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The Impact of Homework on Students at a Rural High School in the Foothills of North  
Carolina

By  
Thomas D. Perry

A Dissertation Submitted to the  
Gardner-Webb University School of Education  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Education

Gardner-Webb University  
2018

## Approval Page

This dissertation was submitted by Thomas D. Perry under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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A quote by the musician Drake resonated in my mind while remembering the journey I took to get to this milestone in my life. He said, “Sometimes it’s the journey that teaches you a lot about your destination” (Drake Quotes, n.d.). The doctoral journey has been one the most difficult endeavors I have experienced during my life. For most of the program, I focused on the *destination* and how I could somehow arrive there; but as I neared the end, I began to recollect the *journey* and the special people in my life who helped me get to this destination. Without their encouragement, wisdom, patience, sacrifice, and love, this destination would have never been possible.

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## Abstract

The Impact of Homework on Students at a Rural High School in the Foothills of North Carolina. Perry, Thomas D., 2018: Dissertation, Gardner-Webb University, High School/Homework/Achievement/Student Learning/Personal Development/Family Relationships/Preparation Homework/Practice Homework

The purpose of this research study was threefold: to determine if a relationship existed between homework and student achievement in students from a rural high school in the foothills of North Carolina; to determine if a relationship existed between two specific types of homework (preparation and practice) and student achievement; and to determine stakeholder perceptions (teachers, students, and parents) regarding the impact of homework on student learning, personal development, and family relationships.

The conceptual framework of this study was based on research conducted by Cooper (1989), Lee and Pruitt (1979), Foyle (1984), and from an extensive literature review that revealed three categories associated with the positive and negative impacts of homework (student learning, personal development, and family relationships).

The study was conducted as a convergent parallel mixed-methods design. Quantitative data were collected from teacher EVAAS student growth scores from 2015-2017. Quantitative and qualitative data were collected using three perceptual surveys administered to teachers, parents, and students from the target high school.

Research in this study added to Cooper's (1989) research on homework and student achievement. The study concluded that homework positively impacted student achievement at the target high school when it was assigned frequently or most of the time. If it was assigned infrequently or sometimes, it impacted student achievement less than teachers who assigned no homework to their students.

Second, this study added to Foyle and Bailey's (1986) research by examining the use of two of the four types of homework included in Lee and Pruitt's (1979) taxonomy – *preparation* homework and *practice* homework – and determined that students assigned primarily preparation homework produced slightly greater achievement results than students assigned primarily practice homework.

Third, this study added to the research on homework by determining perceptions of teachers, students, and parents on the impact of homework in three areas: student learning, personal development, and family relationships.

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## **Chapter 1: Introduction**

### **Context**

Homework has always aroused strong passions, both pro and con (Gill & Schlossman, 2004, p. 180). It is a topic that can quickly generate much discussion among educators, parents, and students. Despite the long history of homework and homework research, to what extent homework affects student achievement is only partly understood by researchers today. According to Vatterott (2009), homework has generally been viewed as a positive practice that most Americans have accepted without question as a part of a student's routine; but over the years, homework in U.S. schools has "evolved from the once simple tasks of memorizing and recitation used to reinforce what was learned at school to more complex assignments such as projects and presentations" (Vatterott, 2009, p. 1).

Although homework has academic and nonacademic advantages and disadvantages, most studies conducted reveal inconclusive evidence that assigning homework increases student achievement. Some studies show that homework achieves positive effects for certain students, yet other studies reveal that homework has little to no effect on student achievement (Kohn, 2006). "Researchers have been far from unanimous in their assessments of the strengths and weaknesses of homework as an instructional technique" (Kohn, 2006, p. 25).

A second area of debate focuses on the different types of homework and whether or not any one type results in higher student achievement. Researchers cite Lee and Pruitt's (1979) taxonomy of homework as an area in need of further research (Foyle, 1984; Foyle & Bailey, 1986; LaConte, 1981). Lee and Pruitt's (1979) taxonomy categorizes homework as consisting of four types: preparation, practice, extension, and

creativity. Extensive research has been conducted on the impact of homework on student achievement and on the homework versus no homework debate (Cooper & Valentine, 2001; Murphy & Decker, 1989); however, limited research exists on the different types of homework and which types are more effective for student achievement (Lee & Pruitt, 1979; Pendergrass, 1985).

### **Statement of the Problem**

After participating in required schoolwide reading and group discussions on Vatterott's (2009) book, *Rethinking Homework: Best Practices that Support Diverse Needs*, teachers from a rural high school in the foothills of North Carolina displayed division over the purpose of homework and its importance toward student achievement. Teacher perceptions and opinions on the significance of homework for students were almost evenly divided between pro-homework and anti-homework supporters. Anti-homework teachers argued that homework was unnecessary and that good teachers should be able to cover what needed to be covered in a 90-minute class period (the target school operated on a block schedule). These teachers claimed to assign little to no homework to their students. At the other end of the spectrum, pro-homework teachers considered homework paramount to student learning and claimed to assign 45 minutes to an hour of homework a night to their students.

Not only was homework versus no homework a debate, but differences arose over what types of homework were most effective for student achievement. Teachers who assigned homework at the target high school gave the impression that they primarily assigned two of the four types of homework identified in Lee and Pruitt's (1979) taxonomy – *practice homework* and *preparation homework*. Practice homework is the most common and simple type of assignment given to students to help them master

specific skills they have been taught in previous lessons (Lee & Pruitt, 1979, p. 32).

Preparation homework is the second most common type assigned to students.

Preparation assignments are given to prepare students for skills they will learn in their next class meeting (Lee & Pruitt, 1979, p. 32). The other two types of homework assignments classified by Lee and Pruitt (1979) are *extension* and *creative*. “Extension homework assignments are given to determine if the student can transfer a new skill or concept to a new situation” (Lee & Pruitt, 1979, p. 32). “Creative homework assignments require students to integrate many skills and concepts in the process of producing a response” (Lee & Pruitt, 1979, p. 32). These two types are assigned less often, because they normally take more time and effort for students to complete and require more work for teachers to prepare, monitor, and grade (Lee & Pruitt, 1979, p. 32). The four types of homework are illustrated in Figure 1.

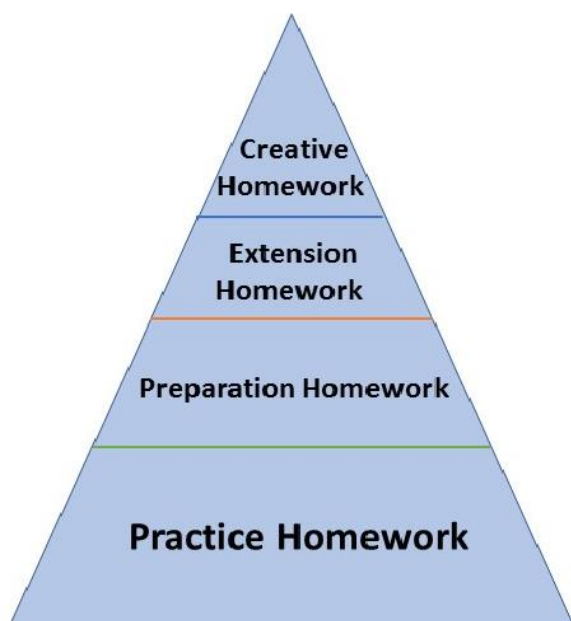


Figure 1. Lee and Pruitt's Taxonomy of Homework Assignments.

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Researchers have investigated the impact of homework on student achievement for years; however, most studies have limited the research to the homework versus no homework debate or the time and length of homework assignments. Little research has been designed to investigate the effectiveness of different types of homework on student achievement, especially at the high school level. According to Gill and Schlossman (2004), research on homework should be focused on the type and quality of homework, not on just the homework versus no homework debate.

This study set out to address the gap surrounding the research associated with homework and student achievement as well as the gap in research associated with the different types of homework. Research on the topic of homework and student learning/achievement was conducted as well as research on Lee and Pruitt's (1979) taxonomy of homework. Research was also conducted on teacher, parent, and student perceptions of homework and its effects on student achievement.

### **Purpose of Study**

The purpose of this mixed-methods study was threefold: to determine if a relationship existed between homework and student achievement in students from a rural high school in the foothills of North Carolina, to determine if a relationship existed between two specific types of homework (preparation and practice) and student achievement in high school students from the target school, and to determine stakeholder perceptions (teachers, students, and parents) regarding the impact of homework on student learning, personal development, and family relationships.

### **Research Questions**

1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework?

2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework?
3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning?
4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students?
5. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships?

### **Significance of the Study**

Homework is a topic of national interest and local importance. Many teachers continue to assign homework to students, and studies and surveys indicate that many parents expect students to receive it, yet there are also studies and surveys that indicate that homework is no longer needed in schools and that it is affecting quality of life for parents and students (Kohn, 2006; Kralovec & Buell, 2000; Vatterott, 2009).

There is a trend in recent years of increased numbers of teachers, and even schools, limiting or banning homework for their students. At the Orchard School, an elementary school in South Burlington, Vermont, the principal ended homework during the 2016-2017 school year (Walsh, 2016). In 2015, Bellows Free Academy in Franklin County, Vermont, stopped assigning homework for all middle school students (Walsh, 2016); however, high schools have been more reluctant to change policies about homework. The use of homework at the high school level has generally been viewed as a “positive practice and accepted without question as part of the student routine” (Vatterott, 2009, p. 1). At Ridgewood High School in Norridge, Illinois, teachers assign homework,

but it does not count towards a student's final grade (Pawlowski, 2014). Dialogue continues to take place about homework and its purpose at all levels of schools.

In 2016, Orchard Elementary School in Vermont opted to ban homework based in part from the content read in the controversial book *The Homework Myth* by Kohn (2006). Principal Mark Trifili claimed he had seen a serious spike in anxiety among students at his school because of homework. This problem prompted Trifili to ban homework at his school (Weekman, 2016, p. 2). "They are just kids. They're pretty young and just want to put in a full day's shift at work, and so we just don't believe in adding more to their day," Trifilio told the Associated Press (Weekman, 2016, p. 2). Alfie Kohn, author of the book, explained to the Associated Press that homework is "all pain and no gain" (Weekman, 2016, p. 2).

Harris Cooper, a professor at Duke University, has studied the effects of homework for 30 years. He disagrees that homework is "all pain and no gain." His research found that homework might not be as effective for elementary students as it is for middle and high school students, but all kids should be doing it (Cooper, Robinson, & Patall, 2006). "Homework is like medicine. If you take too little, it does nothing. If you take too much, it can kill you," Cooper told the Associated Press (Weekman, 2016, p. 2). "You've got to get the dose right, and if you do, it can do wonders" (Weekman, 2016, p. 2).

The significance of this study was to inform the homework versus no homework debate by determining if teachers from the target school who assigned homework on a consistent basis demonstrated higher student growth scores than teachers who did not assign homework as revealed by the North Carolina Education Value-Added Assessment System (EVAAS) student growth data. This study also investigated the types of



homework teachers from the target high school assigned students and which of the two types of homework (preparation or practice) showed more student growth as revealed by the data from survey results and EVAAS student growth data. According to Warton (2001), there is an absence of research focusing on the nature of the link between the type and quality of homework rather than the quantity and achievement outcomes (p. 163). This study adds to this absence of research.

### **Conceptual Framework**

The conceptual framework of this study was based on research conducted by Cooper (1989), Lee and Pruitt (1979), Foyle (1984), and from an extensive literature review that revealed three categories associated with the positive and negative impacts of homework (student learning, personal development, and family relationships).

“Dr. Harris Cooper of Duke University is widely regarded as the nation’s leading researcher on homework” (Vatterott, 2009, p. 63). Cooper (1989) conducted a meta-analysis on homework and how it related to academic achievement. Cooper (1989) included 17 research reports that contained a total of 48 comparisons between students who did and did not receive homework. In his research, 70% of his 17 reports concluded that homework was associated with higher student achievement. Forty-three of 50 correlations were positive, thus supporting homework as important for student achievement. Although the overall effect was not particularly large, it was significant for pro-homework supporters (Cooper, 1989).

Cooper et al. (2006) published a review of newer studies. These studies compared students with and without homework but focused on grade levels. Results found a stronger association with achievement in students assigned homework than the earlier studies found (Cooper et al., 2006).

Comparisons in achievement between elementary, middle, and high school students revealed no considerable evidence that homework led to student achievement in the elementary grades and little evidence it led to higher achievement at the middle school level. Most evidence of student achievement from the study was found in students at the high school level, but it was not particularly large (Kohn, 2006). Even with research as extensive as Cooper's (1989), the claim that homework leads to student achievement is as unclear as it was 100 years ago. According to Kohn (2006), "the bottom line remains that no definite conclusion can be reached, and that is itself a significant conclusion" (p. 26).

During the late 1970s and 1980s, the United States government and society in general placed an emphasis on increased homework. This emphasis was ignited by a fear that American students were falling behind their rival students in the Soviet Union. This Cold War rivalry resulted in the "back to basics" education movement and a new emphasis on homework, especially at the high school level. Lee and Pruitt (1979) responded to this movement by creating a taxonomy that classified homework according to four types of purposes: preparation, practice, extension, (4) creativity.

Foyle and Bailey (1986) conducted a meta-analysis of 84 homework experiments from literature that covered the years of 1904-1984. Of these, only one experiment was conducted specifically using Lee and Pruitt's (1979) homework taxonomy – the one conducted by Foyle (1984) while writing his dissertation. Foyle's study examined the use of two of Lee and Pruitt's (1979) four types of homework assignments: preparation and practice.

The purpose of Foyle's (1984) study was to examine the use of preparation homework and practice homework to ascertain which type produced greater student

achievement at Emporia High School (Kansas) and included 131 tenth-grade American History students (Foyle & Bailey, 1986, p. 187). This study was designed (a) to determine whether there was higher achievement by students assigned homework or by students not assigned homework, and (b) to determine whether there was higher achievement by students assigned preparation homework or by students assigned practice homework (Foyle & Bailey, 1986, p. 187).

Results from the study concluded that there was a significant difference in student achievement between students assigned either preparation homework or practice homework compared to those assigned no homework. Both preparation homework and practice homework raised student achievement, as compared to students who were not assigned homework (Foyle & Bailey, 1986, p. 187). The research revealed only minor differences in achievement between students assigned primarily preparation homework compared to those assigned primarily practice homework; therefore, teachers could assign either preparation homework or practice homework based on their goals in the subject matter without fearing loss in student achievement (Foyle & Bailey, 1986, p. 187).

Foyle's (1984) dissertation study focused on just two of Lee and Pruitt's (1979) four types of homework: practice and preparation. He chose not to study extension and creativity homework, because preparation and practice homework were the two types most assigned to students and the two types most used by teachers for recalling content knowledge items.

Examples of positive and negative impacts of homework were identified from the research while completing the literature review. Three themes emerged concerning the value of homework (both positive and negative) that the researcher addressed in the

study: student learning, personal development, and family relationships. Each theme was addressed in a different research question and within the teacher, student, and parent surveys. The three themes are outlined in Table 1.

Table 1

*Homework – Positive Impact/Negative Impact Themes and Examples*

	Positive impact	Negative impact
Student learning	<ul style="list-style-type: none"> <li>• Increase in academic achievement</li> <li>• Improved retention of material</li> <li>• Increase in academic motivation</li> <li>• Develops understanding of learning outside the context of school</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in boredom</li> <li>• Overworked</li> <li>• Exhausted</li> <li>• Increase in cheating</li> </ul>
Personal development	<ul style="list-style-type: none"> <li>• Develops responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Decrease in time for relationships</li> <li>• Decrease in time for leisure activities</li> <li>• Negative impact on physical health</li> </ul>
Family relationships	<ul style="list-style-type: none"> <li>• Increase in school/family partnerships</li> <li>• Increase in school/family communication</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced time for family activities</li> <li>• Increased frustration</li> <li>• Increased conflict</li> <li>• Lack of appropriate knowledge and support</li> <li>• Issues of equity</li> </ul>

Table 1 illustrates the three primary categories of the qualitative data in the study. Each category contains the positive and negative impacts broken down into the different subcategory themes.

