guercio, 2018, 2020; Saracho, 2021; Saracho & Evans, 2021; Schlinger, 2021; Tan et al., 2022; Van der Oord & Tripp, 2020). Each person reacts to the stimuli around them, including the punishments/rewards that occur when certain behaviors occur (Skinner, 1945). This behavior conditioning, also known as operant conditioning, can be utilized to better understand why students react the way they do to their learning conditions (Guercio, 2020; Saracho, 2021).

The basis of behaviorism in education is the stimuli that a student receives when learning something either hinders or supports that learning outcome (Clark, 2018; Guercio, 2020; Saracho, 2021; Schlinger, 2021; Tan et al., 2022; Van der Oord & Tripp, 2020). Behaviorism occurs when the student gets positive feedback when doing something that is wanted and negative feedback when the student behaves inappropriately (Clark, 2018). If a student is rewarded when they do something positive, they receive positive reinforcement of the desired outcome from the teacher. The student will then want to do that behavior again to be able to receive those stimuli. On the other hand, when the student gets a harmful product from conduct, the student will want to not do that again due to the negative stimuli.

Skinner's theory has continually been added to and applied to education (Guercio, 2018, 2020; Saracho & Evans, 2021). Early childhood education has utilized behaviorism to understand better how to help students be successful in their environment (Saracho, 2021). Through this continual usage of behaviorism in education, there have also been additional theorists who have utilized behaviorism as a foundation for newer theories (Guercio, 2018, 2020; Saracho, 2021; Saracho & Evans, 2021; Schlinger, 2021; Tan et al., 2022; Van der Oord & Tripp, 2020). One example of a theorist utilizing behavior as a foundation is Jerome Bruner, who described the developmental stages of cognition in the classroom (Saracho, 2021). Behaviorism

has also been ably applied to help students in the classroom who have disabilities like ADHD (Van der Oord & Tripp, 2020). Because the environment is the same for all students does not mean the outcome will be the same, and this understanding has helped guide educators in developing modifications to improve students learning. Behaviorism, such as the implementation of education strategies like the token economy, have been utilized to create positive learning environments and facilitate student success (Tan et al., 2022). Rewarding students to ensure they know what is expected of them helps guide their learning through the environment in which they find themselves.

Related Literature

In this section, there will be a synthesis of literature relevant to school culture. Next, the intersection of school culture and student subpopulations, NWEA MAP data, and academic achievement will be presented. Finally, gaps in the literature on school culture and academic success will be identified.

School Culture

School culture and its correlation to academic achievement is not something that is widely investigated (Maxwell et al., 2017). However, reaching a consensus as to whether or not culture, or certain parts of a culture, make a difference is often unclear (Maxwell et al., 2017). How culture is defined can determine whether or not it has an impact on the educational outcomes of students (Demirtas-Zorbaz et al., 2021). One thing educators and scholars can take away from the studies is that ensure the culture of a school, or any environment, is essential for the success of those being taught (Karadağ et al., 2020).

According to Holzberger et al. (2020) there are many studies that focus on the school culture collectively, and other studies focus on the school culture in a classroom. Within each

area defined as creating the school culture, which is often called the school climate, there are different definitions of culture. Gruenert and Whitaker (2015) define culture as the relationship between staff/teachers and students. Bayar and Karaduman (2021) focus on school culture being the school's values, beliefs, and norms and can be observed by the relationships and interactions of those on that campus. In contrast, shared values and norms have been identified as the main contributing factor to a culture that promotes student academic achievement (Gruenert & Whitaker, 2015; Maxwell et al., 2017). Although there are many definitions for culture, the definition of culture that is most comely used is the overall atmosphere and norms (Gruenert & Whitaker, 2015; Maxwell et al., 2017).

The common confusion of climate and culture is a significant issue (Gruenert & Whitaker, 2015). Gruenert and Whitaker (2015) discuss how climate is something that an individual can change, while culture is a belief and value system that drives the organization. Making a significant change for students at a school, a climate, or just a single individual, is not enough because a culture that provides a place where a student can feel supported and cared about is needed for the student to be successful academically (Maxwell et al., 2017).

Leithwood and Sun (2018) separate culture and the many definitions that have come from culture by compartmentalizing the definition of culture into subcategories. Culture can be defined within the context of teacher/staff relationships with leadership, and also can be defined as school norms that students experience every day. Leithwood and Sun (2018) believe that school discipline is a crucial data point that can correlate with a student's academic achievement more than anything else. Bayar and Karaduman (2021) found that schools with a more positive culture saw an increase in students' academic achievement. Bayar and Karaduman (2021) also found the school's climate was the primary factor in determining if the school's culture was

supportive of student academic achievement. The constant changing of definitions and variables used to determine school culture has created a complex set of data which makes it challenging for any educator to use and put into practice at his school site. The need to focus on a single variable, like a student's perception of the classroom environment, to help define a school culture will allow the data collected to be relevant to educators.

Boys and Girls in Education

The exploration of gender differences in education has garnered significant attention from researchers. Several studies have contributed to this topic, examining the comparison between boys and girls in various educational aspects (Hofer et al., 202; McQuillan et al., 2023; Scholes et al., 2020; Workman & Heyder, 2020; Yu et al., 2020). These studies offer valuable insights into how gender can shape students' school experiences, performance, and engagement.

Hofer et al. (2022) focused on the relationships between perceived self-determination, engagement, and performance in school mathematics for both boys and girls. Hofer et al. (2022) found potential distinctions in the factors influencing the genders' self-determination, engagement, and performance. Boys' engagement in mathematics is positively associated with their perceived self-determination, while girls' engagement is linked to their self-perceived mathematical competence. Meanwhile, McQuillan et al. (2023) investigated changes in science identity during middle school, finding divergent predictors for boys and girls. Boys' science identity is influenced by peer support, whereas girls' science identity is shaped by teacher support.

Scholes et al. (2020) challenged the stereotype that reading fiction is primarily associated with girls by examining the experiences of primary school boys who enjoy reading fiction. Their study highlights the diversity in boys' reading preferences and practices, challenging the notion

that "boys don't read.” Furthermore, Workman and Heyder (2020) delve into the social costs of striving for academic excellence in high school and the impact on gender achievement gaps. The research revealed girls exhibit higher concern about the social costs associated with putting effort into their schoolwork, leading to potential disparities in academic engagement and achievement. Lastly, Yu et al. (2020) explored the relationship between adolescents' gender role profiles and their motivation, engagement, and achievement. Their study identified distinct gender role profiles among boys and girls, demonstrating how various combinations of masculine and feminine attributes can influence students' educational outcomes differently.

The studies by Hofer et al. (2022), McQuillan et al. (2023), Scholes et al. (2020), Workman and Heyder (2020), and Yu et al. (2020) provide valuable insights into the influence of gender on students' educational experiences. These studies uncover differences between boys and girls in self-determination, engagement, science identity, reading preferences, and concerns about social costs. Recognizing and understanding these gender-specific factors are vital for promoting inclusive education and creating supportive learning environments that cater to all students' diverse needs and interests.

Family Engagement

Stickland–Cohen et al. (2021) stated that though there had been multiple studies on family engagement, that focus is usually on students who require more extreme behavior support and not engaging parents on a broader scale. Smith et al. (2019) stated engaging parents in their student's school life is a significant factor in helping students in their experience at school. Smith et al. (2019) found although parents need to be involved in their student's support system at school, it is often not widely known how to become actively involved. Schools' standard practices to engage parents focus on academics and not the relationships that occur with the

students (Garbacz et al., 2018). There needs to be more of a focus by schools on parents ensuring that relationships that support the student's learning are being built.

Smith et al. (2019) support the idea, as does Stickland–Cohen et al. (2021), that family engagement will significantly have a positive impact on a student's behavior and academics. For a school to advance student academic outcomes, parents must be involved and understand their students' expectations (Garbacz et al., 2018). Academic home-based involvement occurs when a student is supported academically away from the school and the parent is the key supporting factor in helping a student grasp the educational material being presented to them by the school (Smith et al., 2019). Smith et al. (2019) found home-based involvement in a student's educational process positively affects a student's academic outcomes.

According to Ortiz-de-Villate et al. (2021), parental involvement in their child's academic success is a significant factor in a student's academic achievement, but other factors come into play. Those other factors include the school's characteristics and environment. When both the student's family is engaged in the student's academic success and the school's environment supports the student, there is a higher chance of academic success (Ortiz-de-Villate et al., 2021). Parental involvement in their student's academic environment helps students feel connected to the learning process. When family engagement has a particular focus, there is a greater impact compared to when the family's involvement is in general and limited to school assemblies (Cosso et al., 2022). Parent and guardian support at home and school increases the chances of a student's success, but what that looks like varies depending on the school.

When a family is focused on helping in areas like reading and math, there is a significant impact on academic success and the student's social and emotional well-being (Cosso et al., 2022). Programs are more effective when parents know what the purpose of the program is and

what specifically the parents need to do to help their child. When families know what is going on in the classroom, the students are able to be supported at home with more effectiveness. Family engagement helps a student's academic performance and the school's culture (Smith et al., 2019). Parent involvement in school-wide Positive Behavioral Interventions and Supports, which can be a cornerstone of any school culture, significantly impacts students (Garbacz et al., 2018).

One of the main determining factors of parent engagement in the school culture starts with the communication between the school and the parent (Garbacz et al., 2018). Communication is not a one-way, but something that both the parents and the school must initiate to ensure that all party members are committed to enabling their students to have the best school culture possible. For parents to know what is going on in their student’s education the school and the parents must be willing to communicate with one another (Smith et al., 2019).

Personality Traits and Academic Success

Academic success is complicated to monitor and even harder to narrow down to one thing. One reason for that is that each individual who is being monitored for academic success has personality traits and outside factors of influence that impact their ability to be academically successful (Albert et al., 2020; Endleman et al., 2021; Hessen & Kuncel, 2022; Moscato et al., 2023). Albert et al. (2020) found that a student's executive functions, including mental skills like working memory and self-control, significantly impacted middle school student's academic success in mathematics. Hessen and Kuncel (2022) had a similar study that found that personality predictors of academic behaviors impacted a student's academic success. The academic behaviors found by Hessen and Kuncel (2022) which most significantly impact students' academic success were behavior, attendance, homework completion, and test-taking.

A student's self-attributions (Moscato et al., 2023) and whether or not a student is a perfectionist (Endleman et al., 2021) could also impact a student's academic success. Endleman et al. (2021) found when a student is a perfectionist, it can have a significant impact, positively or negatively, on a student's academic success. The study found that while having a degree of perfectionism can often motivate students to try harder to ensure what they are doing is perfect, having too much of a need to be a perfectionist can create anxiety in students and prevent them from being successful. Moscato et al. (2023) found that the student's ability to figure out the causes in themselves, like perfectionism, that can hinder their academic success allows for the student to have a higher chance of academic success. Self-attribution, or the ability to perceive the causes of someone's success and failures, allows a student to truly understand why they may or may not be successful in their academics. Moscato et al. (2023) found that those students who attribute their success to their own abilities and the work they put in tend to succeed academically at a higher rate than those who do not attribute their success to their effort and abilities.

A student’s environment can influence a student’s academic success (Albert et al., 2020; Endleman et al., 2021; Hessen & Kuncel, 2022; Moscato et al., 2023). For example, a student's personality traits, which include but are not limited to their self-attribution (Moscato et al., 2023), perfectionism in students (Endleman et al., 2021), executive function in students (Albert et al., 2020), and academic behavior (Albert et al., 2020) can all have an impact on a student's academic success. Understanding the unique aspects of a student’s personality is important for implementing appropriate academic interventions that can support their success in academics.

Student Teacher Relationship

The connection between educators and learners can have a profound impact on academic performance and socio-emotional development, as well as teacher satisfaction (Bosman et al., 2021; Falk et al., 2022; Finefter-Rosenbluh, 2022; Haldimann et al., 2023; Kim, 2021; Roorda & Koomen, 2020; Yao & Wong, 2020). Falk et al. (2022) found that when both the teacher and the student benefit from a positive student and teacher relationship. To foster these relationships, Bosman et al. (2021) suggest the use of relationship-focused reflection. Relationship-focused reflection involves reflecting on teacher-student relationships and identifying strategies to enhance them. Implementing this approach can lead to a significant improvement in teacher-student relationships and increased teacher self-efficacy.

According to Roorda and Koomen (2020), favorable relationships with teachers generally lead to academic success, while negative relationships with teachers often cause academic difficulties for students. In addition to students, teachers can also be impacted by power dynamics associated with student voice-based evaluations in schools (Finefter-Rosenbluh, 2022). Recent research has explored the role of teacher-student relationships in teacher satisfaction (Haldimann et al., 2023). Positive teacher-student relationships can increase job satisfaction and less burnout. The dyadic nature of teacher-student relationships is fundamental, as teachers report better well-being when they have positive relationships with individual students.

Interventions to improve teacher well-being should focus on individual teacher-student relationships (Bosman et al., 2021). Teachers may perceive student voice-based evaluations as a power tactic that challenges their authority in the classroom, leading to resistance and reluctance to participate (Finefter-Rosenbluh, 2022). However, student voice-based assessments can also allow teachers to establish more democratic relationships with their students, resulting in

improved teacher-student relationships (Finefter-Rosenbluh, 2022). Various interventions aimed at enhancing teacher-student relationships have demonstrated positive outcomes. For example, Yao and Wong (2020) found that a peer relationship intervention had beneficial effects on teacher-student relationships, with increases in prosocial behavior serving as a mediator between the intervention and enhanced relationships. Bosman et al. (2021) discovered that relationship-focused reflection improved teacher-student relationships and self-efficacy. Given the impact of teacher-student relationships on academic and social-emotional outcomes and teacher satisfaction, ensuring that the teacher-student relationship is a priority on school campuses is critical.

Technology in Education

Labonté and Smith (2022), Merma-Molina et al. (2021), and Veiga and Andrade (2021) have investigated preservice teachers' attitudes toward integrating technology in the classroom, finding that perceived ease of use and perceived usefulness significantly impact technology acceptance. Veiga and Andrade (2021) identified several critical success factors for technology acceptance in the classroom, including teachers' willingness to use technology and the availability of technical support. The significance of attitudes and resources in technology integration becomes evident, as well as the impact of the student perceptions of technology use on learning outcomes. Attitudes, resources, and student's perception play a crucial role of technology integration in the classroom.

Labonté and Smith (2022) found that students' self-directed and collaborative learning with technology positively influenced their learning experiences. However, the authors also noted that technology is not a one-size-fits-all solution, and students may benefit from technology-rich environments and technology-free learning environments. These findings

highlight the importance of considering students' and teachers' needs and limitations when integrating technology into the classroom. In addition to attitudes, resources, and student perceptions, technology use in the classroom also has implications for broader societal issues. Merma-Molina et al. (2021) explored the impact of mobile phone addiction on Education for Sustainable Development (ESD). The authors found that mobile phone addiction can negatively impact ESD by distracting students from classroom activities and limiting their engagement with sustainability issues. However, the authors also noted that technology could be a valuable tool for promoting ESD, highlighting the need for a balanced approach to technology use in the classroom.

Technology use in middle and high school classrooms has both potential benefits and challenges (Labonté & Smith, 2022; Merma-Molina et al., 2021; Veiga & Andrade, 2021). Attitudes towards technology, availability of resources, student perceptions, and broader societal issues are all critical considerations for effective technology integration. By taking a comprehensive and balanced approach to technology use, educators can leverage the potential benefits of technology while mitigating potential challenges and ensuring that students are given every chance possible for academic success.

Minorities and School Culture

The world is ever-changing, including the significant increase of students from multiple countries, backgrounds, and ethnicities (Kruse & Kroneberg, 2022). There is an increasing imperative for educational institutions to prioritize the needs of minority populations entering their schools. Every student needs to be accepted by those around them, including their peers and the staff at the school they are attending (Kruse & Kroneberg, 2022). In particular, many young Black men often come to school not genuinely knowing their place or who they should be to

those around them (Brooms, 2016). Young Black men are indeed shaped by the culture in which they are part of at school, and their relationships within that culture enable them to believe in themselves and overcome obstacles (Brooms, 2016). There is a significant issue of ostracizing those minority students as they try to become a part of the school culture (Mampaey & Zanoni, 2015). Some minority students are left feeling like they do not belong and their teachers do not honestly care about them (Mampaey & Zanoni, 2015).

When a minority student's family is involved in the school culture, the students have a better feeling of acceptance (Mampaey & Zanoni, 2015). The people and culture surrounding these young minority students help them believe in themselves and allow them to achieve even more than they thought they could (Brooms, 2016). For minority students, it is often difficult to believe they can succeed academically. However, a positive attitude created by the school culture allows them to believe they can overcome any obstacles (Trieu & Jayakody, 2018). Therefore, there is a need to help students overcome some norms in their home environment and ensure the norms in a given environment help them feel accepted (Hillekens et al., 2019). Minority students can go from one culture, at home, into another culture, at school and thrive as long as they are accepted (Hillekens et al., 2019). When a teacher and staff at a school understand where the student is coming from, considering both home life and cultural experience, there is a feeling of acceptance which enables the student not to feel so ostracized (Mampaey & Zanoni, 2015). There are many variables when it comes to creating a school culture that allows minority students to be successful, but the one thing that runs true is a culture that supports meaningful and caring relationships with staff (Brooms, 2016).

Classroom Design

Classroom design can have a significant impact on a student's academic success (French et al., 2019; Jia et al., 2023; Matsekoleng, 2021; Ralph et al., 2021; Sousa-Vieira et al., 2022). French et al. (2019) present case studies on transitioning from traditional classrooms to innovative learning environments. They emphasize the importance of flexible classroom spaces that support collaboration, student-centered learning, and technology integration. The findings suggest that well-designed learning environments, with adaptable furniture, varied seating arrangements, and accessible technology, contribute to improved engagement and academic success.

Similarly, Jia et al. (2023) focus on designing a fully online flipped classroom model to enhance student learning outcomes and engagement. The importance of creating an online learning environment that is interactive, visually appealing, and user-friendly is imperative to a successful flipped classroom. Incorporating multimedia resources, interactive discussions, and collaborative activities in the virtual classroom increases student engagement and improved learning outcomes. Matsekoleng (2021) examines the role of classroom design in the context of a home-based setup for environmental education. The study emphasizes the importance of creating an engaging and stimulating learning environment within the home setting. By incorporating interactive materials, hands-on activities, and engaging learning resources, students are encouraged to develop a sense of environmental consciousness and take ownership of their learning.

The study by Ralph et al. (2021) focuses on the impact of classroom space design on student enrollment decisions and academic success. The findings suggest that well-designed classroom spaces, including seating arrangements, lighting, and acoustics, can influence students'

perception of the learning environment and subsequent enrollment decisions. Furthermore, optimal classroom design positively impacts student academic success, as it creates a conducive atmosphere for learning and promotes student engagement. Sousa-Vieira et al. (2022) investigate the impact of social learning and gamification methodologies on learning outcomes in higher education. The study emphasizes the importance of incorporating collaborative and gamified elements into the classroom design to enhance student engagement and learning. Integrating social learning platforms and gamified activities fosters an interactive and immersive learning experience, improving learning outcomes and student motivation.

School Belonging

School belonging does not have a singular definition across all studies but is broadly defined as a student's feeling of being accepted, valued, included, and encouraged by others (Korpershoek et al., 2019). When students feel like they belong to something bigger than themselves, they can accomplish more than if they feel they are alone on an island (Allen et al., 2021). Raufelder and Kulakow (2021) focus on a student's expectation of an outcome due to their previous experiences. School environment and how a student feels like they belong to something bigger than themselves can help students overcome those expectations. A school culture that fosters a student's understanding of their actions, or lack of actions, creates an outcome fostered by the culture belonging (Raufelder & Kulakow, 2021). When a student feels like they belong to something, which can be seen through a positive relationship at a school, the student can grow academically and social-emotionally (Korpershoek et al., 2019). A school culture must support a significant effort toward a student's feeling of belonging to support their growth (Allen et al., 2021).

Högberg et al. (2021) did a case study on Sweden and the decline in students feeling like they belonged. Many variables can come into play for students not feeling like they belong in school. Högberg et al. (2021) found that a drop in school belonging seems to coincide with an increased focus on testing results rather than focusing on the students themselves. Grover et al. (2021) discuss how the school community helps meet students' needs before they can be academically successful, which aligns with Maslow's (1943) hierarchy of needs. Högberg et al. (2021) study found that all students struggled academically which included immigrants to Sweden. Students from socially disadvantaged backgrounds were also struggling to feel like they belonged at their school more than those from a stronger economic position. School belonging is often connected to school discipline, but Högberg et al. (2021) found no significant difference in the school's disciplinary climate. The changes were solely academic and significantly affected students' perceived belonging at the school.

Another factor in students' sense of school belonging is their peers and the adults at the school site (Montoro et al., 2020). Students must interact with both adults and peers while they are in school. Montoro et al. (2020) focused on how the interactions with peers compared to adults at the school affect students feeling of belonging, along with how minority students were affected differently. The study found that students could still have a good sense of belonging at the school despite peer discrimination. Students were able to cope and overcome when discrimination came from peers and were still able to find belonging at school. Allen et al. (2021) discussed how school belonging in adolescence allowed students' needs to be met. The students' needs being met by having a sense of belonging at school allowed students to be able to overcome both social and academic obstacles. When students experienced discrimination from an adult, there was a significant negative effect on students being able to feel like they belonged

at the school (Montoro et al., 2020). The study showed that students could adapt to things they most often navigate, so negative interactions with their peers are, unfortunately, a common occurrence. The students struggled to overcome negative interactions with adults because they had little experience overcoming them (Montoro et al., 2020).

Legette and Kurtz-Costes (2020) monitored 6th-grade students who were in multiple levels of math to see if curricular tracking affected students' perceived school belonging. The study focused on the math curriculum to determine if the students who were in a higher level of math had a higher level of belonging compared to students in a lower level of math. School belonging of students can be affected by many variables, which can significantly affect both academic performance and the feeling of connectedness in the classroom (Desmet & Fokkinga, 2020). Legette and Kurtz-Costes (2020) showed that students who were at a higher level of math had a higher feeling of belonging than those at a lower level of math. When a student feels that they belong and are accepted at school, they are at a higher level of math compared to their peers who feel like they do not belong due to their lack of ability to be successful in math (Desmet & Fokkinga, 2020). Legette and Kurtz-Costes's (2020) study showed that when students felt like they were being tracked negatively, it negatively affected the student's feeling of belonging. Contrary to that, the students who were being tracked in a higher level of courses felt like they belonged at the school. Grover et al. (2021) acknowledge that the school community matters to students, and that can be affected by the student's self-perception of their academic ability.

Measuring Class Environment

While the understanding that the school environment is essential, the availability of validated instruments for elementary school-aged students is rare (Aldridge & Galos, 2017). Moos and Trickett (1974) created an environmental scale for students when they created the

Classroom Environment Scale (CES). From there, a plethora of scales have been created and utilized around the world, with the majority of them focused on upper-level students. Many of the created instruments had to be altered to work for the primary students. Aldridge and Galos (2017) created and validated the Classroom Climate Questionaire-Primary to focus on primary students. An example of altering an already created instrument is the alteration of the CES to measure the perceived environment for special education students (Trickett et al., 1993). There was a need for an instrument to measure the classroom environment of special needs students, and instead of creating one from scratch, the CES was altered to fit the student population that needed to be surveyed. The original CES was used for prior studies, but the results showed a need to change the CES to communicate better what was being asked.

The Classroom Environment Scale, which shows the student and teachers' perspectives on the classroom environment and the relationship between the students and the teacher, can be used to see the relationship between student outcomes and the student's relationship with the teacher. Numerous studies have employed the Classroom Environment Scale to demonstrate the correlation between meeting students' needs, as described by Maslow's hierarchy of needs, and the role of the environment in shaping the individual student's identities, as emphasized by B. F. Skinner (Aldridge & Galos, 2017; Fisher & Fraser, 1983; Fraser, 1981; Fraser & Walberg, 1981; Hamann et al., 1990; Lim & Fraser, 2018; Trickett et al., 1993; Zhang et al., 2020).