Research in this study replicated parts of Cooper's (1989), Cooper et al.'s (2006), Foyle's (1984), and Foyle and Bailey's (1986) studies to accomplish three goals. First, it

added to Cooper's (1989), research on homework and student achievement by determining if higher achievement existed among students assigned homework compared to students not assigned homework at the target high school. Second, it added to Foyle and Bailey's research by examining the use of two of the four types of homework included in Lee and Pruitt's (1979) taxonomy (preparation homework and practice homework) in order to ascertain if one type produced greater student achievement at the target high school over the other. Third, it added to the research on homework by determining the perceptions of stakeholders (teachers, students, and parents) on the value of homework in three areas: student learning, personal development, and family relationships.

### **Nature of the Study**

The study was conducted as a convergent mixed methods research design. The researcher served as the facilitator of the study, not as a participant. Both quantitative and qualitative instruments were utilized to collect data in the study. The researcher collected both quantitative and qualitative data using three surveys (created by the researcher) that were administered to teachers, parents, and students from the target high school. The surveys included Likert scale items, multiple choice items, and open-ended items that produced data about the perceptions of homework from the three groups of participants in the study.

A second instrument utilized by the researcher to collect additional quantitative data was the teachers' individual EVAAS growth scores determined by their students' standardized exam results. These data were analyzed using the IBM Statistical Package for Social Sciences (SPSS) software to determine if correlations existed between the results from the perception surveys and the levels of student growth identified in the

EVAAS score results from the 2015-2016 and 2016-2017 school years at the target high school. The research study alignment is included in Figure 2 and Table 2.

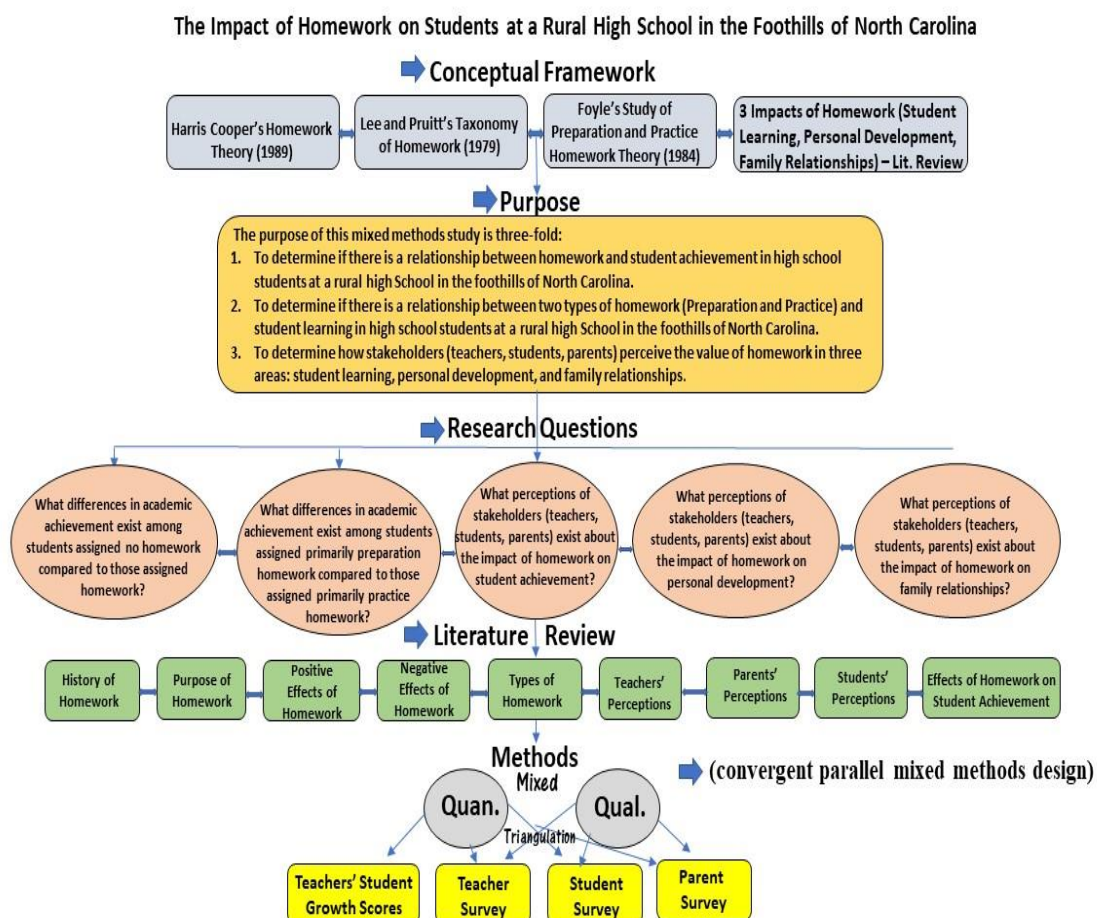


Figure 2. Conceptual Framework Alignment Chart.

Figure 2 illustrates the conceptual framework process the researcher followed to complete the research study.

Table 2

*Homework Conceptual Framework Alignment*

Research question	Instrument(s)	Data collected	Analysis
1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework? [QUAN]	Teacher survey EVAAS data	Item 12 EVAAS data disaggregated by teacher response	SPSS ordinal regression test  Correlation examining relationship between homework/no homework and growth
2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework? [QUAN]	Teacher survey EVAAS data	Item 13 EVAAS data disaggregated by teacher response	SPSS ordinal regression test  Correlation examining relationships between homework/no homework and student growth
3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student achievement? [QUAN/QUAL]	All three surveys	<i>Teacher survey:</i> Items 2-10 Likert scale quantitative data Items 14-15 open-ended qualitative data <i>Student survey:</i> Items 1-9 Likert scale quantitative data Items 10-11 open-ended qualitative data <i>Parent survey:</i> Items 1-9 Likert scale quantitative data Items 10-11 open-ended qualitative data	SPSS descriptive statistics for each of the three target groups  Analyses of open-ended responses from each of the three target groups  Correlation examining relationships among three target groups
4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students? [QUAN/QUAL]	All three surveys	<i>Teacher Survey:</i> Items 16-19 Likert scale quantitative data Item 20 open-ended qualitative data <i>Student Survey:</i> Items 12-15 Likert scale quantitative data Item 16 open-ended qualitative data <i>Parent Survey:</i> Items 12-15 Likert Scale quantitative data Item 16 open-ended qualitative data	SPSS descriptive statistics for each of the three target groups  Analyses of open-ended response from each of the three target groups  Correlation examining relationships among the three target groups

(continued)

Research question	Instrument(s)	Data collected	Analysis
5. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships? [QUAN/QUAL]	All three surveys	<i>Teacher Survey:</i> Items 21-24 Likert scale quantitative data Item 25 open-ended qualitative data <i>Student Survey:</i> Items 17-20 Likert scale quantitative data Item 21 open-ended qualitative data <i>Parent Survey:</i> Items 17-20 Likert scale quantitative data Item 21 open-ended qualitative data	Descriptive statistics for each of the three target groups  Analyses of open-ended response from each of the three target groups  Correlation examining relationships among the three target groups

Table 2 illustrates the conceptual framework for each individual research question. The research instruments, data collection, and data analysis for each research question are included.

### **Audiences**

On a local level, this study should be of interest to all high schools in the district (teachers and administrators). The target high school's district office administrators expressed an interest in the study because of current problems associated with homework in all five high schools. The researcher was asked to present the findings of the study to the target school and district office.

On a statewide level, this study should be of interest to other school districts and policymakers who are dealing with the same issues concerning homework within their schools.

### **Delimitations of the Study**

1. The study was limited to teachers, students, and parents from one high school of 99 classroom teachers and 1,543 students.
2. The researcher served as a teacher at the school being studied but did not



participate in the study, just as the facilitator.

3. The study is limited to the homework versus no homework debate, not about other factors such as homework time, length, or how it is graded.
4. The study was limited to two of the four types of learning associated with Lee and Pruitt's (1979) homework taxonomy.

### **Limitations**

1. The EVAAS data were limited to the number of teachers who were willing to release their identification numbers and student growth data to the researcher for the study.
2. Student survey participation was limited by the number of students who returned the signed informed consent forms sent home for parents and students to both sign.

### **Framework for the Study**

Chapter 1 identified the problem and purpose of the study. The research questions were introduced and followed by an explanation of how the results will impact the field of education and future research. A flow chart and table were included to illustrate the process of the conceptual framework for the study. The chapter concluded with the delimitations and limitations the researcher faced while conducting the study.

Chapter 2 includes an extensive research of literature on the topic of homework. The history of homework from the 1800s to the early 2000s is included first. The purpose and history of homework are included next to establish a basis for the homework debate. Positive and negative effects of homework are included to distinguish both sides of the pro-homework and anti-homework debate. Research is conducted on Lee and Pruitt's (1979) taxonomy of homework and the four types of homework assigned by

teachers. Perceptions of teachers, parents, and students are included next to determine how each group portrays homework and its impact on student achievement. The literature review concludes with research on the effects of homework on student achievement.

The literature review establishes a clear rationale for the study and why additional research is needed on homework and its impact on student achievement at the high school level. The literature review also identifies a gap in the research concerning the different types of homework and if assigning certain types (preparation, practice, extension, or creativity) leads to higher student achievement.

Chapter 3 includes the methodology of the research study. In this chapter, the convergent parallel mixed methods research design is described and aligned to the framework of the study. The chapter also includes a rationale for the study; research participants; research instruments; the role of the researcher; the procedures for administering, collecting, and analyzing the data from the research instruments; and the validity and reliability of the research tools.

In Chapter 4, the convergent parallel mixed-methods design is employed utilizing both qualitative and quantitative data instruments to determine answers to the five research questions. The instruments include teacher, student, and parent perception surveys and EVAAS student growth data collected from the participants in the study. The chapter concludes with a comprehensive explanation of the study's findings obtained from the data results and analyses. The findings are described, converged, and aligned to the framework of the study.

Chapter 5 includes a summary of the research study and is followed by interpretations, limitations, and suggestions for further research.

## Chapter 2: Literature Review

### Restatement of the Problem

After spending approximately eight hours a day in school, children are typically assigned additional assignments to be completed at home. These assignments are referred to as *homework*. For decades, society has debated whether homework outside of the school setting was necessary for improving student achievement. There are a variety of assumptions and opinions about both the positive and negative impacts of homework on students. For those who support homework, opinions also differ on the most effective types of homework to assign students. Unfortunately, research on these topics have not established clear-cut evidence for either side of the homework argument. The five research questions developed for this study guided the literature review in this chapter.

1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework?
2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework?
3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning?
4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students?
5. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships?

### Overview of Chapter

Homework is a topic of national and local significance. It has been an important

and controversial topic for the past 2 centuries. Homework research has centered on the mental and physical health of the student, the homework versus no homework debate, and recently on the components of homework. This study set out to fill the gap of ambiguity surrounding the research associated with homework and student achievement as well as the gap of limited research associated with the different types of homework.

The literature review for this study includes a collection of six homework research areas that were relevant to the research topic. These areas consist of the history of homework; purposes of homework; positive and negative effects of homework; types of homework; perceptions of homework from the viewpoints of teachers, parents, and students; and the effects of homework on student achievement.

### **History of Homework**

Arguments both for and against homework are not new, as indicated by a consistent swing of the pendulum over the last 100 years between pro-homework and anti-homework attitudes (Vatterott, 2009, p. 3). At various times, the prevailing public attitude toward homework has shifted from positive to negative and back again. The historical arguments for or against homework are familiar, because they bear a striking similarity to the arguments taking place in today's debate over homework (Vatterott, 2009, p. 3).

**19th century.** During most of the 19th century, homework was rarely viewed as a problem, and complaints appeared to have been few. Students in high school were the only ones burdened with homework; and they were expected to spend 2-3 hours per night, weekends included, completing it (Gill & Schlossman, 2004, p 174). This extra study time outside of school was necessary, because it required students to use drill, memorization, and recitation for learning the subject matter. "Educators reasoned that

those who wished to attend high school must be willing to study and do homework. If students were unwilling to do this, they were free to drop out of school” (Gill & Schlossman, 2004, p. 175).

**Early 1900s.** At the turn of the 20th century, homework was viewed favorably, because people believed it was an important means of disciplining children’s minds. The mind was viewed as a muscle needing proper exercise. Memorization not only led to knowledge acquisition but was also considered as a good mental exercise. Because memorization could be accomplished easily at home, homework was a key schooling strategy (Cooper, Lindsay, Nye, & Greathouse, 1998).

The pro-homework culture did not last very long into the 1900s. A crusade against homework ignited among Progressive reformers who rallied for changes, not only in education but in all areas of American society. Progressive educators questioned many aspects of schooling during this time. The Progressives presented two concerns that became central to the anti-homework crusade. First, they doubted the utility of homework as a pedagogical tool: A child’s ability to learn lessened the later he or she studied into the evening hours, despite their best efforts. Second, homework affected children’s health mentally and emotionally as well as physically (Gill & Schlossman, 1996). “As pediatrics grew as a medical specialty, more doctors began to speak out about the effect of homework on the health and well-being of children” (Vatterott, 2009, p. 4). Some opponents of homework even referred to it as a “sin against childhood” (Gill & Schlossman, 1996, p. 1).

Although the homework burden faced by high school students received more criticism than in the previous century, the major focus of concern was on children in Grades 4-8 because homework before Grade 4 was still very uncommon (Gill &

Schlossman, 2004). The drill, memorization, and recitation routine that was considered necessary for exercising the mind during the 19th century came under harsh scrutiny by Progressive education reformers. The need for homework at all came under harsh scrutiny as well (Kralovec & Buell, 2000).

Local and state women's organizations such as the Parent Teachers Association (PTA) placed pressure on local school boards to regulate and minimize how much homework teachers could assign (Gill & Schlossman, 2004). In 1900, the editor of the *Ladies' Home Journal*, Edward Bok, wrote a series of anti-homework articles that called for the elimination of homework for all students under the age of 15 and a limit of 1 hour nightly for high school-age students (Vatterott, 2009, p. 4).

**1920s to 1940s.** Attacks on homework advanced further between the 1920s-1940s, the heyday of Progressive education (Gill & Schlossman, 1996). Several communities abolished homework in some or all grades. The complaint that homework constituted a health hazard was reinforced by major advances in pediatrics. The American Child Health Association argued that homework threatened children's health by depriving them of outdoor play that was essential to healthy development. A new emphasis emerged on educating the whole child, not just the brain; and homework stole time away from children to participate in non-school learning activities (Gill & Schlossman, 1996).

A paradigm shift took place from students learning by drill and recitation to developing problem-solving abilities (Cooper & Valentine, 2001). The use of homework to enhance memorization skills was called into question, and a greater emphasis was placed on developing problem-solving skills, student initiative, and an interest in learning (Vatterott, 2009, p. 2).

**1950s to early 1960s.** As the homework debate entered the 1950s, the less homework trend was replaced by an academic excellence movement. This resulted because of the launching of the Sputnik satellite by the Soviet Union in 1957. This event led to changes in schooling practices that included a shift in attitudes and perceptions about homework. The American public perceived Russian children as being smarter than American children. A lack of rigor in American education that included a decrease in homework was viewed as a source of the problem. Homework became an instrument of national defense policy (Gill & Schlossman, 2004). “Americans became concerned that a lack of rigor in the educational system was leaving children unprepared to face a complex technological future and to compete against our ideological adversaries” (Cooper, 2007, p. 2).

**Mid-1960s.** By the mid-1960s, the homework cycle again reversed itself. Changes were made again to eliminate weekend homework, set maximum time limits for assignments, establish homework schedules for each subject, and limit tests on the same day (Gill & Schlossman, 2004). The issue of excessive homework causing possible detrimental mental health consequences came to the forefront again (Cooper, 2007, p. 2).

The American Educational Research Association released an official policy statement that stated, “Whenever homework crowds out social experience, outdoor recreation, and creative activities, and whenever it usurps time that should be devoted to sleep, it is not meeting the basic needs of children and adolescents.” (Wildman, 1968, p. 204; Kohn, 2006)

**Late 1960s and 1970s.** “In the midst of the Vietnam War and the Civil Rights Movement, a counterculture emerged that questioned the status quo in literally every aspect of personal and political life” (Vatterott, 2009, p. 5). A change in student attitudes

toward discipline and respect for teacher authority occurred. There were concerns, not about whether homework was beneficial, but whether students could be persuaded to attend school, pay attention, and study at all (Gill & Schlossman, 2004). Parents argued that children should be free to play and relax in the evenings, not spend time doing excessive amounts of homework (Bennett & Kalish, 2006).

A new debate over homework emerged that was reminiscent of the Progressive arguments of the early 20th century. Homework was perceived as a symptom of too much pressure on students to achieve (Vatterott, 2009). Parents argued that children should be free to play and relax in the evenings, and again the amount of homework decreased for the time being (Bennett & Kalish, 2006).

**1980s and 1990s.** By the 1980s, the pendulum began to change again. In 1983, the study *A Nation at Risk* brought homework back into the national discussion calling for more homework for high school students. This document cited homework “as a defense against the rising tide of mediocrity in education and changed the perception of schools again” (Cooper, 2007, p. 2). *A Nation at Risk* became the “first report by the United States government attempting to prove that the purported inadequacies of our schools and our students were responsible for the troubles of the U.S. Economy” (Kralovec & Buell, 2000, p. 50). *A Nation at Risk* stressed the need to improve school success to improve economic success. “An ‘intensification movement’ began with the idea that education could be improved if only there was more of it – longer school years, more testing, and ‘far more homework’ for high school students” (Vatterott, 2009, p. 7). In 1986, the U.S. Department of Education published another document entitled, *What Works*, which also recommended homework as an effective learning strategy (Vatterott, 2009, p. 7). Thus, homework emphasis increased for students once again.



The pro-homework trend continued into the 1990s. Educators fueled the push for homework, using it to meet the increasingly rigorous state-mandated academic standards. “Whenever reformers attempt to improve the academic outcomes of American schooling, more homework seems a first step” (Vatterott, 2009, p. 7). Even though criticism for homework began to pick up during the mid-1990s, the media and the general population of citizens paid little attention.

**Turn of the century – 2000s.** At the turn of the century, a serious backlash set in about the negative effects of homework. Parents became concerned about their stressed-out children, and opponents of homework began to speak out. Exhaustive syntheses of research on homework conducted by Cooper (1989) and again by Cooper et al. (1998) catapulted the topic of homework into the popular press and public eye. Many journal articles and books were written because of Cooper’s research. One of these included *Time Magazine’s* 1999 cover story, “The Homework That Ate My Family” (Vatterott, 2009). “This article portrayed homework as an intrusion on family tranquility and as just one more stressor in an already overstressed life, especially two-career families” (Vatterott, 2009, p. 8).

In 2000, the school board from the district of Piscataway, New Jersey, received national attention by implementing a homework policy that limited the amount of homework, discouraged weekend homework, and forbade teachers from counting homework for a grade (Kohn, 2006). Three anti-homework books ignited debate about the homework issue during the early 2000s, causing schools to rethink their homework policies: Kralovec and Buell’s (2000) *The End of Homework: How Homework Disrupts Families, Overburdens Children, and Limits Learning*; Vatterott’s (2009) *Rethinking Homework: Best Practices that Support Diverse Needs*; and Kohn’s (2006) *The*

*Homework Myth.* These books continue to stir up debate between pro-homework and anti-homework supporters today.

Despite the homework backlash during the last two decades, studies show that the majority of students at all grade levels averaged less than one hour of homework nightly (Gill & Schlossman, 2004). Research from the past 100 years suggests that most parents have consistently supported homework despite the drawbacks and negative effects. Perceptions and beliefs have been cyclical from decade to decade since the early 1880s. “The belief in the value of homework is akin to faith, and so firmly entrenched that most families accept without question this nightly ritual” (Kralovec & Buell, 2000, p. 10).

Arguments for and against homework continue to stir intense emotions among parents, teachers, and students. To fully understand whether homework is still necessary today, this study examined the purposes for homework and its impact on student learning.

### **Purpose of Homework**

Supporters of homework provide a variety of purposes for why it is important for student achievement. Homework is defined as “tasks assigned to students by school teachers that are meant to be carried out during non-school hours” (Cooper, 1989, p. 7).

The social context of homework means that while some homework is assigned to students to complete independently, some may require the assistance of other persons, such as parents, and some may require the involvement of groups of students working cooperatively. (Bas, Senturk, & Mehmet, 2017, p. 32)

Teachers usually give their students assignments for several purposes. These purposes can be classified into instructional and non-instructional purposes (Bas et al., 2017).

While most homework is assigned for instructional purposes such as for preparation or practice of the material, some may fulfill a school’s mandates (Bas et al.,

2017, 31). For instructional purposes, the most common purpose of homework is to practice or review material. Practice assignments are meant to reinforce learning of material, and preparation assignments are meant to provide background information before new material is covered (Cooper, 2007, p. 6). The third instructional goal for homework is called “extension,” because it requires students to extend the knowledge that they have learned in class and apply abstract principles to circumstances not covered in class (Cooper 2007, p 7). Finally, homework can serve the purpose of skill integration. This type of assignment requires students to apply many different skills at one time to produce a specific product such as a science project (Cooper, 2007, p. 7).

Teachers also assign homework for non-instructional purposes. Homework can be used to facilitate communication between parent and child, fulfill directives from school administrators, to inform parents about what is going on in school, and to punish students (Cooper, 2007, p 7).

The purpose of homework is also to provide feedback to teachers about how well students understand the content. Homework should be utilized as formative assessment for teachers to adjust their instruction and, when necessary, reteach the concepts before assigning additional content (Vatterott, 2009).

Warton (2001) provided seven purposes of homework:

1. To practice skills.
2. To increase learning-task involvement.
3. To foster student personal development.
4. To establish communication between parents and children about homework.
5. To fulfill system policy and schoolwork.
6. To inform parents about classroom activity.

7. To remind students of teacher classroom requirements (punishment).

Murphy and Decker (1989) surveyed over 2,550 teachers and asked them to select the single most purpose for assigning homework. Of the teachers, 55% of them stated that the most common purpose for homework was “to reinforce class materials by reviewing concepts and skills introduced in class.” This represented what is known as practice homework. The second most common purpose (23%) selected by the teachers was “as mastery of the course objectives.” The third most common purpose (11%) selected by the teachers was “to introduce new material.” This represented what is known as preparation homework. Three percent of the teachers selected homework “as preparation for a test” as the single-most purpose; 3% surveyed selected homework “as a strategy for monitoring student progress”; and 1% selected homework “as student-created independent research projects” (Murphy & Decker, 1989, p. 265).

### **Positive Effects of Homework**

Cooper and Valentine (2001) identified both academic and nonacademic positive effects of homework. Academic positive effects included an immediate effect on the retention and understanding of the material it covers; improvement in student attitudes toward school; and student understanding that learning can take place anywhere, not just at school.

Nonacademic positive effects included the development of independent and responsible character traits and more involvement of parents in the school process. “Homework also plays a critical long-term role in developing achievement motivation in students. Homework provides children with time and experience to develop positive beliefs about achievement, as well as strategies for coping with mistakes, difficulties, and setbacks” (Bempechat, 2004, p. 190).

## Negative Effects of Homework

Concern about homework is part of a growing apprehension in the U.S. about the time pressures that both adults and children now face. According to Kralovec and Buell (2000), “educators should stop squeezing time out of family life for the questionable benefits of homework” (p. 39). Parents of younger students are revolting against the reportedly increasing amounts of homework assigned to their children (Skinner, 2004). *The End of Homework* (Kralovec & Buell, 2001) provided the spark for the anti-homework fire of the early 2000s. Kralovec and Buell (2001) did not hold back on their criticisms of homework and descriptions of the problems brought on by the reported increase in homework at the turn of the century.

Seven negative effects of homework identified in the research (when looked at together) lead public opinion to ask the question, “Is homework necessary?”

**Boredom.** If students are required to spend too much time on homework evening after evening outside of school, they are bound to grow bored with it and even resent it. “By spending too much time on school learning, children may become overexposed to academic tasks. Thus, homework may undermine good attitudes and strong achievement motivation” (Cooper, 2007, p. 11).

**Leisure time.** Second, homework denies access to leisure time, community activities, and family time that can teach important lessons, both academic and nonacademic (Cooper & Valentine, 2001; Kralovec & Buell, 2000). Parents struggle with their feelings about homework. On one side, they view homework as a way for their children to succeed; yet on the other side, it imposes negative consequences like limits on family time. “It is a simple fact that an hour spent doing schoolwork at home is an hour not spent doing other things” (Kohn, 2006, p. 15). Other negative consequences of

homework include less opportunities to read for pleasure; less time to make friends and socialize with them; and less time to exercise, spend time with parents, or just do things that children do (Kohn, 2006, p. 15). “Homework interferes with opportunities for the kind of learning that doesn’t involve traditional academic skills” (Kohn, 2006, p. 15). Leisure-time activities are very important for children, because they teach important academic and life skills that homework often disrupts.

**Family conflict.** Third, homework often disrupts family life and leads to conflict. Homework has become a burden on parents, especially those with children at the elementary level.

Parents testify that their children are chronically frustrated by homework, weepy, stressed-out, and fed up. By the end of a seven-hour day, children are exhausted. Like a worker on a double shift, he or she must keep working after getting home. (Kohn, 2006, p. 11)

Homework also places added stress on parents. “Many mothers and fathers return each evening after working all day at paid jobs only to serve as homework monitors and teachers, a position for which they never applied or are not qualified to do” (Kohn, 2006, p. 10).

The parent-child relationship can also be impacted by the negative consequences of homework. Homework has become a big battle in many families. “In a survey of more than 1,200 parents of school-aged children, half of them reported that they had a serious argument with their child about homework in the past year that involved yelling or crying” (Kohn, 2006, p. 13). According to Vatterott (2009), many parents have decided that homework is not a battle they want to fight. “They have become frustrated by their inability to force their children to do boring tasks or to continue to work when

they are tired” (Vatterott, 2009, p. 29).

Homework can also interfere with students who work part-time jobs that help support their families or with students who are required to watch their siblings while their parent(s) work during the evenings. Family life has changed in America during the past 30 years. More mothers work, there are more single-parent households, and there are more families in which both parents work longer hours (Kralovec & Buell, 2000). The days of families eating meals together around the table in the evenings after work and school are rare today. Those days have been replaced with unstructured family time in which children grab something to eat when they find the time.

**Parental interference.** Fourth, parental involvement can often turn into parental interference when it comes to completing homework with their children (Cooper & Valentine, 2001; Kralovec & Buell, 2000). Involving parents in homework can interfere with learning and have negative consequences for the schooling process. In some cases, parents are doing the homework for the children to ensure good grades or to keep the teachers off their backs. In other cases, the parents mean well but confuse the children if the instructional techniques are different from those used by the teachers (Kralovec & Buell, 2000). “Teachers often complain that parents don’t really help their kids, but rather hinder them by getting involved in their homework” (Kralovec & Buell, 2000, p. 22). Opponents of homework use this argument as a reason to support time in school for working on homework instead of sending it home with the students to complete.

**Cheating.** Fifth, homework can lead to undesirable character traits such as cheating that students practice while completing their homework assignments. Cheating is accomplished through direct copying of assignments or by helping with homework that goes beyond tutoring (Cooper & Valentine, 2001; Kralovec & Buell, 2000). With

advancements in technology in recent years, cheating can be accomplished using a variety of methods from cell phones and computers by students both inside and outside of school hours.

**Social inequalities.** Sixth, homework reinforces the social inequalities in the households that do not have parental support, access to technology and other educational resources, or where students must tend to family responsibilities after school (Cooper & Valentine, 2001; Kralovec & Buell, 2000). The “soccer mom” verses “burger mom” example sums up this disadvantage. The burger mom sits her children in the booths at the fast food restaurant while she works behind the counter, because there is not anyone to take care of them while she works. The soccer mom takes the children to and from soccer practice and then comes home to oversee their homework giving them one-on-one attention when needed; computers, Internet connection, and educational resources are available to her children. Burger mom has difficulty providing the time or resources necessary for her children to be successful at completing their homework (Kralovec & Buell, 2001).

The economic diversity of families holds perhaps the greatest challenge for schools to implement fair and equitable homework policies. “Socioeconomic status separates the ‘haves’ from the ‘have nots’ in a variety of ways that can affect learning” (Vatterott, 2009, p. 36). Homework has the potential to exacerbate class differences and widen the achievement gap. “When lower-class children are unable to complete homework because of family or economic conditions, teachers run the risk of unfairly punishing those children for factors beyond their control” Vatterott, 2009, p. 39).

**Physical problems.** Lastly, homework can lead to physical problems for children. “According to a 1999 report from the American Association of Orthopedic



Surgeons (AAOS), thousands of children were experiencing back, neck, and shoulder pain caused by their heavy backpacks loaded with excessive homework that many considered to be unnecessary” (Kralovec & Buell, 2000, p. ix).

These seven negative consequences of homework establish a compelling case against homework as an important requirement for student achievement and success. Do the positive effects of homework outweigh the negative effects? This question has been debated for years and continues to be a hot topic among educators, parents, and teachers today.

### **Types of Homework**

“Research shows that irrelevant or busywork tasks unrelated to the curriculum, identical assignments for all students, and unnecessary repetition of already learned material are examples of ineffective types of homework” (Murphy & Decker, 1989, p. 265).

Cooper (2007) argued that the amount and type of homework should vary according to the child’s developmental level and home circumstances and that assignments that involve review and preparation are more effective than homework that focuses only on material covered in class on the day of the assignments.

Lee and Pruitt (1979) called for research using a taxonomy of homework. They proposed that homework be divided into four types: preparation, practice, extension, and creativity. Preparation homework refers to assignments that are given to prepare students to gain maximum benefit from subsequent lessons (Foyle, 1984, p. 6; Lee & Pruitt, 1979). Practice homework is given to help students master specific skills and is limited to material presented in class (Foyle, 1984, p. 6; Lee & Pruitt, 1979). Extension homework determined whether students could transfer a new skill or concept to a new

situation. Creativity homework required students to integrate many skills and concepts in the process of producing a response such as a research project (Foyle, 1984, p. 7; Lee & Pruitt, 1979, p. 32).

Murphy and Decker (1989) conducted a study on homework. One of their objectives in this study was to discover which type of homework teachers most commonly assigned. From a list of seven categories, teachers were asked to select their most commonly assigned type of homework and all types of homework assigned in their courses (Murphy & Decker, 1989, p. 266). The seven types of homework teachers were asked to choose from included (a) worksheets, (b) textbook and questions, (c) essays/writing assignments, (d) problem-solving, (e) independent projects, (f) reading and research, and (g) other (Murphy & Decker, 1989, p. 266).

Results from the survey revealed that one third of the teachers chose “textbook and questions” as the most commonly used type of homework assignment. Fifteen teachers (19%) were unable to choose one type as the most commonly assigned. The rest of the choices were distributed throughout the types in descending order as follows: (a) worksheets (14%); (b) problem-solving (13%); (c) reading and research (8%); (d) independent projects (5%); (e) essays/writing assignments (4%); and (f) other (4%) (Murphy et al., 1987, p. 66). The study concluded that

since nearly one-fifth of the teachers were unable to select the type of homework they most commonly assigned, this may indicate that assignments were carefully balanced among the various types. On the other hand, it may also reflect a more intuitive and less planned approach to assigning homework. (Murphy et al., 1987, p. 66).

As Corno (2000) argued, “teachers cannot rely on one type of assignment because

that would restrict students' perspective on learning" (p. 532). Corno wrote,

A flood of routine review sheets is an easy target for criticism, but inventive assignments can be equally narrowing if overdone. Just as students should not settle into belief that learning is all about memorization, drill, and practice, neither should they expect every homework assignment to involve the creativity and play of a game show. (p. 531)

### **Teacher Perceptions of Homework**

Teachers are finding that many students do not complete homework assignments for various reasons, and they have long experienced the frustration of students who do not or will not complete their homework assignments (Wilson & Rhodes, 2010). Some teachers claim that assigning homework is not worth the hassle. The utility of homework continues to ignite much debate among pro-homework and anti-homework teachers.

According to Vatterott (2009),

Beliefs about the benefits of homework are so entrenched, so unshakable for many parents and teachers, that they seem almost cult-like. True believers hold homework in such reverence that many educators are afraid to recommend eliminating it from their students. (p. 9)

Pro-homework teachers profess many reasons why homework benefits students and leads to higher student achievement. Some teachers claim that homework keeps children out of trouble and is better for them than many of the other alternatives. Some teachers are fixated on homework as a way to teach students responsibility and time management skills (Vatterott, 2009, p. 12), yet some teachers just assign homework because their administration, school district, and parents expect it from them.

Despite the pro-homework arguments by many teachers, there are teachers who

question the practice. “Many teachers are troubled by the problems inner-city kids have in completing their assignments; others are worried about the erosion of the family due to homework; and still others are concerned about the inequality inherent in the system” (Kralovec & Buell, 2000, p. 34). Regardless of these negative reasons for assigning homework, most teachers continue the practice.