To be able to get a clear picture of the classroom environment, some researchers utilize multiple instruments to compare the data (Petrík & Vašašová, 2022). Petrík and Vašašová (2022) utilized the Classroom Environment Scale (CES) and the Questionnaire on Teacher Interaction to determine if there was a relationship between the teacher's authority in the classroom and the

classroom environment. Petrík and Vašašová (2022) researched if the teacher authority helps control the classroom and if the environment is affected by how the classroom is controlled.

School Leadership and School Culture

The culture of a school is a direct result of the principal's efforts (Karadağ et al., 2020). Leithwood and Sun (2018) discuss how school leadership's main contributions to culture are the motivation, ability, and setting in their organization. Leaders, and more importantly, how they lead, can help create an environment allowing group members to support students in their academic journey. The leader's job is to protect the culture from things that will negatively affect those who are a part of the organization (Karadağ et al., 2020). Bayar and Karaduman (2021) found that one major determining factor in the school's culture and climate was the leadership of the school. When the leadership focuses on academic success and helps ensure the culture and climate, the students are more likely to be placed in a school that helps them grow academically. Bayar and Karaduman (2021) stated that school leadership is most effective when there are clear goals and support for teachers. Also, when stakeholders were involved in what was going on in the school, the students were more likely to be successful, too.

Spiritual leadership focuses on love and goodness promoted by how the leader of an organization, or school, goes about their job (Çimen & Karadağ, 2019). When a leader advocates for values and objectives that are perceived as valuable by others, they effectively foster a willingness and ability among followers to align with the leader’s desired direction (Karadağ et al., 2020; Leithwood & Sun, 2018). Love and goodness are a few of those things that are seen as valuable. A continual shift within society creates the need for constant adaption from school leadership (Çimen & Karadağ, 2019). The continual adaption requires school leaders to ensure that school culture can overcome whatever is placed before them. If the staff does not feel

supported by leadership throughout challenging times, even though the leader may think they are doing the right thing, it will negatively affect the school's culture (Çimen & Karadağ, 2019).

Staff Engagement

The teacher is often given a significant amount of credit for a student's academic experience but is often not recognized for their impact on the school's culture (Van den Broeck et al., 2020). Part of creating that environment for teachers to create a culture of success for students is by ensuring that the teachers are all in on their job and their school, and that happens when a teacher believes that their work is valuable and meaningful (Sheikh et al., 2019). Whenever staff members feel like they matter within the culture, they become a positive force that enables the culture to continue to be something other school members will want to be a part of. The classroom climate, or the culture established within the classroom, serves as an exemplification of the criticality of staff engagement. When a teacher can create a positive culture within their classroom that mirrors the positive attributes of the school as a whole, they can help the overall school culture (Holzberger et al., 2020). For that to occur, the staff must be all in and stay engaged in creating and maintaining a positive school culture (Van den Broeck et al., 2020).

Staff engagement is essential for creating a positive school culture (Van den Broeck et al., 2020). When staff members feel valued and respected, they are more likely to be engaged in their work, leading to improved academic achievement and a more positive overall school climate. In addition to teachers, other staff members, such as administrators, support staff, and ancillary staff, play a vital role in creating and maintaining a positive school culture (Van den Broeck et al., 2020). For example, administrators are responsible for setting the tone for the school and ensuring that all staff members are working towards the same goals, and if the

administrator is not engaged in the school culture, everyone else is negatively affected. Support staff provide essential services that allow the school to function smoothly and play a vital role in creating a welcoming and inviting environment for students and staff. Van den Broeck et al. (2020) found that all staff members, regardless of their role, can contribute to creating a positive school culture. They found that staff members who feel valued and respected are more likely to be engaged in their work and that this engagement can lead to improved student outcomes. Sheikh et al. (2019) also found that staff engagement is essential for creating a positive school culture. They found that staff members who believe that their work is valuable and meaningful are more likely to be engaged and that this engagement can lead to improved student outcomes.

Academic Success

Academic success is an ever-moving target that makes it hard to determine who is successful and who is struggling (Demirtas-Zorbaz et al., 2021). Although research shows that a positive relationship with a teacher can significantly support students' academic success, how academic success is measured varies throughout the studies (Maxwell et al., 2017). When someone talks about academic success, there must be a definition of what academic success means, or it can get convoluted into something that it is not (Leithwood & Sun, 2018).

Some of the used measures are often state tests or in-house summative testing (Maxwell et al., 2017), while other tests focus on English and Math scores from a test that is relevant to that group (Leithwood & Sun, 2018). There is no one area of education to determine a student's academic success across all studies. Academic success has been hard to define (Demirtas-Zorbaz et al., 2021). Researchers have defined academic success as focusing on academic activities and the satisfaction that comes from them (Kuh et al., 2006), while others focus on obtaining the desired skill or knowledge (York et al., 2015). The studies being done must not contaminate their

data fields by using multiple definitions of academic success. These multiple definitions open the door for researchers to manipulate the data to help prove a theory they might have and not truly inform anything new. Ensuring that a specific definition is utilized is needed when researchers are focusing on academic success.

Minorities Academic Success

Redding and Nguyen (2020) state that the least effective teachers serve minority students. Besides having teachers that, statistically, are not as talented at their job, minority students also have to overcome often obstacles that other students do not (Trieu & Jayakody, 2018). Minority students often have to overcome poverty, lower parent engagement, being bullied for their ethnicity, and low educated parents (Trieu & Jayakody, 2018). Brooms (2016) acknowledges these obstacles and knows they can be overcome with the right expectations. Students can be academically successful, which Brooms (2016) defines as being accepted into a college after graduation with the right academic and social-emotional support. Although minorities may have a more arduous road, they can succeed academically, no matter how that is defined, with the right support system (Trieu & Jayakody, 2018). Daily et al. (2020) found that minority students often reported feeling unsafe on campus, and those students failed academically more often than their white peers. The same study showed that when those students felt connected, they showed higher academic success, which applied to all races.

Basford et al. (2020) discuss the importance of school culture and academic success for minority students and how academic success and school culture can help fight incarceration for these students. When students are allowed to believe in themselves and succeed academically in school, they are less likely to be incarcerated. According to Daily et al. (2020), when the whole child is focused, they can start to believe in their abilities. Once those students believe in their

academic abilities, they are more likely to become productive members of society. Bell et al. (2017) support that the environment and its effect on academic success significantly affect minority students. The academic environment for Latino students allowed for higher academic success as well as helped create relationships that also fostered academic success for Latino students.

Staff Engagement and Academic Success

Staff engagement is defined as the staff having a fulfilling and positive mindset regarding their job, shown by the staff's dedication to the organization (Sheikh et al., 2019). The better engaged, trained, and prepared a school's staff is, especially the teachers, directly impacts the academic scores of the students at the school based on the state scores in English and mathematics (Redding & Nguyen, 2020). Holzberger et al. (2020) and Sheikh et al. (2019) discuss how the positive culture that a teacher creates in their classroom, often through their buy-in of what the school is doing overall, positively affects both science and math outcomes. The more the staff is engaged in the school and the educational process in which they are a member, the better the academic outcomes are for the students (Sheikh et al., 2019).

Many factors come into whether or not a staff member is engaged at the school and including, but not limited to, burnout, support, agreeing with the mission and vision, and feeling like they have a meaningful role in what is going on at the organization (Holzberger et al., 2020; Redding & Nguyen, 2020; Sheikh et al., 2019). One of the ways to measure staff engagement is by seeing the high levels of enthusiasm and energy that staff put forth in their day-to-day activities (Van De Voorde et al., 2011). It is visible to those around the staff, especially the students when they feel like the staff care, and that produces an environment that encourages the

students to put forth their best effort, producing higher academic success (Holzberger et al., 2020).

Staff Culture

The articles by Austin and Roegman (2021) and Gan and Alkaher (2021) focus on the staff culture in educational settings. Austin and Roegman (2021) explore teacher culture and climate in magnet school conversions, while Gan and Alkaher (2021) investigate school staff perceptions of education for sustainability and a sense of community in an elementary school culture in Israel. Despite the different contexts, both studies highlight the significance of staff culture in shaping the educational environment. In the study by Austin and Roegman (2021), the authors emphasize the importance of teacher satisfaction and preparedness in magnet school conversions. They found that positive staff culture, characterized by high teacher satisfaction and preparedness levels, contributed to successfully implementing the conversion process. In addition, teachers who were satisfied with their work and felt well-prepared for the changes were more likely to embrace the new educational approach and actively participate in the transformation. This finding indicates that a supportive staff culture, where teachers feel valued and adequately equipped, can enhance the implementation of innovative practices which in turn leads to a better staff culture and student success.

Similarly, Gan and Alkaher (2021) focus on staff perceptions of education for sustainability and a sense of community in an Israeli elementary school. The study explores how the staff's beliefs, attitudes, and values shape the school culture and influence the integration of sustainability practices. The findings reveal that a positive staff culture, characterized by a strong sense of community and shared values regarding sustainability, plays a crucial role in promoting sustainability education. When staff members feel connected, collaborate effectively, and share a

common vision, they create a supportive culture that fosters environmental awareness and sustainable practices among students. Justis et al. (2020) investigate how staff culture responded to the challenges posed by the COVID-19 pandemic in an online learning environment. They focus on how Edith Bowen Laboratory School cultivated staff culture online. The study highlights the importance of effective communication, collaboration, and support among staff members during the transition to online teaching and learning. A strong staff culture that promotes adaptability, resilience, and collaboration is crucial for successfully navigating the challenges of remote education. Austin and Roegman (2021), Gan and Alkaher (2021), and Justis et al. (2020) all emphasize the importance of the staff's cultural impact on the overall educational environment of the school site.

While Austin and Roegman (2021) and Gan and Alkaher (2021) focus on staff culture in general educational settings, the study by Grady-Dominguez et al. (2021) delves into the influence of staff culture on a specific intervention targeting risky play for children with disabilities. Although the context differs, this study also highlights the significance of staff culture in implementing innovative practices and providing inclusive learning opportunities. Grady-Dominguez et al. (2021) examine expectations and assumptions within staff culture related to a school-based intervention to enable risky play for children with disabilities. The authors emphasize the importance of staff members' attitudes, beliefs, and understanding of risk-taking and play for children with disabilities. They found that staff members who held positive attitudes towards risk and embraced the benefits of risky play were more likely to support and facilitate the intervention. On the other hand, staff members with risk-averse attitudes or misconceptions about the capabilities of children with disabilities hindered the implementation of the intervention. The staff culture encompasses the school staff's beliefs, attitudes, and

expectations regarding risk, play, and the capabilities of children with disabilities (Grady-Dominguez et al., 2021). A supportive staff culture that values the benefits of risky play and promotes inclusivity creates an environment where children with disabilities can engage in meaningful play experiences. Staff culture is vital in enabling or inhibiting inclusive practices and interventions in educational settings. When a staff culture is not supportive and positive, the school suffers.

Northwest Evaluation Associations Measures of Academic Progress Data

Northwest Evaluation Associations (NWEA) Measures of Academic Progress (MAP) data has been used to help see students' academic growth in reading, language usage, and math. The test has been used in K-12 education to help see whether or not students are growing at the same rate as other students, along with helping to see if there are any other areas of need for the students within each area of education (NWEA 2019). Atteberry and McEachin (2020) utilized the NWEA MAP data to monitor the learning loss of students throughout the summer vacation months. By utilizing MAP data, Atteberry and McEachin (2020) showed that over half of students are losing significant growth during the summer breaks. Some of those students could show academic growth or maintain it due to parent involvement at home. Using the NWEA MAP Data from the Spring of the previous year and the Fall of the following year, Atteberry and McEachin (2020) could monitor the students' growth before leaving for the break and when the students returned in the Fall.