### **Parent Perceptions of Homework**

In general, parents across social classes and ethnic groups endorse homework. They are willing to help their children with homework and believe that doing so is part of their job as parents (Delgado-Gaitan, 1992, p. 192). Parents perceive that teachers expect them to help their children with the assignments they send home and consider themselves to be bad parents if they do not (Delgado-Gaitan, 1992, p. 192). Some parents endorse homework enthusiastically and without reservation. Many educators claim they might not support homework, but they continue to assign it because parents expect it. Parents equate lots of homework with a tough school and tough teachers – “more work must equal more learning” (Vatterott, 2009, p. 12). “More homework gives the *appearance* of increased rigor, and *difficulty* is often equated to the *amount* of work done by students, rather than the complexity and challenge” (Williamson & Johnston, 1999, p. 10, as cited in Vatterott, 2009, p. 12). Some parents even scold teachers for not assigning homework. They claim that by not requiring homework, they are setting their children up for failure later in life. Parents are suspicious of teachers who do not give many homework assignments (Kohn, 2006, p. 20).

Many parents have concluded in recent years that they need to take a stand against homework. They argue that homework is “more a hindrance than a help”; and as far as learning is concerned, it is just “busywork” with zero redeeming qualities (Kohn,

2006, p. 21). Parents also claim that students spend most of their childhood in their rooms doing homework, instead of enjoying being a child (Kohn, 2006, p. 21).

### **Student Perceptions of Homework**

According to Warton (2001), there is little evidence from research about the viewpoints of students toward homework. “Although literature on homework is extensive, the concerns of students, the principal participants, remain largely unheard” (Warton, 2001, p. 158).

In a study of ninth grade students’ attitudes about homework, data results revealed that only 39 percent of students reported that they completed their homework assignments frequently. Sixty-nine percent of the students surveyed indicated that they thought homework was meaningful and reinforced concepts learned in class, but still did not complete the assignments. Student surveys identified several reasons why students did not complete or attempt homework assignments. Many students did not feel that the assignments were meaningful or did not understand how the work related to what they were learning in class. Students did not feel that homework was meaningful, because teachers did not give feedback on their assignments in a timely fashion or give feedback at all. Many students also chose not to complete homework, because it was boring and routine – repetitious worksheets and handouts. Lastly, part-time jobs, babysitting siblings, or extracurricular activities interfered with their time to complete homework assignments. (Wilson & Rhodes, 2010, p. 351)

According to Kralovec and Buell (2000), the number one reason students give for not completing or attempting their homework assignments is that they do not have enough time. Students perceive homework as something that interferes with their social

lives (Kralovec & Buell, 2000, p. 56). Many teachers and parents respond negatively to this excuse. They claim that school is the students' main job and must be given their top priority. Developmental psychologists disagree and claim, "the first priority for adolescents is not homework, but developing a social self. 'Learning to manage that self amid the demands of the world is an essential part of the maturing process'" (Kralovec & Buell, 2000, p. 56).

Opponents of homework caution that it is time to stop dismissing student criticisms and excuses for not doing homework and to ask ourselves if these excuses are valid and need to be taken more seriously. Proponents of homework argue that these excuses might be valid, but research shows that students who do homework result in higher achievement levels, especially at the high school level (Cooper, 1989). "Student achievement rises significantly when teachers regularly assign homework and students consistently complete it" (Cooper & Valentine, 2001, p. 150).

Parents critical of homework blame teachers, teachers critical of homework fault parents and policies, and students critical of homework fault all of these. Why do many recognize that there are detrimental effects of homework and yet continue to put up with it, even defend it? The most obvious response is that they assume homework's benefits outweigh its costs. (Kohn, 2006, p. 24)

### **Effects of Homework on Student Achievement**

"Attempts of researchers to determine if homework improves academic achievement have led to conclusions that are inconsistent at best and contradictory at worst" (Vatterott, 2009, p. 58). If one study provides evidence that homework is beneficial and leads to student achievement, there is another study that proves otherwise. "Researchers have been far from unanimous in their assessments of the strengths and

weaknesses of homework as an instructional technique” (Kohn, 2006, p. 25).

Goldstein (1960) reviewed studies on homework published from 1928 to 1958 and found that regularly assigned homework favored higher academic achievement. Of these studies, those conducted at the secondary level revealed stronger positive correlations of homework’s impact on achievement than those conducted at the elementary and middle school levels.

Friesen (1979) conducted a meta-analysis of research on homework and its effects on student achievement between the years of 1923 and 1976. He found that of the 23 experiments he studied, 12 demonstrated positive effects on homework and 11 demonstrated no differences or negative effects on student achievement. These results did not strengthen the homework debate from either side.

Foyle and Bailey (1986) conducted a study on 131 students from American History classes in a high school from Kansas. He divided the students into three groups: practice homework, preparation homework, and no homework. In this study, he found a significant difference in student achievement scores between students assigned homework compared to those not assigned homework; however, he found no difference between students assigned preparation homework compared to those assigned practice homework.

Cooper (1989) presented the most exhaustive meta-analysis of research on the effects of homework ever conducted. The review covered nearly 120 empirical studies of homework and the ingredients of successful homework assignments. His research is widely cited by critics on both sides of the debate. Cooper (1989) found that 70% of the comparisons from his study yielded positive results supporting the use of homework (Skinner, 2004, p. 53); however, Skinner (2004) argued that if Cooper’s (1989) average

findings are broken down, this modest advantage gained through homework is lost through other variables and does not accurately prove homework's utility for higher achievement (p. 53). Worse yet, Kohn (2006) argued that Cooper's studies "had such serious methodological shortcomings as to raise doubts about the validity of any conclusion based on them" (p. 27).

Two types of studies were used by Cooper (1989) to help answer the general question of whether homework improves student achievement. The first type compared achievement of students given homework assignments with that of students given no homework or any other treatment to compensate for the lack of required home study. Of 20 independent samples, 14 produced effects favoring homework, whereas six favored no homework. Most interesting was a dramatic influence of grade level on homework's effectiveness. These studies revealed that the average high school student in a class doing homework would outperform (75%) of the students in a no-homework class. In junior high school, the average homework effect was half this magnitude. In elementary school, homework had very little effect on achievement gains (Cooper et al., 1998). Older students benefited the most from doing homework. According to Cooper (1989), "Homework has substantial positive effects on the achievement of high school students" (p. 89). The average effect of homework was twice as large for high school students compared to junior high school students, and it was twice as large for junior high school students compared to elementary students" (Cooper, 1989, p. 89).

For the second type of evidence in Cooper's (1989) study, 50 studies correlated the amount of time students reported spending on homework with achievement levels. Since this study is not an emphasis for the research in this study, it was not included.

Cooper's (1989) study combined three types of achievement measures: scores on



teacher-designated tests, grades given by teachers, and scores on standardized tests.

When those measures of achievement were viewed separately, Cooper et al. (2006) indicated that class grades showed slightly higher correlations with homework than did standardized tests, but the difference in the two were not significant (Vatterott, 2009, p. 60).

### **Summary**

Parents and teachers who question the value of homework are not new to the issue. America has a long history of skepticism regarding the utility of homework and the negative effects children and families have experienced as a result. Since the 1800s, America has experienced times of support and times of all-out rebellion towards homework. “Attitudes toward homework have historically reflected societal trends and the prevailing educational philosophy of the time, and each swing of the pendulum is colored by unique historical events that swayed the homework culture of Americans” (Vatterott, 2009, p. 3). The historical arguments for and against homework are similar to the arguments waged in today’s debate over homework (Vatterott, 2009, p. 3).

Research on homework achievement and whether it leads to student achievement leaves serious doubts about whether it enhances meaningful learning for students (both academic and nonacademic) or if it outweighs the criticisms identified that refute it.

Perceptions of parents, teachers, and students continue to be divided over homework; and the beliefs of society about the value of homework are so firmly entrenched that most families accept it without question. Evidence tends to favor homework as important for student achievement at all grade levels, even though these results are minimal. It is the least effective at the elementary level and the most effective at the high school level.

Chapter 3 includes the methodology of the research study. In this chapter, the convergent parallel mixed methods research design is described and aligned to the framework of the study. The chapter also includes a rationale for the study; research participants; research instruments; the role of the researcher; the procedures for administering, collecting, and analyzing the data from the research instruments; and the validity and reliability of the research tools.

## Chapter 3: Methods

### Introduction

The homework debate continues to be a “hot” topic in the United States. There is not a clear consensus that students are being assigned too much homework or if homework is even necessary for student achievement. Perceptions of homework by teachers at a rural high school in the foothills of North Carolina are no different. Many teachers consider themselves to be homework traditionalists who perceive homework as necessary for improving student achievement. At the other end of the spectrum, teachers hold true to their progressive views about homework. They perceive homework as unnecessary for improving student achievement. According to progressive teachers, students should be able to achieve all they need to during school hours. They also consider most homework assigned by teachers to be just “busy work” that interferes with students’ abilities to hold part-time jobs, participate in extracurricular activities, or just spend time with their families.

Most teachers fall somewhere in the middle on this issue. They are uncertain about the effectiveness of homework and about which types of homework (if any) work best for improving student achievement. The methodology of this study addresses these uncertainties.

### Restatement of the Study Problem

After participating in a required schoolwide book reading and group discussions on Vatterott’s (2009) book *Rethinking Homework: Best Practices that Support Diverse Needs*, teachers from the target high school displayed division over the purpose of homework and its importance toward student learning and achievement. Extremists from the pro-homework and anti-homework viewpoints dominated the book discussions. Anti-

homework teachers considered homework as unnecessary and claimed to assign little to no homework to their students. At the other end of the spectrum, pro-homework teachers considered homework paramount to student learning and assigned at least 45 minutes to 1 hour of homework a night to their students. Not only was homework versus no homework a debate, but differences arose about what types of homework assignments were most effective for student achievement.

Chapter 3 includes both quantitative and qualitative instruments utilized in the mixed methods research design to determine answers to the issues identified in the anti-homework versus pro-homework debate among teachers at the rural high school in the foothills of North Carolina. These instruments also addressed the five research questions that derived from this division.

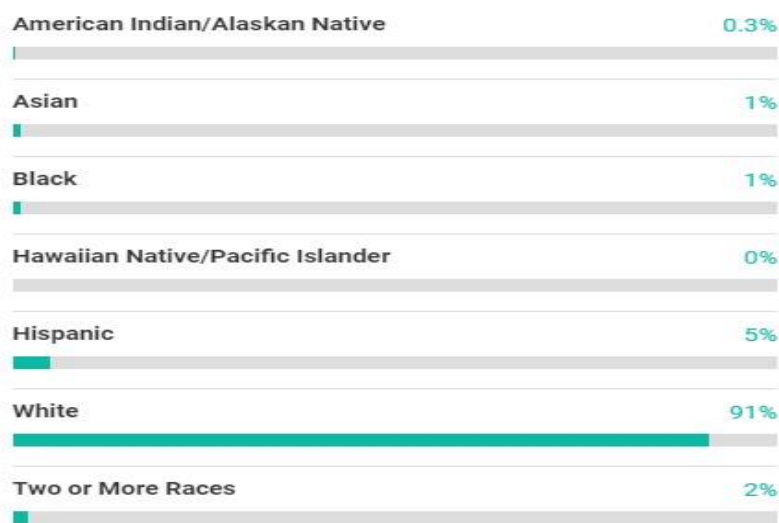
### **Relevance of Study Setting**

The research setting is relevant to this study, because members of the organization (stakeholders) all worked at, attended, or were parents of students at the target high school where the research took place.

The target high school was completed on August 15, 1977. The school is located on a 100-acre site in the western foothills region of North Carolina. The school serves approximately 1,543 students in Grades 9-12, according to the 2017-2018 enrollment data. Students come from a rural community of families who work mainly in the manufacturing and service industries.

At the time of the study, 1,389 (91%) of the students were White, 77 (5%) were Hispanic, and the remaining 62 (4%) were a mixture of other ethnicities. The total minority enrollment was 139 (9%). The student population consisted of 818 (53%) males and 725 (47%) females. Figure 3 presents the different ethnicities of students from the

target school and their percentages.



*Figure 3. 2017-2018 Target High School Ethnicity/Race Data.*

According to the 2017-2018 data collected from the target high school, the total number of classroom teachers (Grades 9-12) was 99. Of the 99 teachers, 95 (96%) were fully licensed; 30 (30%) possessed advanced degrees, and 23 (23%) were National Board Certified. Fifty-eight (58%) of the teachers possessed 10+ years of experience, 29 (29%) possessed 4-10 years of experience, and 12 (12%) possessed 0-3 years of experience.

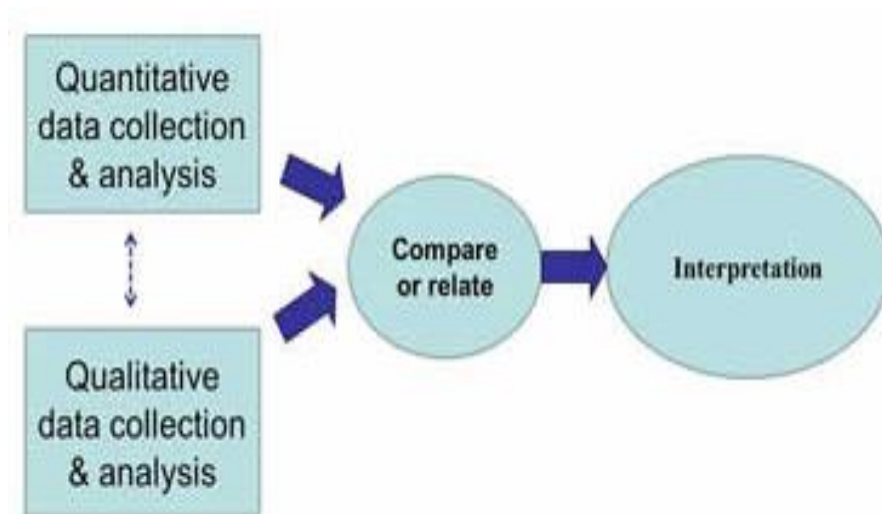
### **Restatement of Research Questions**

1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework?
2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework?
3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning?

4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students?
5. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships?

### Research Design and Rationale

The researcher utilized a convergent parallel mixed method design for this study. “The convergent mixed methods approach is probably the most familiar of the basic and advanced mixed methods strategies” (Creswell, 2014, p. 219). In this approach, the researcher collects both quantitative and qualitative data. These data are analyzed separately, then the results are compared to see if the findings confirm or disconfirm each other (Creswell, 2014, p. 219). Figure 4 outlines the steps.



*Figure 4.* Convergent Parallel Mixed Methods Design Illustration (Crabtree, Magil, Scammon, & Tomoaia, 2013).

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The need of the researcher to collect both forms of data (quantitative and qualitative) using the same or parallel variables or constructs justified a rationale for implementing a convergent parallel mixed-methods design in this study. The concept of

homework and student achievement was measured quantitatively using teacher, student, and parent surveys along with the results from teachers' EVAAS student growth scores from the 2015-2016 and 2016-2017 school years. The same concept was measured qualitatively using data collected from open-ended items from teacher, student, and parent surveys.

The data were collected and analyzed in the study to determine if comparisons or relationships existed between the surveys and EVAAS data. Results from the analyses are interpreted and included in a report comparing the two databases in Chapter 5. The report notes whether there was a convergence or divergence between the two sources of information (Creswell, 2014).

Mixed methods research design supports the validity of research by using a variety of methods to collect data on the same topic. Research that utilizes both qualitative and quantitative data collection provides a triangulation of the data that strengthens the validity of the study. Fitzpatrick, Sanders, and Worthen (2010) affirmed the advantages of a mixed-methods approach, stating that it can "improve the validity or understanding of diversity and involve many different choices concerning design, data collection, and analysis" (p. 386).

### **Conceptual Framework**

The conceptual framework of this study was based on the research conducted by Cooper (1989), Lee and Pruitt (1979), and Foyle (1984). Cooper (1989) conducted an extensive meta-analysis on homework and how it relates to academic achievement. His research concluded that homework was associated with higher student achievement. Although the overall effect was not particularly large, it was significant for pro-homework supporters (Cooper, 1989). Cooper et al. (2006) published a review of newer

studies in 2006. Results from these studies indicated a stronger association with achievement in students assigned homework than the earlier studies; however, homework only seemed to benefit students at the high school level (Cooper et al., 2006). Even with research as extensive as Cooper's (1989), the claim that homework leads to student achievement is still as unclear as it was 100 years ago.