The NWEA MAP growth scores can be utilized to see the relationship between the learning environment and the student’s academic success. The MAP scores have been utilized for a lot of studies, some of which do look into the student’s academic environment (Atteberry & McEachin, 2020; Burns & Young, 2018; Corcoran, 2017; Dallavis et al., 2021; Kuhfeld, 2019;

Kuhfeld et al., 2022). The MAP growth scores will allow for the understanding of growth and the possible relationship with the student's needs, which aligns with Maslow, and the environment, which aligns with Skinner.

Kuhfeld (2019) discussed how the learning loss over the summer break was a well-known issue, but how utilizing NWEA MAP data, the loss was easier to be seen. The study focuses on K-8th grade learning loss in math and reading. The data showed that while it is common for students to have learning loss, it is not a guarantee. Roughly three-quarters of students had learning loss, which left one quarter who either showed no learning loss or even some gains. The students who grew the most throughout the school year, evident through the MAP data, were the same students who lost the most. Kuhfeld (2019) states that one reason for this could be that students who do not get much support at home are getting it while they are in school. When students get the support they need from someone at school, they grow academically more than when they do not have someone pouring into them.

Kuhfeld et al. (2022) utilized the NWEA MAP data to show the learning loss in reading due to the COVID-19 pandemic. Kuhfeld et al. (2022) utilized the fall 2019 MAP data in reading with the fall 2021 Map data for students in grades 3-8. There were approximately 5.2 million students in the grades whose scores were utilized, and those students were spread out through approximately 12,000 schools. The data collected showed a significant loss of reading ability for students throughout the COVID-19 pandemic. The NWEA MAP data was compared to other test scores, like the end-of-year state tests, and both scores showed a loss of reading ability. The students in a high-poverty area performed 2.5 times worse than those in a low-poverty area. Minority students performed worse than their fellow white students. Kuhfeld et al. (2022) stated that some of the reasons for this trend could be due to the quality of the online learning that took

place, along with the fact that students in higher poverty level schools stayed in distance learning for longer periods. The lack of caregivers and support in the home learning environment could also be a reason for the NWEA MAP data showing the decline in reading.

Corcoran (2017) utilized NWEA MAP data to monitor the implementation of a math program, ORIGO Stepping Stones, and if the program succeeded. By utilizing the MAP Data, Corcoran (2017) was able to show that the program was not showing a significant amount of academic growth in the students but was able to see that the effectiveness of the program was also affected by the teachers. Not all of the teachers were implementing the program the same way, which created a significant difference in the program's reliability. Kuhfeld (2019) also found that factors outside of the programs impact student learning. The fidelity of implementation of the program created an issue with determining if the program was the issue or if the teachers did not implement the program correctly (Corcoran, 2017).

Dallavis et al. (2021) utilized NWEA MAP data to show the difference between Catholic private school students and public-school students, as Kuhfeld (2019) did. Using the MAP data, Dallavis et al. (2021) showed that the students in public schools were showing more growth, particularly in the lower elementary grades, compared to those in Catholic schools. The data showed that the private school students were growing at a lower rate but were also starting at a higher level. The NWEA MAP data could be utilized to show what the public schools were doing to close the academic gap was working. The data that Kuhfeld (2019) supports this finding as well. Dallavis et al. (2021) used the MAP data to help show where students were strong and struggling in private Catholic schools and public schools. Using the data to see where students were to start helped see why the growth was significantly more for those students who were further behind (Kuhfeld, 2019).

Middle School Reading

Being able to read is one of the most significant predictors of a student success in academic life (Lewis et al., 2021; Turunen et al., 2021; Wexler, 2020). Numerous studies have shown that reading competency in middle school indicates future academic achievement during middle to late adolescence (Lewis et al., 2021; Turunen et al., 2021). Developing proficient reading skills is essential for academic success, particularly during middle school. Proficient reading is a hallmark of academic success and is crucial for meeting the increased societal demands for a literate workforce (Lewis et al., 2021; Turunen et al., 2021; Wexler, 2020).

In middle school, the importance of reading becomes even more pronounced as students encounter more complex texts and academic materials (Turunen et al., 2021). Proficient reading is not only a foundational skill for literacy but also plays a significant role in students' overall academic experience. Students who struggle with reading often face many negative experiences within and beyond the school setting, and their overall academic performance is negatively affected if they struggle with reading (Lewis et al., 2021; Turunen et al., 2021). In particular, students with poor reading ability are at increased risk for middle school failure and dropout, which leads to a higher chance of the individual student struggling to be a productive member of society (Lewis et al., 2021; Turunen et al., 2021). Their reading accuracy errors impact their ability to comprehend text and hinder their motivation to engage in lessons and understand the content being taught (Lewis et al., 2021; Turunen et al., 2021; Wexler, 2020). Advancing reading skills is essential in facilitating students' understanding of academic materials and tasks. Proficient reading allows students to comprehend and engage with academic content more effectively, leading to improved performance in various academic activities such as

comprehension, critical thinking, and knowledge acquisition (Turunen et al., 2021; Wexler, 2020).

Middle School Language Growth

Language usage is often affected by a student's ability to truly understand the academic language being utilized in the context (Rhodes et al., 2020). A student's ability to use language, which focuses on writing mechanics and grammar, allows students to succeed academically and in their lives outside of school. Students who have to overcome a language barrier have even more barriers before them (Humphrey & Macnaught, 2015). In the research conducted on middle school language usage, it was found that there are both similarities and differences in the way students engage with language. Similarities in language usage among middle school students can be observed in the emphasis on the importance of academic language and its impact on students' academic success (Humphrey & Macnaught, 2015).

According to Rhodes et al. (2020), academic language plays a significant role in students' trajectories within and beyond school. Language enregisterment, or the association of certain types of signs with certain types of people, is a crucial process to consider when examining language usage in middle school students (Rhodes et al., 2020). This finding aligns with the research conducted by Humphrey and Macnaught (2015), which emphasizes the challenges faced by students who have to overcome a language barrier in school.

A student's physical development must also be taken into consideration when it comes to their ability for language usage (Kowalski et al., 2018). In addition to language usage, Rhodes et al. (2020) found that adolescence presents a unique ontogenetic stage that influences how language use becomes enregistered. In middle school, there is an increase in academic rigor compared to elementary school, leading to a shift in the prominence of English as the language

of schooling. The research on middle school language usage highlights similarities and differences among students. One similarity observed in the research is the recognition of the importance of academic language for students' success (Kowalski et al., 2018).

Summary

There are many different results regarding whether or not school culture affects students' academic success. Researchers, such as Bayar and Karaduman (2021), Demirtas-Zorbaz et al. (2021), Gruenert and Whitaker (2015), Holzberger et al. (2020), Karadağ et al. (2020), Leithwood and Sun (2018) and Maxwell et al. (2017) have continually looked into how school culture affects school achievement, but the definitions used to determine school culture and academic success are not consistent across the research. Although that research is influential, vague definitions are still used, leading future leaders to want more to guide them in creating a culture that promotes academic success. Looking at Maslow's hierarchy of needs and Skinner's behaviorism theory, creating the best school culture can be based on a student's needs, but the definition of school culture must be clear for the research to be meaningful.

There has been some focus on whether leadership or the teachers' relationships is the crucial factor in the culture that supports students' academic success, or if it is a different part of the culture, like the norms of a school. If the research is focused on the relationships or the school norms, it is clear that there is a difference between the types of leadership and how each type of leadership enables a better school culture for all members (Karadağ et al., 2020). Some types of leadership support school culture, which allows for a positive increase in a school's academic success. Other leadership styles may not support a positive school culture, which may show a connection to lower academic success for the students attending that school. The concept of the principal being the hub of the school's culture and how that leader can help guide the

school in its growth of a positive culture is rarely a focus of a school leader, and with the ever-changing world, it is something that a school leader must make a priority. With more minority students, that need to feel like they belong to a school culture that cares for them, the school culture must be a focus.

Teachers' role in school culture and students' support in that culture has been attributed to being a factor in helping students be successful. However, what it means for a teacher to help support school culture and the effects of that on students' academic success, has not been looked at individually apart from other factors during research completed. The central aspect of school culture that enables students to be academically successful is continually changing across the research, which creates a gap in current research about helping students succeed academically within the definition of school culture. A specific focus on teacher and student relationships and the classroom culture's effect on academic achievement for the students in the classroom is needed.

CHAPTER THREE: METHODS

Overview

The purpose of this quantitative, predictive correlational study is to determine if there is a predictive relationship between perceptions of classroom environment and academic achievement in reading and language usage for 7th and 8th grade students. In this chapter the design of the study along with research questions that guide the study is presented. The hypothesis is posed along with information on the setting and participants. Finally, the instruments utilized, procedures, and data analysis are given.

Design

A predictive correlational design was used for this study (Creswell & Guetterman, 2021; Gall et al., 2007). This design offers valuable insights into variable relationships and outcome prediction. This design aims to establish the relationship between variables and predict one variable based on another (Creswell & Guetterman, 2021; Gall et al., 2007). Data is collected on variables and analyzed statistically to determine their relationship. Appropriate measures are chosen, such as surveys, tests, or observations, which must be reliable and valid (Creswell & Guetterman, 2021). This study is quantitative because both the predictor and criterion variable are continuous data (Gall et al., 2007). The study is predictive because the study is trying to predict the correlation between the criterion variable and two or more predictor variables (Gall et al., 2007). The study is correlational because the study looks at relationships between variables instead of differences between groups (Gall et al., 2007).

The predictive correlational design is suitable to determine if there is a predictive relationship between perceptions of classroom environment and their academic achievement in reading and language usage. This study focuses on predictive correlations, making it appropriate

(Gall et al., 2007). Other studies have used this design for similar purposes (Cardoso-Pulido et al., 2022; Rockinson-Szapkiw et al., 2016; Zentner et al., 2014). Experimental designs would not work due to non-randomizable participants. The criterion variable is defined as the perceptions, or the "actual preferred and expected learning environments of the classroom" (Moos & Trickett, 2002, p. 5). The predictor variable is defined as academic achievement in reading and language usage (NWEA, 2019). Reading is defined as "reading comprehension, understanding of genres and text, and vocabulary" (NWEA, 2019, p. 11). Language usage is defined as "grammar, mechanics, and the elements of writing" (NWEA, 2019, p. 11).

The predictive correlational design explores the relationship between variables and predicts one based on another (Creswell & Guetterman, 2021; Gall et al., 2007). Identifying predictor and outcome variables, selecting participants, measuring variables using valid tools, and analyzing data to determine relationships are integral components of the predictive correlational design. Employing surveys and questionnaires for data collection, the predictive correlational design is apt for studying learning environment and academic success. Analysis helps gauge the relationship's strength and direction and predict outcomes. There are limitations to this design. The design is not experimental due to the lack of random assignment (Gall et al., 2007).

Research Question

RQ1: How accurately can perceptions of learning environment be predicted from a linear combination of reading and language usage scores for 7th and 8th grade students in rural California?

Hypothesis

$H_0$1: There is no significant predictive relationship between the criterion variable (perceptions of learning environment as measured by the Classroom Environment Scales scores) and the linear combination of predictor variables (reading and language usage scores on the Measures of Academic Progress test) for 7th and 8th grade students in rural California.

Participants and Setting

This section will discuss participants and setting of the study. The population will be described first followed by information on the participants. The sampling size and technique will be discussed along with more information on the setting of the study.

Population

According to Gall et al. (2007), the population of a quantitative study is a large group of individuals in which the participants are selected. The population consists of 7th and 8th grade students in a rural area in a Western state. The students are 7th and 8th grade students for the 2023/24 school year and are all gathered from Pineville Middle School (pseudonym). The school site consists of approximately 303 students, of which 183 of them are 7th and 8th grade students. The population consisted of 4.2% English Learners, 1.1% foster youth, 2.2% homeless, 61.2% socioeconomically disadvantaged, and 11.2% of students who have disabilities school wide. The ethnicity of the school population is 2.5% African American, 3.4% American Indian, 2% Asian, 1.4% Filipino, 23.3% Hispanic, 9% mixed race, 3.7% Pacific Islander, and 54.8% White. There are 14 teachers at the school, four of which teach ELA.