Lee and Pruitt (1979) created a taxonomy that classified homework according to four purposes: preparation, practice, extension, and creativity. Foyle (1984) conducted the first experiment specifically using Lee and Pruitt's homework taxonomy at Emporia High School in Kansas. His study examined two of Lee and Pruitt's (1979) four types of homework assignments (preparation and practice) to ascertain which type produced greater student achievement among the 131 tenth-grade American History students studied. Results from the study revealed that both preparation homework and practice homework raised student achievement, as compared to students who were not assigned homework (Foyle & Bailey, 1986, p. 187). Research also revealed minor differences in student achievement between students assigned primarily preparation homework compared to those assigned primarily practice homework (Foyle & Bailey, 1986, p. 187).

The researcher in this study set out to fulfill three goals: (a) to add to Cooper's (1989) research on homework and student achievement by determining if higher achievement existed among students assigned homework compared to students not assigned homework at the target high school, (b) to examine the use of two of the four types of homework included in Lee and Pruitt's (1979) taxonomy – preparation homework and practice homework – to ascertain if one type produced greater student achievement at the target high school over the other, and (c) to add to the research on homework by determining the perceptions of stakeholders (teachers, students, and



parents) regarding the impact of homework in three areas: student learning, personal development, and family relationships. The conceptual framework of this study directly aligned to the study's purpose, research questions, literature review, and research instruments.

### **Participants**

Participants in the study were drawn from three groups of individuals (teachers, students, and parents) associated with the target high school. The district associate superintendent of curriculum and instruction and the principal of the rural high school in the foothills of North Carolina granted the researcher permission to administer surveys to the three groups of participants. All 99 classroom teachers, 1,543 students in Grades 9-12, and parents of these students were invited to participate in a survey about their perceptions of homework. Eighty-three (84%) teachers, 165 (11%) students, and 151 (10%) parents participated in the online or paper perceptual surveys for the study.

### **Research Instruments**

The methodology for this study was conducted as a convergent parallel mixed-methods design. Both quantitative and qualitative instruments were utilized to collect data in the study. Three different surveys were validated and administered to the participants by the researcher. The researcher created all three surveys using the Google Forms program; because premade, validated surveys that met the needs for this study were not available. Neither Cooper (1989) nor Foyle (1984) included perceptual surveys as part of their studies. They conducted their research using just statistical quantitative data.

The researcher aligned all survey items to the study's conceptual framework. The surveys included Likert scale and open-ended items to collect data about the perceptions

of homework from three groups of participants in the study. Except for four items, the three survey instruments mirrored each other. The teacher survey included one demographic item and three items associated with Research Questions 1 and 2 that were not included in the other two surveys. The student and parent surveys are identical. This study provided both quantitative and qualitative data for the mixed-methods design. The researcher applied components of a survey methods plan from Creswell (2014) to plan and develop the three surveys for this study.

A second instrument utilized by the researcher to collect additional quantitative data was individual EVAAS student growth data from teachers. The researcher requested EVAAS identification numbers from all teachers from the target school who taught state-tested courses. Thirty-seven (71%) of the 52 eligible teachers volunteered their EVAAS student growth data results from their individual composite growth scores from the 2015-2016 and 2016-2017 school years for the study. Growth scores were determined by the teachers' student scores from all EOCs and NC Final Exams.

**Teacher homework perception survey.** The teacher homework perception survey consisted of 26 items designed to gather both quantitative and qualitative data for the convergent mixed-methods study (Appendix A). The researcher created the survey using the Google Forms program. The survey was divided into four sections: Demographic Data, Impact of Homework on Student Learning, Impact of Homework on the Personal Development of Students, and Impact of Homework on Family Relationships.

Item one was designed to gather demographic information (years of experience) from teachers who participated in the survey. Item 26 was included by the researcher as a method to gain permission from teachers to use their EVAAS growth data in the study.

If teachers agreed to provide their individual growth data from EVAAS for the study, they included the number of their personal EVAAS identification numbers for this item. The survey included a brief explanation to help teachers understand how their data were utilized in the study and how their identity was protected. The identification numbers allowed the researcher access to the teachers' testing data to compare them to their survey data while protecting their identities. The remaining 24 items in the survey were included to gather data about teacher perceptions of homework and to what extent it impacted student learning, the personal development of students, and family relationships at the target high school.

Items 12-13 included one Likert scale item and one multiple choice item. These items were designed to gather quantitative data that addressed Research Questions 1 and 2 of the study:

1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework?
2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework?

Items 2-10 and 14-15 included nine Likert scale items and two open-ended items designed to gather both quantitative and qualitative data that addressed Research Question 3 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning?

Items 16-20 included four Likert scale items and one open-ended item designed to gather both quantitative and qualitative data that addressed Research Question 4 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the

impact of homework on the personal development of students?

Items 21-24 included four Likert scale items and one open-ended item designed to gather both quantitative and qualitative data that addressed Research Question 5 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships?

The 26 items in the teacher survey were aligned to the framework of the research study.

**Student homework perception survey.** The student homework perception survey consisted of 21 items designed to gather both quantitative and qualitative data for the convergent parallel mixed-methods study (Appendix B). The researcher created the survey using the Google Forms program. The survey was divided into three sections: Impact of Homework on Student Learning, Impact of Homework on the Personal Development of Students, and Impact of Homework on Family Relationships. A section for demographic information was not included in this survey for the study.

The 21 items in this survey were included to gather data about student perceptions of homework and to what extent it impacted student learning, the personal development of students, and family relationships at the target high school (Research Questions 3-5).

Items 1-11 included nine Likert scale items and two open-ended items. These items were designed to gather both quantitative and qualitative data that addressed Research Question 3 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning?

Items 12-16 included four Likert scale items and one open-ended item. These items were designed to gather both quantitative and qualitative data that addressed Research Question 4 of the study: What perceptions of stakeholders (teachers, students,

and parents) exist about the impact of homework on the personal development of students?

Items 17-21 included four Likert scale items and one open-ended item that were designed to gather qualitative data that addressed Research Question 5 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships? The 21 student survey items were aligned to the framework of the research study.

**Parent homework perception survey.** The parent homework perception survey consisted of 21 items designed to gather both quantitative and qualitative data for the convergent mixed-methods study (Appendix C). The researcher created the survey using the Google Forms program. The survey was divided into three sections: Impact of Homework on Student Learning, Impact of Homework on the Personal Development of Students, and Impact of Homework on Family Relationships. A section for demographic information was not included in this survey for the study.

The 21 items in this survey were included to gather data about parent perceptions of homework and to what extent they impacted student learning, the personal development of students, and family relationships at the target high school (Research Questions 3-5).

Items 1-11 included nine Likert scale items and two open-ended items. These items were designed to gather both quantitative and qualitative data that addressed Research Question 3 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student achievement?

Items 12-16 included four Likert scale items and one open-ended item. These items were designed to gather both quantitative and qualitative data that addressed

Research Question 4 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students?

Items 17-21 included four Likert scale items and one open-ended item that were designed to gather qualitative data that addressed Research Question 5 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships? The 21 parent survey items were aligned to the framework of the research study.

**EVAAS teacher data on student growth.** EVAAS is a customized software system available to all North Carolina school districts that examines the impact of teachers, schools, and districts on the learning of their students in specific courses, grades, and subjects (North Carolina Department of Public Instruction [NCDPI], n.d.).

This study included teachers' student growth data as a method to determine if differences existed in academic achievement by students assigned homework compared to those not assigned homework at the target high school. It was also utilized to determine if differences existed in academic achievement by students assigned primarily preparation homework compared to those assigned primarily practice homework. As teachers completed the surveys about their perceptions of homework, they were encouraged to include their personal EVAAS identification numbers that the researcher used to collect quantitative data from their 2015-2016 and 2016-2017 cumulative student growth scores. By requesting the teachers' numerical identification number instead of their names, the surveys and EVAAS data remained confidential for the participants. The district data manager retrieved the EVAAS data for the researcher on December 18, 2018, utilizing just the identification numbers from the participating teachers. Names




were excluded from the data. Data from each teacher revealed their composite scores from the EOC and NC Final Exam courses they taught during the 2015-2016 and 2016-2017 school years. The data also revealed if the teachers met, did not meet, or exceeded expected growth for their students in these subjects. An example of collected EVAAS growth data is illustrated in Figure 5.

2016 Effectiveness Composite				
Subject	Index	Level		
<a href="#">Effectiveness Composite</a>	-2.95	Does Not Meet Expected Growth		

2016 Single-Year Growth Measures				
Subject	Growth Measure	Standard Error	Index	Level
<a href="#">North Carolina Final Exam American History I</a>	-1.7	0.6	-2.95	Does Not Meet Expected Growth

Rules for Effectiveness Level Determination	
	Exceeds Expected Growth: Significant evidence that the teacher's students made more progress than the Growth Standard (the teacher's index is 2 or greater)
	Meets Expected Growth: Evidence that the teacher's students made progress similar to the Growth Standard (the teacher's index is between -2 and 2)
	Does Not Meet Expected Growth: Significant evidence that the teacher's students made less progress than the Growth Standard (the teacher's index is less than -2)

*Figure 5.* Sample 2016 EVAAS Growth Data from Teacher of American History I (NCDPI, n.d.).

The EVAAS example reveals that the sample teacher did not meet the expected growth during the 2015-2016 school year for the students taught in this subject. The standard growth index was -2.95. Anything less than -2.0 was considered negative growth for that subject. Teachers who received a standard growth index between -2.0 and 2.0 met expected growth, and teachers who received above 2.0 exceeded expected growth for that subject. The researcher triangulated all quantitative and qualitative data from the study in Chapter 5 to develop conclusions about homework and student

achievement at the target high school.

### **Role of the Researcher**

The role of the researcher in this study was as facilitator, not as a participant. The researcher created, administered, and collected data from teacher, student, and parent homework perception surveys. The researcher also collected EVAAS data from the participating teachers' student growth data composite scores provided by the district data manager. Since the researcher worked at the target school, the anonymity of the surveys was guaranteed, and the results were held in strict confidentiality. The role of the researcher remained unbiased and did not influence the survey responses or the study in any way.

The researcher utilized an ordinal regression statistical analysis of data to address Research Questions 1 and 2 and descriptive and inferential statistics as well as ANOVA analyses to address Research Questions 3, 4, and 5. IBM SPSS statistical software was used to complete the analyses for all quantitative data used in the study.

The researcher adopted a summative approach to analyze the qualitative data and a simultaneous coding concept (applying multiple codes to the same text) to manually code the open-ended responses from the teacher, student, and parent surveys (Hsieh & Shannon, 2005).

### **Data Collection**

**Teacher homework perception survey data collection.** The teacher participants completed online surveys on their perceptions of homework using Chromebooks during one of their departmental PLC weekly meetings (November 27-December 1, 2017). The researcher provided an overview of the study to the teachers and explained the purpose of the survey. Informed consent forms were provided for the teachers to sign at the



meetings. The consent form informed teachers of their rights and protections while participating in the survey. The consent forms were collected by the department chairs and returned to the researcher. The researcher stored the consent forms in a locked cabinet at the target school.

Teachers were invited to participate in the online homework perceptual survey and to provide their EVAAS identification numbers if they agreed to disclose their 2015-2016 and 2016-2017 student growth data to the researcher for the second phase of the data analysis. An explanation for the purpose and use of EVAAS identification numbers was included in the teacher consent forms as well as in the surveys to inform teachers that their names and scores would be held in strict confidence by the researcher.

**Student homework perception survey data collection.** The researcher sent informed consent forms home with all students from the target high school on December 1, 2017 to inform them and their parents about the survey and research study. Both students and parents were invited to participate in the surveys.

The researcher met with the target school's counselors in advance and developed a plan for assisting students who may experience stress and anxiety while participating in the surveys. If needed, the counselors planned to personally escort students to an empty office in the media center to address situations that might arise; however, counselors were not needed by students during the survey administration sessions for this study.

The original plan arranged for homeroom teachers to administer the surveys to their homeroom students using Chromebooks. The researcher changed this plan when the number of returned consent/assent forms reached a total of just 165. There was no need to disrupt the school day by holding a special homeroom to administer the surveys to just 165 students. An alternative plan was developed to administer the student surveys

during Smart Lunch periods using computers in the media center. Students who returned consent/assent forms were given appointment times to meet in the media center during the week of January 8-12. Volunteer teachers assisted the researcher with the survey administrations. Eventually, all 165 students completed the online surveys.

**Parent homework perception survey data collection.** Parents were invited to participate in a survey about their perceptions of homework at the target high school for this research study. A link to the online survey was emailed to all parents who agreed to complete it, or they could access it on the school website's home page. Parents could request a paper copy of the survey if they did not have access to the survey online. An explanation of the study and guidelines for taking the survey were included for parents to view on the website and on the survey.

Data were collected from all three surveys using a Google Forms program. Responses from the three groups of participants were immediately documented into an IBM SPSS spreadsheet. To answer Research Questions 3, 4, and 5, the researcher sent the data to a professional statistician to be analyzed using IBM SPSS software. Analyses of the quantitative data included descriptive and inferential statistics as well as ANOVAs to decide if relationships existed between the perceptions of teachers, students, and parents and if the data addressed the research questions.

Data from the study were securely stored on the researcher's computer. Paper data were stored at the researcher's home in a locked filing cabinet to protect the confidentiality of teacher survey and EVAAS results. Data collected from the survey instruments are scheduled to be destroyed at the completion of the study to protect the identities of the subjects.

### **Pilot Testing the Survey**

Pilot testing was performed for all three surveys to validate them for the study. Validating a survey refers to the process of assessing the questions for their dependability. Selected teachers, students, and parents were asked to pilot the three different surveys before they were administered to the three groups of the target high school. Participants selected to validate the surveys were instructed to evaluate and assess the questions from the survey that applied to their group. They looked for awkward construction and grammatical errors as well as questions that appeared leading or confusing to the survey participants. Results from the piloting of the three surveys are described in detail in Chapter 4.

### **Data Analysis**

This mixed-methods study addressed the homework topic and its impact on student achievement at a rural high school in the foothills of North Carolina using a convergent parallel mixed-methods design. In this design, both qualitative and quantitative data were collected in parallel, analyzed separately, and then merged. The research study consisted of five different analyses of the collected data that were aligned to the five research questions.

**Data analysis one.** Analysis of quantitative data in analysis one was conceptually aligned in the study as seen in Table 3.

Table 3

*Conceptual Framework Alignment – Data Analysis One*

Research question	Instrument(s)	Data collected	Analysis
1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework? [QUAN]	Teacher survey EVAAS data	Item 12 EVAAS data disaggregated by teacher response	SPSS ordinal regression test Correlation examining relationship between homework/no homework and student growth

Table 3 illustrates the research instruments utilized to address Research Question 1, the data collected, and how they were analyzed.

EVAAS growth data were collected from teachers at the target high school who voluntarily provided their EVAAS numbers to the researcher for further analysis. The district data manager retrieved the data for the researcher on November 18, 2017 using the numbers provided by the teachers. These data included student growth scores from each teacher’s state-tested EOC or NC Final Exam subjects taught during the 2015-2016 and 2016-2017 school years.

Data from teacher surveys and EVAAS cumulative student growth were compared in Chapter 4 to address Research Question 1 of the study: What differences in academic achievement exist among students assigned no homework compared to those assigned homework? Academic achievement in this association consisted of student growth. Teachers providing EVAAS data revealed three possible results (exceeded growth, met growth, or did not meet growth). These results were compared to item 12 from the teacher survey to determine associations. Teachers who answered “never” or “sometimes” were classified as infrequent amounts of homework teachers, while those

who answered “most of the time” or “always” were categorized as significant amounts of homework teachers. Associations were also made between teachers who answered “never” compared to those who answered “always.”

The researcher ran an ordinal regression test on the data using the IBM SPSS Statistics program to determine correlations from analysis one. Results of the ordinal regression test are seen in Chapter 4. The study design consisted of an association. The two variables compared in the test were “student growth” and “homework amount.” The ordinal dependent variable was student growth. Homework amount was dichotomous. It was considered either “frequent amounts” or “infrequent amounts” according to the survey results of the teacher participants.

**Data analysis two.** Analysis of quantitative data in analysis two was conceptually aligned in the study as seen in Table 4.

Table 4

*Conceptual Framework Alignment – Data Analysis Two*

Research question	Instrument(s)	Data collected	Analysis
2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework? [QUAN]	Teacher survey EVAAS data	Item 13 EVAAS data disaggregated by teacher response	SPSS Ordinal regression test Correlation examining relationship between preparation and practice homework and student growth

Table 4 illustrates the research instruments utilized to address Research Question 2, the data collected, and how they were analyzed.

Data from teacher surveys and EVAAS cumulative growth scores were compared to address Research Question 2 of the study: What differences in academic achievement

exist among students assigned primarily preparation homework compared to those assigned primarily practice homework? Academic achievement in this association consisted of student growth. Teachers providing EVAAS data revealed three possible results (exceeded growth, met growth, or did not meet growth).

These results were compared to item 13 from the teacher survey. Item 13 asked teachers to mark the statement that best applied to them concerning preparation and practice homework. They responded in four ways to this item: “I assign preparation homework more frequently”; “I assign practice homework more frequently”; “I assign these two types of homework equally”; or “I do not assign either type of assignment to my students.” Teacher participants were divided into four categories according to their answers: preparation homework teachers, practice homework teachers, both types equally teachers, and no homework teachers. The two categories of teachers who selected primarily preparation homework or primarily practice homework were compared using their EVAAS growth data to see if associations existed between the type of homework assigned and their levels of student achievement (growth).

The researcher ran an ordinal regression test on the data using the IBM SPSS Statistics program to determine correlations from analysis two. The study design consisted of an “association.” The two variables compared were student growth and “homework type.” The ordinal dependent variable was student growth. Homework amount was considered dichotomous. It was either preparation or practice homework according to the survey results of the teachers for item 13.

**Data analysis three.** Analysis of quantitative and qualitative data in analysis three was conceptually aligned in the study as seen in Table 5.

Table 5

*Conceptual Framework Alignment – Data Analysis Three*

Research question	Instrument(s)	Data collected	Analysis
3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning? [QUAN/QUAL]	Teacher survey	Items 2-10 Likert scale quantitative data Items 14-15 open-ended qualitative data	SPSS descriptive and inferential statistics of each of the three groups
	Student survey	Items 1-9 Likert scale quantitative data Items 10-11 open-ended qualitative data	Analyses of open-ended responses from each of the three target groups
	Parent survey	Items 1-9 Likert scale quantitative data Items 10-11 open-ended data	Correlation examining relationships among the three target groups

Table 5 illustrates the research instruments utilized to address Research Question 3, the data collected, and how they were analyzed.

Data were collected from the three surveys using a Google Forms program. Responses were immediately documented into an IBM SPSS spreadsheet that the researcher utilized to analyze the results. To answer Research Questions 3, 4, and 5, the researcher sent the data to a professional statistician to be analyzed using IBM SPSS software. Analyses of the quantitative data included descriptive and inferential statistics as well as ANOVAs to decide if relationships existed between the perceptions of teachers, students, and parents associated with Research Questions 3, 4, and 5.

Quantitative data for this analysis consisted of nine Likert scale items from all three surveys and qualitative data from two open-ended items.

Items 2-10 on the teacher survey consisted of Likert scale items that asked

teachers their perceptions of homework on student achievement. Items 14-15 were open-ended items that also asked teachers about their perceptions of homework on student learning. The same Likert scale and open-ended items on the teacher survey for analysis three were included on the student and parent surveys (items 1-9 and items 10-11) to achieve an accurate and valid comparison from the analysis. Likert scale items contained a number range from 1 (*strongly disagree*) to 5 (*strongly agree*). Since there were a few variations in the survey items, the numbers of the items were different from the teacher survey compared to the student and parent surveys, but the items were identical. This is illustrated in Figure 6.



<i>Homework leads to increased student achievement.</i>			Likert scale
Teacher Item Two	Student Item One	Parent Item One	
<i>Homework provides an immediate effect on the retention and understanding of the material it covers.</i>			Likert scale
Teacher Item Three	Student Item Two	Parent Item Two	
<i>Homework increases academic motivation in students.</i>			Likert scale
Teacher Item Four	Student Item Three	Parent Item Three	
<i>Homework improves students' attitudes toward school, because it helps them understand that learning can take place anywhere, not just in school.</i>			Likert scale
Teacher Item Five	Student Item Four	Parent Item Four	
<i>Homework leads to increased boredom for students toward their learning.</i>			Likert scale
Teacher Item Six	Student Item Five	Parent Item Five	
<i>Students at this school complete homework assignments without the assistance of other students (copying answers).</i>			Likert scale
Teacher Item Seven	Student Item Six	Parent Item Six	
<i>Teachers assign too much homework at this school.</i>			Likert scale
Teacher Item Eight	Student Item Seven	Parent Item Seven	
<i>School work should be completed during the normal school hours, not as homework.</i>			Likert scale
Teacher Item Nine	Student Item Eight	Parent Item Eight	
<i>Teachers assign homework because there is not enough time to cover the material during a normal class period.</i>			Likert scale
Teacher Item 10	Student Item Nine	Parent Item Nine	
<i>In your opinion, what impact does homework have on student learning in general?</i>			Open-ended
Teacher Item 14	Student Item 10	Parent Item 10	
<i>In your opinion, what impact does homework have on EOC/NC Final Exams?</i>			Open-ended
Teacher Item 15	Student Item 11	Parent Item 11	

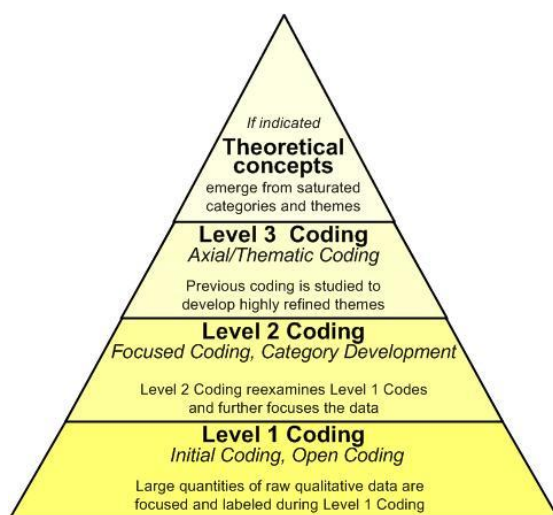
Figure 6. Survey Item Comparison Chart – Data Analysis Three.

The researcher collected responses from the two open-ended items utilizing the Google Forms program. The first step in the analysis of the two open-ended qualitative data items was to gain a sense of the information and reflect on its overall meaning. “What general ideas are the participants saying? What is the tone of the ideas? What is the impression of the overall depth, credibility, and use of the information?” (Creswell,

2014, p. 197).

Coding of the data took place next. “Coding is the process of organizing the data by bracketing chunks and writing a word representing a category in the margins” of the survey responses (Creswell, 2014, p. 198). The researcher read the responses from both open-ended items carefully from the teacher survey and jotted down ideas and themes that came to mind. The researcher decided to manually code the data, because the amount of data was manageable.

The researcher followed the coding procedures example in Figure 7 throughout the analyses of all qualitative data throughout the study.



*Figure 7. Levels of Coding for doing Qualitative Research Analysis.*

Codes fell into three categories: codes on topics that readers expected to find based on past literature and common senses; codes that were surprising and that were not anticipated at the beginning of the study; and codes that were unusual and, in and of themselves, of conceptual interest to readers (Creswell, 2014, p. 198).

During the next step, the researcher determined how the coded themes were

represented in the qualitative narrative. This was achieved through a discussion of the identified themes or with visuals, figures, or tables (Creswell, 2014, p. 200).

The last step in the qualitative data analysis involved making an interpretation of the findings or results. How did the responses relate to the research questions? The researcher asked the question, “What were the lessons learned?” These lessons consisted of the researcher’s personal interpretation of the data and were derived from a comparison of findings with information gleaned from the literature or theories. It also suggested new questions that needed to be asked (Creswell, 2014, p. 200). All these steps are discussed in Chapter 4.

**Data analysis four.** Analysis of quantitative and qualitative data in analysis four was conceptually aligned in the study as seen in Table 6.

Table 6

*Conceptual Framework Alignment – Data Analysis Four*

Research question	Instrument(s)	Data collected	Analysis
4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students? [QUAN/QUAL]	Teacher survey	Items 16-19 Likert scale quantitative data Item 20 open-ended qualitative data	SPSS descriptive and inferential statistics of each of the three groups
	Student survey	Items 12-15 Likert scale quantitative data Item 16 open-ended qualitative data	Analyses of open-ended responses from each of the three target groups
	Parent survey	Items 12-15 Likert scale quantitative data Item 16 open-ended data	Correlation examining relationships among the three target groups

Table 6 illustrates the research instruments utilized to address Research Question

4, the data collected, and how they were analyzed.

Quantitative data for this analysis consisted of four Likert scale items from all three surveys and qualitative data that consisted of one open-ended item.

Items 16-19 on the teacher survey included Likert scale items that asked teachers their perceptions of homework on the personal development of students. Item 20 was an open-ended item that also asked teachers about their perceptions of homework on the personal development of students. The same Likert scale and open-ended items on the teacher survey for analysis four were included on the student and parent surveys (Items 12-15 and 16) to achieve an accurate and valid comparison from the analysis. Likert scale items contained a number range from 1 (*strongly disagree*) to 5 (*strongly agree*). The numbers of the items were different from the teacher survey compared to the student and parent surveys, but the item statements were identical. Figure 8 illustrates the relationship among the survey items.

<i>Homework interferes with the social life of students.</i>			Likert scale
Teacher Item 16	Student Item 12	Parent Item 12	
<i>Homework develops responsibility in students.</i>			Likert scale
Teacher Item 17	Student Item 13	Parent Item 13	
<i>Homework denies students access to leisure time activities.</i>			Likert scale
Teacher Item 18	Student Item 14	Parent Item 14	
<i>Homework impacts the physical health of students.</i>			Likert scale
Teacher Item 19	Student Item 15	Parent Item 15	
<i>In your opinion, what is the impact of homework on students' personal development?</i>			Open-ended
Teacher Item 20	Student Item 16	Parent Item 16	

Figure 8. Survey Item Comparison Chart – Data Analysis Four.

The same descriptive strategies utilized by the researcher to analyze the quantitative and qualitative data in analysis three was mimicked in analysis four.

**Data analysis five.** Analysis of quantitative and qualitative data in analysis five was conceptually aligned in the study as seen in Table 7.

Table 7

*Conceptual Framework Alignment – Analysis Five*

Research question	Instrument(s)	Data collected	Analysis
5. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships? [QUAN/QUAL]	Teacher survey	Items 21-24 Likert scale quantitative data Item 25 open-ended qualitative data	SPSS descriptive and inferential statistics of each of the three groups
	Student survey	Items 17-20 Likert scale quantitative data Item 21 open-ended qualitative data	Analyses of open-ended responses from each of the three target groups
	Parent survey	Items 17-20 Likert scale quantitative data Item 21 open-ended data	Correlation examining relationships among the three target groups

Table 7 illustrates the research instruments utilized to address Research Question 5, the data collected, and how they were analyzed.

Quantitative data for this analysis consisted of four Likert scale items from all three surveys and qualitative data that consisted of one open-ended item.

Items 21-24 on the teacher survey consisted of Likert scale items that asked teachers about their perceptions of homework and its impact on the family relationships of students. Item 25 was an open-ended item that also asked teachers about their perceptions of homework's impact on family relationships. The same Likert scale and open-ended items on the teacher survey for analysis four were included on the student and parent surveys (Items 17-20 and 21) to achieve an accurate and valid comparison

from the analysis. Likert scale items contained a number range from 1 (*strongly disagree*) to 5 (*strongly agree*). The numbers of the items were different from the parent survey compared to the student and parent surveys, but the items were identical as seen in Figure 9.

<i>Homework interferes with the time students spend doing things with their families.</i>			Likert scale
Teacher Item 21	Student Item 17	Parent Item 17	
<i>Homework increases school/family communication.</i>			Likert scale
Teacher Item 22	Student Item 18	Parent Item 18	
<i>The parent-child relationship is impacted by the negative consequences of homework.</i>			Likert scale
Teacher Item 23	Student Item 19	Parent Item 19	
<i>Homework unfairly punishes students from low socioeconomic households.</i>			Likert scale
Teacher Item 24	Student Item 20	Parent Item 20	
<i>In your opinion, what is the impact of homework on family relationships?</i>			Open-ended
Teacher Item 25	Student Item 21	Parent Item 21	

Figure 9. Survey Item Comparison Chart – Data Analysis Five.

The same descriptive strategies utilized by the researcher to analyze the quantitative and qualitative data in analyses three and four mimicked those in analysis five.

“The challenge in a convergent mixed methods design is to actually converge or to merge the data” (Creswell, 2014, p. 222). This happens when two databases (quantitative and qualitative) are analyzed separately and then brought together. This study performed a side-by-side comparison of the data. These comparisons are included in Chapter 4 and discussed in Chapter 5. The two databases are compared, and the findings are discussed as to whether there was convergence or divergence between the two sources of information (Creswell, 2014, p.222).

## Reliability and Validity

“Validity using the convergent approach should be based on establishing both quantitative validity (e.g., construct) and qualitative validity (e.g., triangulation) for each database” (Creswell, 2014, p. 223).

To maintain credibility of the research, the researcher employed three strategies to check the reliability and validity of the study’s results. First, the researcher triangulated the data sources from the mixed-methods study by examining evidence from both quantitative and qualitative sources to build coherent justification for the themes. This is included in Chapter 5.

Second, the researcher sent a final report of the themes and major findings to a small group of participants (five teachers from the target school) to look over and determine if they appeared accurate and valid (Creswell, 2014, p. 201). This strategy was referred to as *member checking*.

Third, the researcher clarified the bias brought to the study by creating an open and honest narrative that hopefully resonates well with the readers. The researcher attempted to conduct an unbiased study even though it took place at the target school in which the researcher was employed (Creswell, 2014, p. 202).

Last, the researcher utilized peer debriefing to “enhance the accuracy of the account” (Creswell, 2014, p. 202). This process involved locating an impartial colleague familiar with the topic and research methods who critically reviewed the study, so the account resonated with people other than the researcher (Creswell, 2014, p. 202). A high school teacher from another school district served as an impartial colleague to enhance the researcher’s ability to assess the accuracy of the study’s findings and lend credibility to the findings and recommendations (Creswell, 2014, p. 202).

**Summary**

The methodology for this study was selected by the researcher to facilitate a careful examination of the relationship between homework and student achievement at a rural high school in the foothills of North Carolina. A convergent parallel mixed-methods design was employed that utilized both qualitative and quantitative data instruments to determine answers to issues identified in the anti-homework versus pro-homework debate among teachers at the target high school. The instruments included teacher, student, and parent perception surveys and EVAAS student growth data collected from the participants in the study. The research design and data instruments aligned with the conceptual framework and five research questions.

In Chapter 4, a comprehensive explanation of the study's findings is presented from the data analysis results utilized to address the five research questions.



## Chapter 4: Results

### Overview

In 2014, teachers from the target high school were assigned a schoolwide book read on the topic of homework. The book *Rethinking Homework: Best Practices that Support Diverse Needs* by Vatterott (2009) sparked heated discussions between pro-homework teachers and anti-homework teachers over the importance of homework and its impact on student achievement at the target school. Unfortunately, no data from the target school existed to support either side of the argument. A year later, the researcher set out to determine whether or not homework at the target high school impacted student achievement by providing the missing data as part of this study.

The purpose of this mixed-methods study was threefold: to determine if there was a relationship between homework and student achievement in students from a rural high school in the foothills of North Carolina, to determine if there was a relationship between two specific types of homework (preparation and practice) and student learning in high school students from the target school, and to determine stakeholder perceptions (teachers, students, and parents) of the impact of homework on student learning, personal development, and family relationships.

This study contained five research questions. Research Questions 1 and 2 sought to establish correlations between teachers' EVAAS student growth scores and the responses of the teacher perception surveys toward the frequency and types of homework assigned to students from the target high school. Research Questions 3, 4, and 5 explored correlations between teachers, students, and parents on their perceptions of homework and its effects on student learning, personal development, and family relationships.

## Research Questions

1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework? (Quantitative)
2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework? (Quantitative)
3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning? (Quantitative/Qualitative)
4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students? (Quantitative/Qualitative)
5. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships? (Quantitative/Qualitative)

## Organization of this Chapter

In this chapter, findings from the data collection and analyses outlined in Chapter 3 are described in detail. These findings are organized by research question. Each research question examines the data collection processes, data analyses, and the findings of the analyses taken from the quantitative and qualitative data.