Participants

A convenience sample was used to obtain participants for the study (Gall et al., 2007). The sample came from one middle school, which was the only school within the district. The

students were selected from their English language arts classrooms. Every 7th and 8th-grade student was invited to participate in the study with the school and parents' consent. For this study, the number of participants sampled was 124 which exceeded the required minimum sample size of 106 when assuming a medium effect size, an α level of 0.05, and a power of 0.8 (Warner, 2013). The demographic consisted of 65% of socioeconomically disadvantaged students, 5.6% of English learners, and 0.7% of students who are foster youth. Every 7th and 8th grade ELA teacher at the middle school was asked to voluntarily participate in the study. The teacher's population consisted of 3 female teachers and 1 male teacher. A random sampling was not utilized due to the participants not being able to change classes or grade levels. The students were chosen at the beginning of the 2023/24 school year and participated through their 7th and 8th grade ELA teacher's classroom.

Setting

This study took place in the ELA in-person classes at one middle school. All classrooms had similar setups with desks and chairs. Each classroom was approximately 30' by 40' which allowed for 25-35 students in each classroom. All ELA classes were 55 minutes long. Students walked to the computer lab to utilize the district provided computers. All students utilized similar computer setups in the same computer lab. All students had the same chairs, lighting, and temperature settings in the computer labs.

Instrumentation

Three instruments were used in this study. The Classroom Environment Scales (CES) was used to measure the criterion variable, perceptions of classroom environment, for the research question. The NWEA MAP assessment in ELA reading measured one of the predictor variables, academic achievement in reading, for research question one. The NWEA MAP

assessment in ELA language usage measured the second predictor variable, academic achievement in language usage, for the research question.

Classroom Environment Scale

The CES' purpose is to evaluate the learning environment (Moos & Trickett, 1974). See Appendix A for CES. The CES was created for middle school students, so the reading level is appropriate for the participants. The CES allows for a more specific look into the student's perspective and not just at the entire classroom's perspective of the classroom environment (Moos & Trickett, 2002). The ability to look at an individual student's perspective enables the researcher to look at each student's score on the CES and compare it to each student's MAP data from across the nation. The questions on the CES survey the perceptions which are the "actual preferred and expected learning environments of the classroom" (Moos & Trickett, 2002, p. 5). The survey is available to measure three areas of the learning environment (Moos & Trickett, 2002; Moos & Trickett, 1974). One, Form R, measures both the students' and teachers' perceptions of what is currently happening in the classroom. The other two forms, Form I (the Ideal Form) and Form E (the Expected Form), will not be used in this study. For this study, Form R will be utilized to understand the students' and teachers' current perceptions of the classroom environment.

The CES has been used in a multitude of studies focusing on classroom environment and has been repeatedly supported to be a valid instrument (Fisher & Fraser, 1983; Fraser, 1981; Fraser & Walberg, 1981; Hamann et al., 1990; Lim & Fraser, 2018). Many other studies have utilized the CES model and modified it to fit the needs of the demographic being studied (Aldridge & Galos, 2017; Lim & Fraser, 2018; Trickett et al., 1993; Zhang et al., 2020).

Moos and Trickett (1974) established the validity of the CES when it comes to measuring the classroom environment of students. The CES was found to have a high internal consistency and retest reliability, which shows that the classroom environment scale is consistent over time (Aldridge & Galos, 2017; Lim & Fraser, 2018; Zhang et al., 2020). The nine subscales for Form R in the Classroom Environment Scale were found to have an internal validity ranging between .67 and .86 (Moos & Trickett, 1974). Aldridge and Galos (2017) showed high reliability and retest reliability using Cronbach's alpha between .77 to .96, while Lim and Fraser (2018) showed high reliability and retest reliability between .72 to .95. Tricket et al. (1993) reported test reliability to be from .68 to .94 while Zhang et al. (2020) showed it to be .77 to .92.

Form R CES has nine subscales, and each one of the subscales has ten true or false questions. The total number of questions asked is 90 (Moos & Trickett, 1974). There are three dimensions for form R CES. The first is relationship dimensions which has three subscales within it that consist of involvement, affiliation, and teacher support. The second dimension, personal growth/goal orientation dimensions, has two subscales that consist of task orientation and competition. The third dimension, system maintenance and change dimensions, consists of four subscales within it that consist of order/organization, rule clarity, teacher control, and innovation. Each subscale consists of ten questions each and the answers are true and false. Each subscale consists of five questions that are reversed scored, wanting the answer to be false, and five that are answered wanting the answer to be true. Scores are summed and averaged as the number correct out of 90. A score closer to 90.0 means there is a positive perception of the classroom environment and a score closer to 0.0 means there is a negative perception of the classroom environment. All the data is sent to Mindgarden and will be analyzed by their system. Mindgarden will score and send back all the data from the CES.

Participants were given a link to the survey which was completed on their computers. The average time it takes to finish the CES is 15 minutes (Moos & Trickett, 1974). Mindgarden will score the data collected from the participants. Permission was granted to utilize the classroom environment scale, which can be seen in Appendix B.

Northwest Evaluation Association's Measure of Academic Progress Assessment

The purpose of the Northwest Evaluation Association's (NWEA) Measure of Academic Progress (MAP) assessment is to understand a student's academic achievement in reading, language usage, and math (NWEA, 2019). The MAP Growth is an adaptive assessment that measures a student's academic achievement. This study will utilize the MAP reading and language usage scale scores. The MAP Growth scores utilize the Rasch Unit (RIT) equal-interval vertical scale. The RIT allows the data to be continuously utilized as the student progresses through grade levels. That continual data allows for observed academic growth utilizing the MAP Growth report. The NWEA MAP test was developed in 2000 to help teachers understand their students' areas of weakness and strength (NWEA, 2019).

MAP data has been utilized in a plethora of studies and continues to be a valid instrument (Atteberry & McEachin, 2020; Corcoran, 2017; Dallavis et al., 2021; Kuhfeld, 2019; Kuhfeld et al., 2022). Atteberry and McEachin (2020) utilized MAP data for a longitudinal study that followed student achievement over many years. Corcoran (2017) utilized the MAP math achievement scores to help teachers understand why their classroom environment affects students' math abilities. Dallavis et al. (2021) utilized MAP achievement data to see if there was a change in academic achievement when students went from a public school to a private school, and Kuhfeld (2019) to measuring learning loss due to summer vacations. Burns and Young

(2018) acknowledged the MAP assessment can be used to measure students' level of academic achievement and can help the teacher determine students' academic growth over time.

NWEA ensures that content specialists continually review and validate the MAP assessment (NWEA, 2019). The process reviews content validity, instructional relevance, currency, alignment to standards, item construction, bias, sensitivity, and fairness, and lastly, it confirms that the copywriting and permissions are valid. The NWEA MAP assessment has repeatedly proven reliable (Atteberry & McEachin, 2020; Corcoran, 2017; Dallavis et al., 2021; Kuhfeld, 2019; Kuhfeld et al., 2022). Atteberry and McEachin's (2020) research focused on both the math and reading portions of the MAP assessment and were able to show high reliability and retest correlations utilizing Cronbach's α which ranged from .85 to .95, while Dallavis et al. (2021) showed a high reliability and retest correlations from .90 to .96 in the same subjects. Corcoran (2017) also found the NWEA MAP assessment to have high reliability with a consistency coefficient ranging from .90 to .97.

The NWEA ELA reading assessment has approximately 40-43 questions while the language usage assessment has 52 questions. The MAP Growth scores utilize the Rasch Unit (RIT) equal-interval vertical scale. The RIT scores range between 130 and 300. A RIT score of 130 would suggest lower academic achievement and score of 300 would suggest higher academic achievement. The NWEA company scores the assessment, and the scores are then downloaded from the NWEA database.

The MAP assessments are untimed but usually take a student approximately an hour to complete each section, reading and language usage (NWEA, 2019). The assessment utilizes multiple choice questions, multiple select, selectable text, drag and drop, click and pop, text entry, item set, composite items, and technology-enhanced items (TEIs). The assessments align

with the grade level standards and ensure that each student sees a variety of content. Since it is adaptive, the assessment will meet the students at their level of ability, so although the assessment starts at grade level, it is possible that the students can see higher or lower grade-level material. Permission was granted to utilize the NWEA MAP assessment, which can be seen in Appendix C.

Procedures

Liberty University Institutional Review Board (IRB) was acquired prior to the start of the research. See Appendix D for IRB approval. Following the approval from the IRB, the district and school approval were sought. The superintendent and school site principal permitted the study to occur. See Appendix C. Parents received an opt out for all students. See Appendix E for parental consent form. Teacher participation consent forms were received by all teacher participants. See Appendix F for teacher participation consent. Teacher participants were trained in a single meeting to go over the administration of the CES. See Appendix G for the meeting agenda. After the administration approval was granted, the study participants were chosen by their enrollment into the ELA courses at Pineville Middle School.

The CES survey was given to the participating students during their regularly scheduled ELA classroom time. All participating students were given the survey and the needed time, approximately 15 minutes, to finish it. The students took the MAP test during the school-wide scheduled time in April 2024. The test was administered to them in the computer lab, where all students took it and were given the needed time to finish. After collecting both the CES scores and the NWEA Map scores, steps were taken to ensure the anonymity of each participant. Each participant's results, in both the NWEA MAP test and the CES, have their name on it. Each participant had their data attached to their name on a spreadsheet to ensure that each participant's

data did not get replaced with another participant's information. Once that was completed, a district employee provided the data with no names attached so no participants can be identified. The district employee assigned each participant a four-digit code in lieu of their name. The district employee ensured the student got the same code for both the CES scores and the NWEA MAP scores.

At every point during the study, all data and information were protected. Data was ensured to be secured, and all information was kept confidential in a locked filing cabinet or on password protected computers. All data that was in the cloud was password protected. The data will be retained from the CES for five years at the district office in a locked filing cabinet, while the MAP data will be kept by NWEA in their secure cloud system indefinitely (NWEA, 2019).

Data Analysis

A multiple linear regression was used to determine the result of the predictive correlational study. According to Gall et al. (2007) and Creswell and Guetterman (2021), a multiple linear regression analysis is appropriate to look for a predictive relationship between a criterion variable and multiple predictor variables. Data screening was done by a visual inspection to make sure each participant had a quantitative CES score, NWEA language usage scale score and a NWEA reading scale score. Participants with missing values were eliminated unless data can be located.

For the multiple linear regression to be conducted, there are eight assumptions that must be met. The first and second assumptions are that the criterion and predictor variables are continuous. The criterion variable is measured continuously from 0.0 to 10.0. Both predictor variables are measured continuously from 130-300. The third assumption, the independence of observation, was checked using the Durbin-Watson technique (Durbin & Watson, 1951). The

students' scores were independent as they came from two different assessments. The Durbin Watson values can range can go from 0 to 4 and the optimal value is approximately 2.

The fourth assumption is the assumption of a linear relationship between variables. This will be analyzed through a scatter plot utilizing the two variables, the CES scores (criterion variable) and the combination of predictor variables, MAP ELA reading and language usage scale scores. The regression line will demonstrate a linear bivariate relationship if the line is straight (Creswell & Guetterman, 2021). A scatter plot was created between the criterion variable and each of the predictor variables independently. Partial regression plots were used to assess the presence of a linear relationship between the variables.

The fifth assumption, homoscedasticity of residuals, was assessed through the visual inspection of the scatter plot to check for a linear relationship. The sixth assumption was the absence of multicollinearity. The predictor variables were highly correlated to each other, and the correlations were less than 0.7. The correlation coefficients and the Tolerance/VIF values were evaluated for values lower than 10. The seventh assumption was the assumption of no significant outliers. The check of the outliers was done utilizing Casewise Diagnostics and checking for values for greater than +/-3 standard deviations. The eighth assumption was an assumption of the normal distribution of residuals which was checked using a normal P-P Plot to ensure the points were aligned along the line of fit. An α value of $p < .05$ was used to test the statistical significance, and the effect size is a coefficient of determination R^2.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this quantitative, predictive correlational study is to determine if there is a predictive relationship between perceptions of classroom environment and academic achievement in reading and language usage for 7th and 8th grade students. The predictor variables were reading MAP data and language usage MAP data. The criterion variable was the perception of learning environment based on CES scores. A multiple linear regression was used to test the hypothesis. The Results section includes the research question, null hypothesis, data screening, descriptive statistics, assumption testing, and results.