## Description of Participant Data

**Perceptual surveys.** Surveys from the study were created by the researcher and distributed to participants via social media and through hard copies sent to parents to complete at home.

Data were collected over a 1-month period. Participation goals for the study were determined separately for each of the four target groups: (a) teachers who completed

perception surveys, (b) teachers who completed perception surveys and submitted individual EVAAS student growth data, (c) students who completed perception surveys, and (d) parents who completed perception surveys.

**Target group one.** The target school included 99 classroom teachers. To reach confidence levels between 90% and 95% with a confidence interval of 5 and population proportion of 50%, the participation goal for target group one was set at 73-79 participants. Target group one provided both quantitative and qualitative data needed to address all five research questions in this study. Of the 99 teachers, 83 participated in the homework perception survey (n=83), exceeding the study's participation goal. The confidence level of 95% and population proportion of 50% goals were met, and the confidence interval was reduced from 5 to 4.25, making the study even more reliable.

**Target group two.** The second target group consisted of teachers willing to participate in a homework perception survey who also agreed to volunteer their individual EVAAS identification numbers for the research study. Target group two provided quantitative data needed to address Research Questions 1 and 2 of the study. Of the 99 classroom teachers, 61 taught subjects that provided EVAAS student growth data. Nine of the 61 teachers were first- or second-year teachers; they were not eligible to participate, because they could not provide 2 years of EVAAS data required for the study. Thus, 52 teachers participated in the study. The participation goal for target group two was between 44 and 46 participants in an effort to reach confidence levels between 90% and 95% with a confidence interval of 5 and population proportion of 50%. Of the 52 teachers, 37 participated in the survey and provided their EVAAS identification numbers for the study (n=37). This number did not reach the participation goal of the study. A 95% confidence level and 50% population proportion were still achieved, but the

confidence interval rose from 5 to 8.74.

**Target group three.** The population size for target group three (students) was 1,543. This target group provided both quantitative and qualitative data needed to address Research Questions 3, 4, and 5. A student/parent consent/assent form was sent home with each of the 1,543 students for their parents/guardians to read, sign, and return to the researcher. The consent/assent form provided a space for parents to consent for their children to participate in the student survey. The form also provided a space for parents to assent to participate in the parent survey themselves. Parents had the option to provide an email address to have a survey sent home to them. They could also request that a paper copy of the survey be sent home for them to complete and return to the researcher. Only one survey was sent to each household unless additional surveys were requested. The population size for target group four of the study (parents) was also 1,543. The participation goal for both students and parents was between 230-308 participants to reach confidence levels between 90% and 95% with a confidence interval of 5 and population proportion of 50%.

Of the 1,543 students, 165 participated in the student perception survey (n=165). This number did not reach the participation goal of the study. A 95% confidence level and 50% population proportion were still achieved, but the confidence interval rose from 5 to 7.21.

**Target group four.** The population size for target group three (parents) was 1,543. This target group provided both quantitative and qualitative data needed to address Research Questions 3, 4, and 5. Of the 1,543 parents, 151 participated in the parent perception survey (n=151). This number did not reach the participation goal of the study. A 95% confidence level and 50% population proportion were still achieved, but

the confidence interval rose from 5 to 7.58.

### **Pilot Study Results**

The researcher utilized convenience sampling to pilot test and validate the student homework perception survey for use at the target high school. Three students from each of the other two district high schools volunteered to pilot test the 21-item student perceptual homework survey administered on November 17, 2017. The researcher emailed links to the student participants to access the survey using Chromebooks at the two high schools. Blank sheets of paper were provided to the pilot participants to gather comments about the survey items. To ensure the validity of the survey tool, the researcher used respondent debriefings where each person completed the survey and then responded to the researcher with feedback on the items (Thomas, 2004). Results of the validation were returned to the researcher and used to strengthen the validity of the survey before it was administered to the students at the target high school. Data collected from the pilot study were not included in the overall analysis, and the identities of the students were kept anonymous.

Participants were made aware that their participation was voluntary, and the results would not be included in the research study analysis. Participant responses and identities were held in strict confidentiality by the researcher. Participants were asked to evaluate three areas regarding the survey – awkward construction, grammatical errors, and questions that were leading or confusing to them. The student participants provided little feedback or recommendations about the survey items for the researcher. The student participants found the survey easy to navigate and understand. No changes to the survey were necessary or made as a result of the pilot testing. Table 8 presents the feedback and recommendations from the pilot test participants.

Table 8

*Feedback and Recommendations from Student Perception Survey Pilot Test*

Reviewer	Feedback and Recommendations
1	<ul style="list-style-type: none"> <li>• Questions were easy to understand.</li> </ul>
2	<ul style="list-style-type: none"> <li>• I understood what the survey was asking.</li> </ul>
3	<ul style="list-style-type: none"> <li>• The survey was a little long, but it was simple to answer.</li> </ul>
4	<ul style="list-style-type: none"> <li>• I wish my school was doing this survey too! Homework is too much at my school.</li> </ul>
5	<ul style="list-style-type: none"> <li>• Very simple and easy to do. No grammatical errors</li> </ul>
6	<ul style="list-style-type: none"> <li>• I did not notice any grammatical errors or confusing questions.</li> </ul>

The researcher utilized convenience sampling to pilot test and validate the teacher homework perception survey for use at the target high school. Six teachers were invited (three each from the other two district traditional high schools) to pilot the 26-item survey for this study. A link was emailed to the participants to access the survey created on Google Forms. The participants piloted the survey from November 13-17, 2017. The teacher participants consisted of three males and three females. All six were colleagues of the researcher and possessed 10 or more years of teaching experience at the high school level. Participants were asked to evaluate three areas regarding the survey – awkward construction, grammatical errors, and questions that were leading or confusing to them. Participants were instructed to write down responses on a separate sheet of paper and transfer them to an email sent back to the researcher when completed. Participants were reminded that their identification and data collected from the surveys would be held in strict confidentiality and would not be included in the analysis of the research study.

Teacher participants found few errors or suggestions for changes in the survey. The survey was easy to navigate, and the questions were straightforward and simple to complete. The researcher corrected the error pointed out by Reviewer 1 and accepted the

recommendation to change item 20 by Reviewer 3. The researcher did not make changes to the survey as recommended by Reviewer 4, because it could still be successfully completed without the changes. Feedback and recommendations from the teacher participants are included in Table 9.

Table 9

*Feedback and Recommendations from Teacher Perception Survey Pilot Test*

Reviewer	Feedback and Recommendations
1	<ul style="list-style-type: none"> <li>The intro paragraph claimed that the survey had 27 items, but it only had 26. Other than that, I saw no other problems.</li> </ul>
2	<ul style="list-style-type: none"> <li>The survey was easy to follow and simple to complete. No grammatical errors or awkward questions were identified.</li> </ul>
3	<ul style="list-style-type: none"> <li>Possible reword item number 20 to say, "In your opinion, what impact does homework have on the personal development of students?"</li> </ul>
4	<ul style="list-style-type: none"> <li>I wish the answer choices could be included with all of the questions, because I forget and have to go back to see the choices. I did not see any awkward questions or answers or grammatical errors.</li> </ul>
5	<ul style="list-style-type: none"> <li>The survey was simple to complete and should not be a problem for other teachers. Great Job!</li> </ul>
6	<ul style="list-style-type: none"> <li>I did not notice any grammatical errors or confusing questions.</li> </ul>

The researcher utilized convenience sampling to pilot test and validate the parent homework perception survey for use at the target high school. Six parents were invited (three each from the other two district traditional high schools) to pilot the 21-item survey for this study. Each of the six teachers who participated in the pilot test of the teacher homework perception survey provided the researcher with one parent from their school to participate in the parent homework perception survey pilot test. A link to the survey was emailed to the six parent participants to access the survey from November 13-17, 2017. Participants were instructed to evaluate the same three areas as the other two participant

groups regarding the survey. The parent participants were also instructed to write down responses on a separate sheet of paper and transfer them to an email sent back to the researcher when completed. Participants were reminded that their identification and data collected from the surveys would be held in strict confidentiality and would not be included in the analysis of the research study.

The parent participants identified no errors or suggestions for changes to the survey. The survey was easy to navigate, and the questions were straightforward and simple to complete. No changes were made by the researcher to the survey. Feedback from the parent participants is included in Table 10.

Table 10

*Feedback and Recommendations from Parent Perception Survey*

Reviewer	Feedback and Recommendations
1	<ul style="list-style-type: none"> <li>I did not see any grammatical or sentence structure errors. The survey was easy to complete.</li> </ul>
2	<ul style="list-style-type: none"> <li>I was able to complete the survey without any problems. I did not notice anything that needed to be fixed or changed.</li> </ul>
3	<ul style="list-style-type: none"> <li>A very good survey. I wish my responses could make a difference. I am very anti-homework.</li> </ul>
4	<ul style="list-style-type: none"> <li>I do not see any problems with the survey. However, some questions are difficult to answer from the perspective of a parent.</li> </ul>
5	<ul style="list-style-type: none"> <li>The survey was easy to follow. I did not see anything that needed fixed. Parents should be able to do it.</li> </ul>
6	<ul style="list-style-type: none"> <li>Everything looks fine!</li> </ul>

This study was guided by the five research questions; therefore, the data collection and results were reported based on these questions. Research Questions 1 and 2 were analyzed using the same statistical analysis procedures, so the data collection and



analysis results are described together in this chapter.

### **Data Collection – Research Questions 1 and 2**

**Research Question 1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework?**

**(Quantitative).** To determine if differences existed in academic achievement by students assigned homework compared to those not assigned homework, EVAAS student growth data were needed from teachers at the target high school. As teachers completed surveys about their perceptions of homework, they were encouraged to include their personal EVAAS identification numbers. The researcher utilized to these numbers to acquire quantitative data for the study. Individual composite student growth scores from the 2015-2016 and 2016-2017 school years were provided by the district data manager for the researcher from the 37 teachers who volunteered their identification numbers for the study. Each teacher was assigned a fictitious number to protect their identity. Table 11 illustrates the collected data (composite mean scores and teachers' EVAAS student growth results from 2015-2017).

Table 11

*Collected Teacher EVAAS Data from 2015-2017*

Teacher participants' EVAAS numbers	2015-2016 EVAAS cumulative growth scores	2016-2017 EVAAS cumulative growth scores	EVAAS mean scores	EVAAS growth results
1	4.18	1.19	2.69	Exceeded
2	.77	1.79	1.28	Met
3	12.87	6.69	9.78	Exceeded
4	2.69	1.08	1.88	Met
5	5.12	3.81	4.46	Exceeded
6	4.57	1.74	3.15	Exceeded
7	8.27	3.47	5.87	Exceeded
8	3.47	5.76	4.61	Exceeded
9	2.39	-3.07	-.34	Met
10	-6.70	-6.70	-6.70	Did not meet
11	-.053	2.77	1.12	Met
12	-2.10	-5.58	-3.84	Did not meet
13	-.033	-0.50	-.26	Met
14	1.30	.36	.94	Met
15	.40	-4.76	-2.18	Did not meet
16	-0.17	3.17	1.50	Met
17	-1.86	-4.75	-3.30	Did not meet
18	-0.28	-2.64	-1.46	Met
19	-2.94	.06	-1.44	Met
20	-1.48	2.41	.46	Met
21	-1.55	-0.63	-1.09	Met
22	-2.64	1.97	-.67	Met
23	-1.72	.27	-.72	Met
24	.95	-0.69	.13	Met
25	.89	4.07	2.48	Exceeded
26	-0.78	.85	.03	Met
27	-.083	-1.98	-1.03	Met
28	-.67	-10.0	-5.33	Did not meet
29	2.94	-2.70	.12	Met
30	-4.16	-6.32	-5.24	Did not meet
31	3.45	2.33	2.89	Exceeded
32	1.05	2.45	1.75	Met
33	.65	.65	.65	Met
34	3.46	.47	1.96	Met
35	1.08	3.34	2.21	Exceeded
36	-.053	.48	.21	Met
37	-.67	1.65	.49	Met

According to NCDPI (n.d.), teachers meet expected growth when their growth standard index falls between -2 and 2. The findings reported above indicate that 22 (59%) of the 37 teachers' growth standard index numbers fell between -2 and 2 and *met*

expected growth. Nine teachers (24%) *exceeded* expected growth, and six (16%) *did not meet* expected growth for the students they taught and tested during the 2015-2016 and 2016-2017 school years.

In addition to EVAAS student growth data, perceptual data from teachers was also necessary for determining the effects of homework on student achievement. These quantitative data were retrieved from the teacher survey responses in item 12. Eighty-three (84%) of the 99 teachers from the target school participated in the survey.

To address Research Question 1, teachers providing EVAAS identification numbers were matched with their responses from item 12 in the teacher perception survey: “In a typical school week (Monday-Friday), how often do you assign homework to students in your state tested courses?” Teachers responded to this item with *never*, *sometimes*, *most of the time*, *always*, or *non-applicable* (Likert scale). Results from the collected quantitative data from item 12 are presented in Table 12.

Table 12

*Collected Data for Research Question 1*

Teacher participant EVAAS numbers	EVAAS growth results	Homework or no homework	Frequency of homework assigned
1	Exceeded	Yes	Most of time
2	Met	Yes	Always
3	Exceeded	No	None
4	Met	Yes	Always
5	Exceeded	Yes	Sometimes
6	Exceeded	Yes	Most of time
7	Exceeded	Yes	Sometimes
8	Exceeded	Yes	Always
9	Met	Yes	Always
10	Did not meet	Yes	Sometimes
11	Met	Yes	Sometimes
12	Did not meet	No	None
13	Met	No	None
14	Met	Yes	Most of time
15	Did not meet	No	Sometimes
16	Met	Yes	Sometimes
17	Did not meet	Yes	Sometimes
18	Met	Yes	Most of time
19	Met	No	None
20	Met	Yes	Sometimes
21	Met	Yes	Sometimes
22	Met	Yes	Sometimes
23	Met	Yes	Sometimes
24	Met	Yes	Sometimes
25	Exceeded	Yes	Sometimes
26	Met	No	None
27	Met	Yes	Sometimes
28	Did not meet	Yes	Sometimes
29	Met	Yes	Sometimes
30	Did not meet	No	Sometimes
31	Exceeded	Yes	Sometimes
32	Met	No	None
33	Met	No	None
34	Met	No	None
35	Exceeded	No	None
36	Met	Yes	Sometimes
37	Met	Yes	Sometimes

Findings indicate that of the 37 teachers who provided EVAAS data for the study,

26 claimed they assigned homework to their students and 11 did not. Findings also indicated how frequently teachers at the target school assigned homework to their students. Of the 37 teachers, nine assigned no homework to their students, 20 assigned homework sometimes, four assigned homework most of the time, and four always assigned homework. During the analysis of this data, teachers who responded *never* or *sometimes* were coded as “infrequent amounts” of homework teachers, while those who responded *most of the time* or *always* were coded as “frequent amounts” of homework teachers. Associations were also determined between teachers who responded *never* compared to those who responded *always*. Data analysis for Research Question 1 is included in conjunction with analysis for Research Question 2.

**Research Question 2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework? (Quantitative).** To determine if differences existed in academic achievement by students assigned primarily preparation homework compared to those assigned primarily practice homework, EVAAS student growth data were needed from teachers at the target high school. As teachers completed surveys about their perceptions of homework, they were encouraged to include their personal EVAAS identification numbers for the researcher to utilize. Individual composite student growth scores from the 2015-2016 and 2016-2017 school years were provided by the district data manager for the researcher from the 37 teachers who volunteered their identification numbers for the study.

To address Research Question 2, teachers who provided EVAAS identification numbers were matched with their responses to item 13 from the teacher perception survey. Five possible responses were provided for this item: (a) Of these types of

homework, I assign preparation homework more frequently; (b) Of these two types of homework assignments, I assign practice homework more frequently; (c) I assign these two types of homework equally, (d) I assign other types of homework; and (f) I do not assign homework in my classes. Results from the collected quantitative data are seen in Table 13.