Research Question

RQ1: How accurately can perceptions of learning environment be predicted from a linear combination of reading and language usage scores for 7th and 8th grade students in rural California?

Null Hypothesis

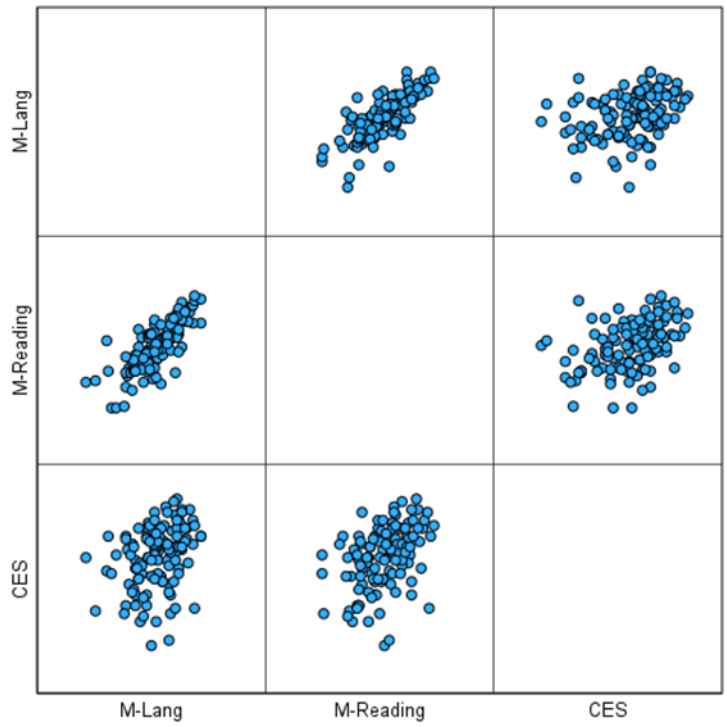
$H_0$1: There is no significant predictive relationship between the criterion variable (perceptions of learning environment as measured by the Classroom Environment Scale scores) and the linear combination of predictor variables (reading and language usage scores on the Measures of Academic Progress test) for 7th and 8th grade students in rural California.

Data Screening

The researcher sorted the data and scanned for inconsistencies on each variable. No data errors or inconsistencies were identified. A matrix scatter plot was used to detect bivariate outliers between predictor variables and the criterion variable. No extreme bivariate outliers were identified. See Figure 1 for the matrix scatter plots.

Figure 1

Matrix Scatter Plot of MAP Reading, MAP Langage Usage, and Classroom Enviornment Scale



Descriptive Statistics

Descriptive statistics were obtained on each of the variables. The sample consisted of 124 participants. Scores on the CES range from 0 to 90. A score closer to 90.0 means there is a positive perception of the classroom environment and a score closer to 0.0 means there is a negative perception of the classroom environment. The NWEA ELA reading assessment has approximately 40-43 questions while the language usage assessment has 52 questions. The MAP Growth scores utilize the Rasch Unit (RIT) equal-interval vertical scale. The RIT scores range between 130 and 300. A RIT score of 130 would suggest lower academic achievement and score of 300 would suggest higher academic achievement. Table 1 provides the descriptive statistics for each variable.

Table 1

Descriptive Statistics

	n	Min.	Max.	*M*	*SD*
MAP Reading	124	174	244	213.40	14.716
MAP Language	124	169	241	213.85	13.782
CES	124	25	80	58.57	11.402

Assumption Testing

Multiple Regression requires there to be eight assumptions. There are two methodological and six statistical assumptions. The study met the two methodological assumptions by having one criterion variable measured at the continuous level and two predictor variables measures at the continuous level. The next six assumptions are analyzed below by research question.

Assumption of Independence of Observations

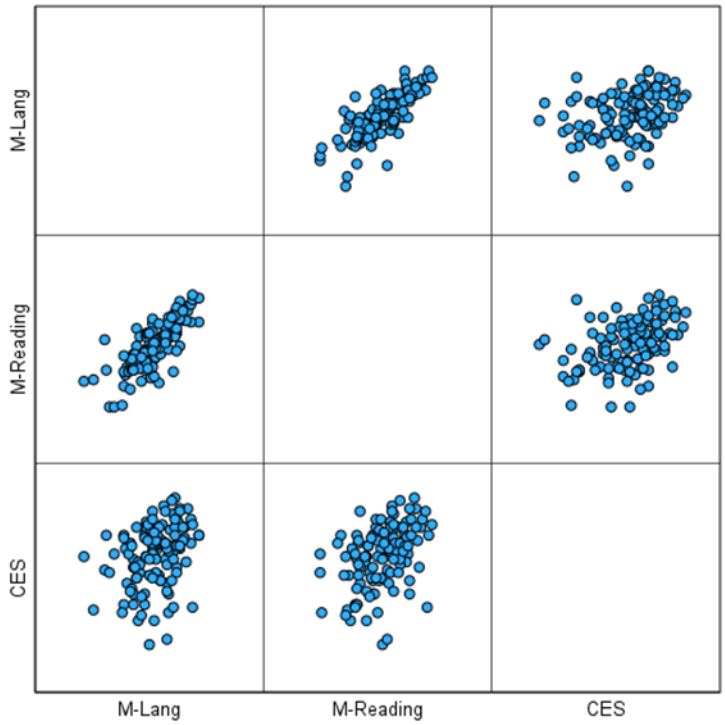
The third assumption of independence of observations was assessed by the Durbin Watson (DW) statistics. The value was within the acceptable range from 1.5 to 2.5 with the DW = 1.923

Assumption of Linearity

The multiple regression requires that the assumption of linearity be met. Linearity was examined using a scatter plot. The assumption of linearity was met. See Figure 1 for the matrix scatter plot.

Figure 1

Matrix Scatter Plot of MAP Reading, MAP Langage Usage, and Classroom Enviornment Scale

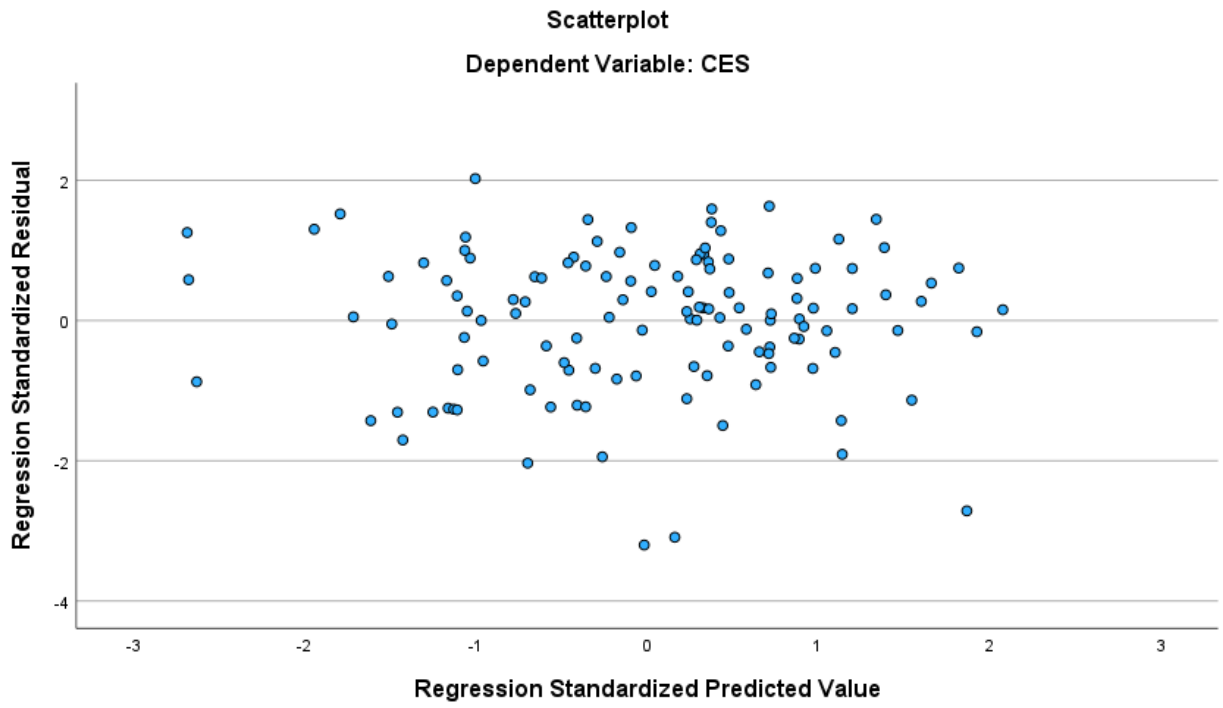


Assumption of Homoscedasticity

The fifth assumption of homoscedasticity was assessed through a visual inspection of the scatter plot of predicted standardized regression residual compared to the regression residual. The scatter plot revealed a random pattern suggesting no violation of the assumption of homoscedasticity (Figure 2).

Figure 2

Scatter Plot



Assumption of Multicollinearity

A Variance Inflation Factor (VIF) test was conducted to ensure the absence of multicollinearity. This test was run because if a predictor variable (M-Reading) is highly correlated with another predictor variable (M-Lang), they essentially provide the same information about the criterion variable. If the Variance VIF is too high (greater than 10), then multicollinearity is present. Acceptable values are between 1 and 5 and the VIF was 2.62. The absence of multicollinearity was met between the variables in this study.

Assumption of No Significant Outliers

The seventh assumption of no significant outliers was checked by an inspection of standardized values of regression residuals. There were two values outside -3 to +3 standard deviation. One of -3.202 and the other was -3.091. Both were not data entry errors and were left

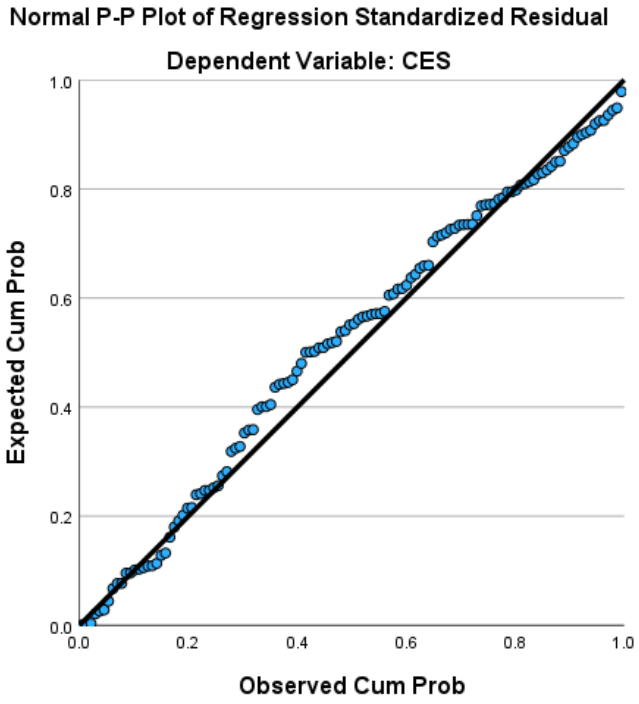
in the analysis. The data was run with extreme outliers removed to see if there would be any significant changes to the data and there were no significant changes in the results.

Assumption of Approximate Normal Distribution of Regression Residuals

The multiple regression requires that the assumption of approximate normal distribution be met. The assumption was assessed through a P-P plot which suggested approximate normality of residuals (Figure 3).

Figure 3

P-P Plot of Regression Residuals



Results

A multiple regression was conducted to see if there was a relationship between NWEA MAP scores in reading and language usage and CES scores of 7th and 8th grade students. The predictor variables were MAP reading and MAP language usage scores. The criterion variable was CES. The researcher rejected the null hypothesis at the 95% confidence level where *F* (2,

121) = 12.562, p = <.001. There was a significant relationship between the predictor variables (MAP Scores) and the criterion variable (CES). Table 2 provides the regression model results.

Table 2

Regression Model Results

Model		*SS*	*df*	*MS*	*F*	Sig.
1	Regression	2749.396	2	1374.698	12.562	<.001[b]
	Residual	13240.951	121	109.429		
	Total	15990.347	123			

a. Dependent Variable: CES
b. Predictors: (Constant), M-Reading, M-Lang

The model's effect size was extremely large where R = .415. Furthermore, R^2 = .172 indicating that approximately 17% of the variance of the criterion variable can be explained by the linear combination of predictor variables. Table 3 provides a summary of the model.

Table 3

Model Summary

Model	R^2	R	Adjusted R^2	*SEM*
1	.172	.415[a]	.158	10.461

a. Predictors:(Constant), M-Reading, M-Lang
b. Dependent Variables: CES

Because the researcher rejected the null, analysis of the coefficients was required. Based on the coefficients, it was found that the MAP Reading scores were the best predictor of CES (B=.427, p = .002). Table 4 provides the coefficients.

Table 4

Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	*SE*	B	*t*	Sig.
1	(Constant)	-*9.199*	15.080		-.610	.543
	M-Lang	-*.014*	.111	-.016	-.122	.903
	M-Reading	*.331*	.104	.427	3.192	.002

a. Dependent Variable: CES

CHAPTER FIVE: CONCLUSIONS

Overview

Chapter five presents the findings concerning the perception of the classroom environment for students and the potential impact on the student's academic success. The discussion will include interpretations of the findings compared with literature that has previously been written on the subject of classroom environment and academic success and how the study findings contribute to the literature. The implications of the study and explanation of its limitations are then discussed. Lastly, the recommendations for research and the study conclusion are provided.

Discussion

The purpose of this quantitative, predictive correlational study is to determine if there is a predictive relationship between perceptions of classroom environment and academic achievement in reading and language usage for 7th—and 8th-grade students. The classroom environment was determined through the CES. The MAP reading and MAP language usage scores were utilized to determine the students' academic achievement.

H01: There is no significant predictive relationship between the criterion variable (perceptions of classroom learning environment as measured by the Classroom Environment Scales scores) and the linear combination of predictor variables (reading and language usage scores on the Measures of Academic Progress test) for 7th and 8th-grade students in rural California.

The research revealed that the classroom environment has a strong relationship to a student's academic achievement. According to the study findings, classroom environment has a relationship with students’ linear combination of MAP reading and language usage scores. The

result implies that the student's academic achievement can impact a student's perception of the classroom environment. These findings were also supported by Karadağ et al. (2020), who found that the environment in which students find themselves can impact their academics.

The literature by Finefter-Rosenbluh (2022) found that when students feel they have a voice in the classroom, they are also more academically successful. The current study findings also validate that finding and the importance of the students being able to feel comfortable talking to the teacher. For the student to meet their full potential academically, the relationship that a student has with the teacher and the overall classroom environment is imperative (Falk et al., 2022). Current study findings showed that when students can read, they enjoy their classroom environment more. The findings support what Lewis et al. (2021) found, which is that students are likely to have more issues in school and have a negative experience when they are students who struggle to read. When a student cannot read, the student is more likely to act up and have a negative experience in their classroom. When that negative experience in the classroom environment occurs, that student will not only struggle with their reading but other academic areas as well. The importance of reading and a positive environment at school becomes even more important for middle school students (Turunen et al., 2021). The current study findings of 7th and 8th-grade students' reading ability and connection to their classroom environment support those findings by Turunen et al. (2021). The literature by Wexler (2020) further supports the current study findings of the connection between students' reading abilities and environments at school. The Wexler (2020) study showed that students who struggle to read tend to have a worse school experience that perpetuates itself in other areas of the student's academic success, which results in students being more likely not to flourish academically like they are truly capable.

Holzberger et al. (2020) provided evidence highlighting the necessity for a clearly defined focus on culture and environment. Their literature showed that some definitions of culture seemed to impact a student's learning outcomes while others did not. Ensuring that culture is not loosely used and defined allows for the impact of the current study findings to help solidify previous studies. With the current study clearly defining the classroom environment as the focus on not a general feeling of what culture is, the study can show the importance it can have on a student's academic success in at least reading.

Gruenert and Whitaker (2015) define culture as the relationship between staff/teachers and students, which is closely related to the current study. While Gruenert and Whitaker (2015) focused on the exact relationships themselves, they focused on something other than the environment a certain staff member has with a student. The literature focused on a general relationship with all the staff and teachers a student encounters throughout the day, not just the teacher and the impact it has on the learning environment within the students' classroom. The current study allowed for the focus to be on the classroom environment and its impact on the academic success of students in reading and language usage. The focus allows a singular individual at a school to know the impact of the classroom environment.

Leithwood and Sun's (2018) literature broke down school culture into subgroups, aligning with the current study. The current study involved classroom environment, which includes the discipline that occurs in the classrooms. Leithwood and Sun (2018) also agree that the discipline that occurs significantly impacts students at a school. The current study supported what Leithwood and Sun (2018) found in their literature that a student is truly impacted by the discipline that occurs on a school campus, or in the case of the current study, the discipline in a singular classroom.

Bayar and Karaduman (2021) also found that the school's climate was the primary factor in determining whether the school's culture supported student academic achievement. The current study found that if a teacher can help a student read, the teacher will likely have students who enjoy being at school. These findings support what Bayar and Karaduman (2021) found to be true: there is a connection between academic success and a student's happiness at a school. While Bayar and Karaduman (2021) focused on the entire campus, the current study findings focused on the classroom and helped narrow down the focus of the data collected. The current study findings allowed for the literature by Bayar and Karaduman (2021) to be supported but on a more narrow focus: the classroom environment.

Albert et al. (2020) found that a student's executive functions, including mental skills like working memory and self-control, significantly impacted middle school student's academic success in mathematics. The current study took the students' perspective in the classroom environment, allowing each participant to voice their perspective. Like the literature by Albert et al. (2020), it is important to remember that all students have different perspectives. The data collected in the current study allows the teacher to see how the overall feel of the students in the classroom and the connection to the academic success of students. The current study showed that when a student can read, they are more likely to have a positive perspective on their environment.

The academic behaviors found by Hessen and Kuncel (2022) that most significantly impact students' academic success were behavior, attendance, homework completion, and test-taking. The current study shows that if students can read, they are more likely to have a favorable perspective on their classroom environment. The current study data supports what Hessen and Kuncel (2022) found in their literature: academic success helps with the student's

behavior. While homework completion is not something that takes place in the classroom, attendance, behavior, and test-taking do.

Veiga and Andrade's (2021) literature discusses the integration of technology into the classroom and how the student's perspective of the implementation of the technology has an effect on the successful integration of technology. Their literature supports the current study findings of the connection between the importance of the student's perspective in the classroom and the successful outcome of things within the same classroom. The current study data shows the importance of the students being able to read and how that impacts the student's perspective of the classroom environment. Veiga and Andrade's (2021) literature similarly shows the connection between the environment and the student's perspective. The literature shows the impact that implementation of a program or procedure inside of the classroom can have on the students' academic success along with the students viewpoint of the classroom environment.

A positive attitude created by the school culture allows students to believe they can overcome any obstacles (Trieu & Jayakody, 2018). When a student is able to be in an environment that encourages and supports them, no matter their struggles, they are more likely to be successful in their academics. The current study findings support a connection between academic achievement and the culture or environment a student finds themselves in. The current study data showed a correlation between a student's reading ability and how the student perceives their classroom environment. The literature by Trieu and Jayakody (2018) also aligns with the current findings. Trieu and Jayakody (2018) found that the culture and environment that a student finds themselves in can either discourage or encourage a student in their academic journey. Feeling supported allows students to be brave enough to try new things and grow in their abilities.

There is a need to help students overcome some norms in their home environment and ensure that the norms in a given environment help them feel accepted (Hillekens et al., 2019). The literature by Hillekens et al. (2019) discussed how important it is for students to have an environment at school that helps them feel a sense of belonging. The current study findings showed that when a student can read, they positively perceive their classroom environment. While there are a lot of aspects of a student feeling supported, the current study data shows the connection between the academic success of students and their perceived classroom environment. Hillekens et al. (2019) focused on the impact of the learning environment and how it helps a student overcome and achieve more than they would if their environment was not supportive. The current study supports that literature by showing the connection between academic success and the earning environment within the student's classroom environment.

The literature by French et al. (2019) presents case studies on transitioning from traditional classrooms to innovative learning environments and how that classroom environment can significantly impact the student's academic success. French et al. (2019) focused on how the implementation of technology and the impact it has on the student's environment can impact the educational environment and, therefore, impact the academic success of students. The current study supported the literature by French et al. (2019) and how there is a connection between academic success and the environment that a student finds. Multiple variables can impact the environment. The amount of technology being utilized or how the classroom utilizes that technology can impact how the student feels about their environment. The current study focused on the relationship perceived by the students with the teacher and how the teacher runs the classroom in multiple areas. While the current study focused on the teacher and how the teacher

ran the classroom in multiple areas, the literature by French et al. (2019) aligns with the idea that the environment has a correlation with academic success for students.

Similar to the literature by French et al. (2019), Jia et al. (2023) focus on designing a fully online flipped classroom model to enhance student learning outcomes and engagement. Jia et al. (2023) found how impactful the classroom environment was on student outcomes academically. While the current literature focused on the traditional classroom design, with the teacher giving the lesson in person and working on the material in person, Jia et al. (2023) focused on having the students listen to the lesson as homework and then working on bettering their understanding of the lesson in the classroom. While both the current study and the literature by Jia et al. (2023) focus on a different design of the classroom, the focus and support of the importance of the classroom environment on academic success are found in the current study and the literature by Jia et al. (2023).

Matsekoleng (2021) examines the role of classroom design in the context of a home-based setup for environmental education. The literature emphasizes the importance of creating an engaging and stimulating learning environment within the home setting. By incorporating interactive materials, hands-on activities, and engaging learning resources, students are encouraged to develop a sense of environmental consciousness and take ownership of their learning. The current study parallels the study by Matsekoleng (2021) with the importance of having students being engaged and supported in their learning environment to help ensure the highest level of academic success. The current study allowed students to self-report their classroom environment perspective, which aligned with students' academic success in language usage and reading scores in their MAP growth. Matsekoleng's (2021) literature showed the importance of engaging activities for the students in the classroom environment. The literature

focused on a nontraditional learning structure with the learning environment being based out of the home. While it is not the same learning structure as the current study, the focus on the environment supports the finding of the impact of how the students are learning in their environment and how it can help students succeed academically.

When students perceive themselves as part of a larger community, they tend to achieve more compared to when they feel isolated, as noted by Allen et al. (2021). The literature showed that when a student is not worried as much about their environment and they can feel safe, they are more likely to be able to focus on their academics and not their environment. When students can focus on their academics, they can succeed academically. The literature is supported by the current study findings that a student is academically successful in an environment that the student feels connected. Students need to feel a part of something that helps support them and keep them safe if they are going to be able to be successful. Part of that is reading and understanding what is going on in the classroom, which the current study showed. Allen et al. (2021) found that students do not need to feel isolated and that they need that sense of belonging to be able to grow at the highest level they are capable of, while the current study showed that a student needs to be able to read and understand what is going on to feel that their classroom environment is conducive to the students meeting their academic abilities.

In a slight deviation from the current study, shared values and norms have been identified as the primary contributing factor to a culture that promotes student academic achievement (Gruenert & Whitaker, 2015). The current study focused on the student's perspective of the classroom environment as it is managed by the teacher. The concept of classroom values and norms being shared by all is not fully supported by the current study. Gruenert and Whitaker's (2015) literature emphasized the collective sense of the norms and the values shared by multiple

students in the classroom, highlighting the need for a shared responsibility among educators and administrators.

Implications

The study findings give significant insight for educational stakeholders to help embrace the importance of the classroom environment and its connection with students' academic success, particularly in reading. School teachers, administrators, and boards can utilize these findings to help ensure the importance of reading and how reading can significantly impact a student's perspective of the classroom environment. The findings of this study would be necessary to educational stakeholders, especially teachers in the 7th and 8th grades. Existing literature by Bosman et al. (2021), Falk et al. (2022), and Finefter-Rosenbluh (2022) already established the importance of the relationship between the student and the teacher in regard to the academic success of the students. The current study shows that when students read well, they are more likely to feel that they have a good relationship within the classroom environment with their teacher. Teachers can utilize the current study results by focusing on reading and the classroom environment to help ensure students have the best chances of being academically successful.

Leithwood and Sun (2018) discuss how school leadership's main contributions to culture are motivation, ability, and setting in their organization. The leadership must understand how the environment in which students find themselves has a significant connection to their academic motivation and success. The current study findings help add to the literature by Leithwood and Sun (2018) by focusing on the importance of ensuring that leaders are helping guide teachers in the classroom to enable a positive classroom environment for every student. Leadership cannot just focus on the academic outcome of students without realizing that allowing teachers to protect the classroom environment allows students to feel safe and supported. The current study

data guides the leaders to help focus on students' reading and language usage, which will help the environment of the students in the classrooms.

Leadership and policymakers should encourage reading and the classroom environment inside the classrooms at their school's sites. The findings of this study are necessary to support the need for the reading skills of students to be a focus point and not something to be overlooked while training teachers and setting goals. The literature by Karadağ et al. (2020) showed the importance of guidance for the school's leadership and the impact on the school's culture. The current findings support the importance of the reading skills of students and its connection with students' classroom environment. Leadership must ensure the policies and goals that are being decided upon by the school's leadership enable the teachers to be successful in their abilities and knowledge of the classroom environment and reading.

According to the literature by Karadağ et al. (2020), the leader's job is to protect the culture from things that will negatively affect those in the organization. The school leaders must focus on the reading abilities and the students' experiences. The current study data reinforced the literature by Karadağ et al. (2020) by showing the importance of leadership seeing the connection with academic success and the environment of students. The school leaders must understand how the teachers must be supported in growing and ensure that students feel safe and supported in their classroom environment. Teachers must be supported in learning how to help students be successful in reading which will help to create the classroom environment for their students to be successful.

The literature by Maxwell et al. (2017) finds that multiple studies have supported the correlation between the culture a student finds themselves in at school and their academic achievement. The current study findings align with that literature with a more narrowed focus on

the culture being the environment in which the students find themselves in the classroom. While Maxwell et al. (2017) discussed the importance of culture, they focused on something other than the classroom environment like the current study. Focusing on a singular area of the culture a student is in, the classroom, and the connection to students' academic achievement allows the current study to support the findings of Maxwell et al. (2017). The literature by Demirtas-Zorbaz et al. (2021) show defining the school culture in a more focused area allows for a better understanding of the impact it can have on the academic success and experience of the students. The research data in the current study allowed for a focus on the classroom environment. The current study supported Demirtas-Zorbaz et al. (2021) literature and the importance of the classroom environment and culture on students' academic success.

Families and guardians of students would also utilize the findings of this study to help guide them when looking at their students' teachers. Current literature by Roorda and Koomen (2020) supports the current study's findings that the teacher-student relationship inside the classroom environment significantly impacts students' academic success. When trying to understand why a student is not being successful in the classroom or why a student is not feeling comfortable in the classroom environment, the current findings can be utilized by families and guardians of students to help better understand how to ensure the school is supporting their students every way possible.

Limitations

One of the limitations of this study was the number of teacher participants. With only four teachers participating, the number of classroom environments the students participate in is minimal. With more participants, the study would expose students to more environments to help them better average out the scores. If there was a singular teacher most students did not enjoy

being in their classroom, then approximately 25% of the students come from a negative perspective.

A second limitation of the study was the teachers' and students' inability to clarify their answers on the survey. The survey was only a true-or-false survey, which prevented students and teachers from being able to clarify their answers. If a participant had been able to choose a different answer that better represented how they felt in their classroom environment, it may have impacted the scores of the classroom environment.

Recommendations for Future Research

The lack of other subject areas being tested outside of reading and language usage prevented a better understanding of the classroom environment and academic success. There is also a need to compare male and female students by ethnicity. The following recommendations should be considered:

1. It is recommended that further research be conducted utilizing the NWEA MAP math score and finding a relationship between students' CES scores.
2. Although the study did include multiple ethnicities, it is recommended that the CES ask questions regarding the students' ethnicity so that data can be collected to determine if there is a difference between races.
3. While male and female students participated in the study, it is recommended that the CES have a question that allows students to identify their gender so that male and female students' scores can be compared.
4. The study focused on rural students. The study is recommended to take place in a suburban or city environment to compare results from rural students and students within a suburban or city school.

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APPENDIX A

Example CES Items

1) Students put a lot of energy into what they do here.
2) This teacher spends very little time just talking with students.
3) Almost all class time is spent on the lesson for the da

APPENDIX B

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Online administration and scoring of the Classroom Environment Scale is available from Mind Garden, (https://www.mindgarden.com/81-classroom-environment-scale). Mind Garden provides services to add items and demographics to the Classroom Environment Scale. Group Reports are available for the Classroom Environment Scale.

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APPENDIX C

[redacted]

[redacted] Superintendent

February 26, 2024
To Whom It May Concern,
This letter serves to confirm that Mr. Joshua Blackburn has obtained permission to utilize [redacted] students and teachers for his dissertation research. Mr. Blackburn is conducting valuable research as part of his academic pursuits and our district appreciates the cooperation of [redacted] in facilitating his study. The district is also supportive of him doing an opt-out consent with the parents.
We trust that the school community will extend their support to Mr. Blackburn in carrying out his research activities. If there are any concerns or queries regarding this matter, please feel free to contact our district office. Thank you for your attention and cooperation.
Respectfully,

[redacted]

APPENDIX D

IRB Approval

April 15, 2024

Joshua Blackburn

Timothy Nelson

Re: IRB Approval - IRB-FY23-24-1488 PERCEPTIONS OF THE CLASSROOM ENVIRONMENT AND ACADEMIC ACHIEVEMENT FOR 7th AND 8TH GRADE STUDENTS IN RURAL CALIFORNIA: A PREDICTIVE CORRELATIONAL STUDY

Dear Joshua Blackburn, Timothy Nelson,

We are pleased to inform you that your study has been approved by the Liberty University Institutional Review Board (IRB). This approval is extended to you for one year from the following date: April 15, 2024. If you need to make changes to the methodology as it pertains to human subjects, you must submit a modification to the IRB. Modifications can be completed through your Cayuse IRB account.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the

protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt.)

For a PDF of your approval letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page. Your stamped consent form(s) and final versions of your study documents can be found on the same page under the Attachments tab. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, PhD, CIP

Administrative Chair

Research Ethics Office

Approval

APPENDIX E

Student Assent/Parental Opt-Out

Title of the Project: Perception of the Classroom Environment and Academic Achievement for 7th and 8th Grade Students in Rural California: A Predictive Correlational Study
Principal Investigator: Joshua Blackburn, Doctoral Candidate, School of Education, Liberty University

Invitation to be Part of a Research Study

Your student is invited to participate in a research study. To participate, he or she must be a 7th or 8th grade student and taking an ELA class at [redacted] Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to allow your student to take part in this research project.

What is the study about and why are we doing it?

The purpose of the study is to see if there is a relationship between the classroom environment and NWEA MAPs scores in Language Usage and Reading

What will participants be asked to do in this study?

If you agree to allow your student to be in this study, I will ask her or him to do the following:

1. First task is taking the NWEA MAPs Reading and Language usage test. This will be done in the Spring and is something that all students at [redacted] are already scheduled to do. This would not be something extra for the student to do.
2. Second task is to take an online survey on the classroom environment which will take approximately 15 minutes.

How could participants or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include gathering an understanding of the classroom environment from the perspective of a student and understanding the classroom environment's impact on a students' academic success. The knowledge gained can help guide future educators on the importance of

the classroom environment and why it may or may not be important for students to be academically successful.

What risks might participants experience from being in this study?

The expected risks from participating in this study are minimal, which means they are equal to the risks your student would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept confidential by replacing names with pseudonyms.
- Data collected from your student may be used in future research studies and shared with other researchers. If data collected from your student is reused or shared, any information that could identify your student, if applicable, will be removed beforehand.
- Data will be stored on a password-locked computer or in a locked file cabinet. After five years, all electronic records from the classroom environment survey will be deleted and all hardcopy records will be shredded. The MAP data will be kept by NWEA in their secure cloud system indefinitely.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to allow your student to participate will not affect your or his or her current or future relations with Liberty University. If you decide to allow your student to participate, she or he is free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should be done if a participant wishes to withdraw from the study?

If you choose to withdraw your student from the study or your student chooses to withdraw, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw her or him or should your student choose to withdraw, data collected from your student will be destroyed immediately and will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Joshua Blackburn. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at jblackburn31@liberty.edu. You may also contact the researcher's faculty sponsor, [redacted]

Whom do you contact if you have questions about rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the IRB. Our physical address is Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA, 24515; our phone number is 434-592-5530, and our email address is irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your [Consent/Opt-Out]

If you would prefer that your child NOT PARTICIPATE in this study, please sign this document, and return it to your child's teacher by [date].

_____

Printed Child's/Student's Name

_____

Parent/Guardian's Signature Date

APPENDIX F

Consent

Title of the Project: Perception of the Classroom Environment and Academic Achievement for 7th and 8th Grade Students in Rural California: A Predictive Correlational Study
Principal Investigator: Joshua Blackburn, Doctoral Candidate, School of Education, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, he or she must be a 7th or 8th grade teacher of an ELA class at [redacted]. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to allow your student to take part in this research project.

What is the study about and why is it being done?

The purpose of the study is to see if there is a relationship between the classroom environment and NWEA MAPs scores in Language Usage and Reading

What will happen if you take part in this study?

If you agree to participate in this study, I will ask you to do the following:

3. First task is to take an online survey on the classroom environment which will take approximately 15 minutes.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include gathering an understanding of the classroom environment from the perspective of a student and understanding the classroom environment's impact on a students' academic success. The knowledge gained can help guide future educators on the importance of the classroom environment and why it may or may not be important for students to be academically successful.

What risks might you experience from being in this study?

The expected risks from participating in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be kept confidential by replacing names with pseudonyms.
- Data collected may be used in future research studies and shared with other researchers. If data collected from you is reused or shared, any information that could identify you, if applicable, will be removed beforehand.
- Data will be stored on a password-locked computer or in a locked file cabinet. After five years, all electronic records from the classroom environment survey will be deleted and all hardcopy records will be shredded.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Joshua Blackburn. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at jblackburn31@liberty.edu. You may also contact the researcher's faculty sponsor, [redacted]

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the IRB. Our physical address is Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA, 24515; our phone number is 434-592-5530, and our email address is irb@liberty.edu.

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are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

_____

Printed Subject Name

_____

Signature & Date

APPENDIX G

Meeting Agenda

What is the name of the study and who is doing the study?
The name of the study is "Perception of the Classroom Environment and Academic Achievement for 7th and 8th Grade Students in Rural California: A Predictive Correlational Study," and the person doing the study is Joshua Blackburn.

Why is Joshua Blackburn doing this study?
Joshua Blackburn wants to know if a student's classroom environment can predict if a student is going to be successful academically.

Why am I being asked to be in this study?
You are being asked to be in this study because you are in 7th or 8th grade and taking an in-person ELA class at [redacted].

If I decide to be in the study, what will happen and how long will it take?
If you decide to be in this study, you will take an online survey about your classroom environment. The questions are true or false, and it will take around 15 minutes. You will be asked to take this survey after completing your MAP tests. The NWEA MAP's is not something extra you need to do. The scores will be used from when you take the test with the rest of the school in the Spring.

Do I have to be in this study?
No, you do not have to be in this study. If you want to be in this study, then tell the researcher. If you don't want to, it's OK to say no. The researcher will not be angry. You can say yes now and change your mind later. It's up to you.

What if I have a question?
You can ask questions any time. You can ask now. You can ask later. You can talk to the researcher. If you do not understand something, please ask the researcher to explain it to you again.