Table 13

*Collected Data for Research Question 2*

Teacher participant EVAAS numbers	EVAAS growth results	Types of homework assigned
1	Exceeded	Practice
2	Met	Practice
3	Exceeded	None
4	Met	Practice
5	Exceeded	Practice
6	Exceeded	Practice
7	Exceeded	Practice
8	Exceeded	Practice
9	Met	Preparation
10	Did not meet	Practice
11	Met	Both
12	Did not meet	None
13	Met	None
14	Met	Practice
15	Did not meet	None
16	Met	Practice
17	Did not meet	Both
18	Met	Preparation
19	Met	None
20	Met	Practice
21	Met	Other
22	Met	Other
23	Met	Practice
24	Met	Preparation
25	Exceeded	Other
26	Met	None
27	Met	Practice
28	Did not meet	Practice
29	Met	Other
30	Did not meet	None
31	Exceeded	Preparation
32	Met	None
33	Met	None
34	Met	None
35	Exceeded	None
36	Met	Preparation
37	Met	Other

*Note.* Practice and preparation types of homework are italicized, because only these two were analyzed to address Research Question 2.

Findings indicate that of the 37 teachers who provided EVAAS data for the study, 14 assigned primarily practice homework, five assigned primarily preparation homework, five assigned other types (creative and extension), two assigned both types (preparation and practice), and 11 assigned no homework to their students. For this study, the researcher only compared teachers who assigned primarily preparation homework (n=14) to those who assigned primarily practice homework (n=5) to determine if the type assigned to students resulted in differences in academic achievement according to EVAAS student growth scores (Research Question 2).

### **Research Questions 1 and 2 Data Analysis**

The research study consisted of five different analyses of the collected data aligned to the five research questions. The researcher utilized the Laerd Statistics program to determine that the correct statistical analysis for Research Questions 1 and 2 was an ordinal regression. To answer Research Questions 1 and 2, the researcher needed to know the relationship between the independent variables (frequency of homework and types of homework) and the dependent variable (student growth). An ordinal regression analysis fit these requirements best.

Research Question 1 set out to determine if students assigned homework revealed differences in student achievement (EVAAS student growth results) when compared to students not assigned homework. If student growth was to be determined by a choice among *did not meet growth*, *met growth*, and *exceeded growth*, the purpose of the ordinal regression analysis was to see how well the response could be predicted by comparing the independent variables: *frequency of homework* (infrequent amounts of homework or frequent amounts of homework) and (homework assigned v. no homework assigned).

Research Question 2 set out to determine if students assigned specific types of



homework revealed differences in student achievement (EVAAS student growth results). If student growth was to be answered by a choice among *did not meet growth*, *met growth*, and *exceeded growth*, the purpose of the ordinal regression analysis was to see how well the response could be predicted by comparing the independent variable, types of homework (preparation and practice), to it.

The conceptual framework alignment for data analyses one and two is illustrated in Table 14.

Table 14

*Data Analyses One and Two Conceptual Framework Alignment*

Research questions	Instrument(s)	Data collected	Analysis
1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework? [QUAN]	Teacher survey EVAAS data	Item 12 EVAAS data disaggregated by teacher response	Ordinal Regression Test  Correlation examining relationships between homework/no homework and student growth
2. What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework?	Teacher survey EVAAS data	Item 13 EVAAS data disaggregated by teacher response	Ordinal Regression Test  Correlation examining relationships between homework/no homework and student growth

This table presents the two research questions for the ordinal regression analysis, the instruments utilized to collect data, and the specific data collected.

The researcher ran two procedures on the data associated with Research Questions 1 and 2 – a Polytomous Universal Model (PLUM) and a Generalized Linear

Model (GENLIN). These procedures conducted an ordinal logistic regression and a test for assumption of proportional odds on the data. To run an ordinal logistic regression, four assumptions needed to be considered in the study.

1. Did the study have one dependent variable that was measured at the ordinal level?
2. Did the study have one or more independent variables that were continuous and or categorical (ordinal or nominal)?
3. Did the study have no multicollinearity? This occurs when you have two or more independent variables that are highly correlated with each other.
4. Did the study have proportional odds? Each independent variable should have an identical effect at each cumulative split of the ordinal dependent variable.

**Assumption one.** The study met the requirements for assumption one. The dependent variable for both Research Questions 1 and 2 was EVAAS student growth. It was measured at the ordinal level (did not meet growth, met growth, exceeded growth).

**Assumption two.** The study also met assumption two. Three categorical independent variables (frequency of homework, types of homework, and homework or no homework) were identified. The three are illustrated in Table 15.

Table 15

*Assumptions One and Two of Ordinal Regression Requirements*

Type of variable	Variable	Category 1	Category 2	Category 3
Ordinal dependent variable	EVAAS student growth	Did not meet growth	Met growth	Exceeded growth
Categorical independent variable 1	Frequency of homework assigned	Infrequent amounts of homework	Frequent amounts of homework	
Categorical independent variable 2	Types of homework assigned	Preparation homework	Practice homework	
Categorical independent variable 3	Homework or no homework assigned	Homework assigned	No homework assigned	

**Assumption three.** To determine if the study met assumption three, the researcher determined whether there was *multicollinearity*. Multicollinearity occurs when you have two or more independent variables that are highly correlated with each other. If this occurs, problems can arise in a study with understanding which variable contributes to the explanation of the dependent variable and with calculating an ordinal logistic regression (Laerd Statistics, 2015, p. 8).

Testing for this assumption required the researcher to create dummy variables for the categorical variables in the study.

Logistic regression models do not allow the direct entry of categorical variables into the equation because they will be interpreted as a continuous variable. For example, if you coded gender as “1” for male and “2” for female and entered this variable coding directly into a regression equation, this would lead to the regression equation thinking that females are “twice” males rather than as two

separate categories with no order. (Laerd Statistics, 2015, p. 9)

To overcome this problem, a series of dichotomous variables coded either 0 or 1 was created so that the new dichotomous variables represented all the information from the original categorical categories but without the interpretation issues. These variables were called “dummy variables” (Laerd Statistics, 2015, p. 6). When dummy coding is used, categorical variables are split into separate parameters (coefficients) that number one less than the number of categories of the categorical variables (Laerd Statistics, 2015, p. 16). The category with the missing dummy variable is called the reference category. Dummy coding performed by the researcher for the categorical variables in this study are provided in Tables 16-18.

Table 16

*Dummy Variables for Categorical Independent Variable – Frequency of Homework*

Type of variable	Variable	Category 1	Value	Category 2	Value
Original categorical independent variable	Frequency of homework assigned	Infrequent amounts of homework	1	Frequent amounts of homework	2
Dichotomous variable 1 (Dummy)	Frequency of homework assigned	Other	0	Infrequent amounts of homework	1

This table presents the independent variable frequency of homework and its two categories (frequent and infrequent) amounts. For the original regression test, the reference category was infrequent amounts of homework.

Table 17

*Dummy Variables for Categorical Independent Variable – Types of Homework*

Type of variable	Variable	Category 1	Value	Category 2	Value
Original categorical independent variable	Types of homework	Preparation homework	1	Practice homework	2
Dichotomous variable 1 (Dummy)	Types of homework	Other	0	Preparation homework	1
Dichotomous variable 2 (Dummy)	Types of homework	Other	0	Other types of homework	1

This table presents the independent variable types of homework and its three categories (preparation, practice, and others). For the original regression test, the reference category was practice homework.

Table 18

*Dummy Variables for Categorical Independent Variable – Homework or No Homework*

Type of variable	Variable	Category 1	Value	Category 2	Value
Original categorical independent variable	Homework or no homework assigned	Homework assigned	1	No homework assigned	2
Dichotomous variable 1 (Dummy)	Homework or no homework assigned	Other	0	No homework assigned	1

This table presents the independent variable homework assigned and its two categories (homework was assigned, and homework was not assigned). For the ordinal regression test, the reference category was “Homework was not assigned.”

To meet the requirements for assumption three, a Linear Regression procedure was conducted in SPSS Statistics to test for the assumption of multicollinearity. To find

out if problems existed with multicollinearity in the study, the “Tolerance” and “Variance Inflation Factor” (VIF) had to be consulted within the Coefficients table. A tolerance value less than 0.1 and a VIF value greater than 10 indicates a potential collinearity problem. In this study, all Tolerance values were greater than 0.1 (the lowest was .420) and VIF values were much less than 10 (Laerd Statistics, 2015, p. 67). Results to test the assumption of multicollinearity are illustrated in Table 19.

Table 19

*Coefficients Table Results to Determine Multicollinearity*

Coefficients <sup>a</sup>		Collinearity Statistics	
Model		Tolerance	VIF
1	Ind. – Frequency of HW	.754	1.326
	Types of HW 1	.475	2.105
	Ind. – Homework v. no homework	.420	2.379

a. Dependent Variable: Student Growth

Results from the table allowed the researcher to feel confident that there were no problems with collinearity in this dataset.

**Assumption four.** To determine if assumption four was met in the study, a full likelihood ratio test was generated during the PLUM procedure. This test compared the fit of the proportional odds model to a model with varying location parameters. Results of the test are illustrated in Table 20.

Table 20

*Test of Parallel Lines Table used to address Assumption Four*

Test of Parallel Lines <sup>a</sup>				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	22.920			
General	19.095	3.825	4	.430

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

a. Link function: Logit.

This procedure allowed the researcher to inspect the similarity between the odd ratios for each slope coefficient to help determine if the assumption of proportional odds was tenable (assumption four).

In other words, the assumption was tenable if each independent variable had an identical effect at each cumulative split of the ordinal dependent variable. If the assumption of proportional odds was met, the results would expect the difference in the model fit (the “Chi-square” column) between these two models to be small and not significantly significant ( $p > .05$ ). If the assumption was violated, the results would expect the difference in fit between these two models to be large and statistically significant ( $p < .05$ ). (Laerd Statistics, 2015, p. 16)

The statistical significance value ( $p$  value) of this test was found in the “Sig.” (significance) column.

Results from this study revealed that  $p = .430$  in the significance category, which was greater than .05. Therefore, the assumption of proportional odds was met, as assessed by a full likelihood ratio test comparing the fit of the proportional odds mode with varying location parameters,  $\chi^2(4) = 3.828, p = .430$ . The study did not violate assumption four. By not violating this assumption, each independent variable in the study was treated as having the same effect for each cumulative logit.

**Overall fit of ordinal regression model.** SPSS Statistics generates two tests of the overall goodness-of-fit model – the *Pearson* and *Deviance*. Both provide statistics that measure how poorly the model fits the data. Because the test statistics measure how poor the model is, tests that are not statistically significant are a better fit for the model; .05 in the Sig. column or less is considered a bad fit for this model. Results of the goodness-of-fit test for this study are illustrated in Table 21.

Table 21

*Goodness-of-Fit Test Results Table*

	Chi-Square	df	Sig.
Pearson	4.872	6	.560
Deviance	5.700	6	.458

Link function: Logit.

The Pearson goodness-of-fit test indicates that the model was a good fit to the observed data,  $\chi^2(6) = 4.872$ ,  $p = .560$ . The deviance goodness-of-fit test also indicates that the model was a good fit to the observed data,  $\chi^2(6) = 5.700$ ,  $p = .458$ .

**Likelihood-ratio test.** A better method of assessing model fit is to look at the change in model fit when comparing the full model to the intercept only model. The likelihood-ratio test for determining model fitting for this study is presented in Table 22.

Table 22

*Model Fitting Information Table*

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	25.530			
Final	22.888	2.642	4	.619

Link function: Logit.

The model fit for the -2 Log likelihood was 25.530 for the intercept-only model and 22.888 for the final. The greater the difference between the two models, the better the independent variables are at explaining the dependent variable. The difference between the two (2.642) is presented in the Chi-Square column. The small difference between the intercept-only and final categories resulted in a .619 Sig. Since the significance value (.619) was greater than .05, the independent variables did not add to the prediction of the dependent variable. The final model did not statistically significantly predict the dependent variable over and above the intercept-only model,



$$\chi^2(4) = 2.642, p > .001.$$

**GENLIN parameter estimates – Research Questions 1 and 2.** Results from the Generalized Linear Model produced a parameter estimates table that was utilized by the researcher to determine the outcomes from the data associated with Research Questions 1 and 2.

Parameter estimates (also called coefficients) were used to determine the change in response associated with a one-unit change of the predictor while all other predictors were held constant. A near-zero coefficient indicated that an independent variable had little influence on the response. (Laerd Statistics, 2015, p. 15)

The study utilized the parameter estimates table to determine if the independent variables had statistically significant effects on the results of the dependent variable in the study. The parameter estimates table was also used to determine if the categories within the independent variables had a more statistically significant effect on the dependent variable than the others. Results from the parameter estimates table are illustrated in Table 23.

Table 23

*Parameter Estimates Table Used to Address Research Questions 1 and 2*

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
Threshold [Dep. Student Growth=1]	1.247	1.1888	-1.083	3.577	1.101	1	.294	3.481	.339	35.775
[Dep. Student Growth=2] – Reference	2.567	1.2407	.136	4.999	4.282	1	.039	13.032	1.145	148.287
[Types of HW 1=0] Other than Prep. or Pract.	.396	1.4399	-2.426	3.218	.076	1	.783	1.486	.088	24.988
[Types of HW 1=1] Preparation Homework	1.437	1.2673	-1.047	3.920	1.285	1	.257	4.206	.351	50.421
[Types of HW 1=2] Practice Homework – Reference	0 <sup>a</sup>	.	.	.	.	.	.	1	.	.
[Homework v. no homework=0] Did not assign homework	.832	.9959	-1.120	2.784	.698	1	.404	2.298	.326	16.183
[Homework v. no homework=1] Assigned Homework – Reference	0 <sup>a</sup>	.	.	.	.	.	.	1	.	.
[Frequency of HW 2=0] Frequently Assigned HW	-.657	.9695	-2.557	1.243	.459	1	.498	.518	.078	3.466
[Frequency of HW 2=1] Infrequently assigned HW – Reference	0 <sup>a</sup>	.	.	.	.	.	.	1	.	.

Dependent Variable: Dep. Student Growth

Model: (Threshold), Types of HW 1, Homework v. no homework, Frequency of HW 2

a. Set to zero because this parameter is redundant.

The parameter estimates table above addressed Research Question 1 first: What differences in academic achievement exist among students assigned no homework

compared to those assigned homework? The independent categories (frequency of homework and homework v. no homework) were analyzed first.

The coefficient for frequency of homework1 (frequent amounts) was -.657, the value in the B column. This number represented the change in the log odds of being in this category rather than the reference category (infrequent amounts of homework). Since this was a negative coefficient, it meant that it produced a lower score on the dependent variable compared to the reference category. According to the Exp (B) column (odds ratio), teachers who assigned infrequent amounts of homework were (.518) more than half likely to statistically significantly affect the dependent variable (student growth) than the teachers who assigned frequent amounts of homework.

In other words, the odds of being in a higher category of the dependent variable for teachers who assigned frequent amounts of homework versus teachers who assigned infrequent amounts of homework was .518, 95% CI [-2.557, 1.243], a statistically insignificant effect,  $\chi^2(1) = .459$ ,  $p = .498$ . This example helped address Research Question 1, because it provided evidence that teachers who assigned significant amounts of homework showed slightly higher EVAAS student growth scores than teachers who assigned insignificant amounts; however, the results were statistically insignificant because of the sample size of teachers.

The parameter estimates in Table 29 then addressed the analysis of the independent variable homework v. no homework. The coefficient for no homework assigned was .832, the value in the B column. This number represented the change in the log odds of being in this category rather than the reference category (teachers who assigned homework). A positive coefficient meant that there were higher scores on the dependent variable compared to the reference category. According to the Exp (B)

column (odds ratio), teachers who did not assign homework were (2.298) more likely to statistically significantly affect the dependent variable (student growth) than the teachers who assigned homework; however, the Sig. was .404.

In other words, the odds of being in a higher category of the dependent variable for teachers who assigned no homework versus teachers who assigned homework was 2.298, 95% CI [-1.120, 2.784], a statistically insignificant effect,  $\chi^2(1) = .698$ ,  $p = .404$ .

These results were very significant to the study and Research Question 1, because they contradicted the “frequent amounts” versus “infrequent amounts” analysis.

Teachers who assigned no homework to their students were almost three times more likely to reveal higher EVAAS student growth scores than teachers who assigned homework. The 20 teachers who sometimes assigned homework to their students negatively affected both the frequent versus infrequent and homework versus no homework analyses. The study concludes that homework positively impacts student learning when it is assigned frequently, or most of the time. If it is assigned infrequently, or sometimes, it impacts student learning even less than teachers who assign no homework to their students.

The parameter estimates in Table 29 then addressed Research Question 2 of the study: What differences in academic achievement exist among students assigned primarily preparation homework compared to those assigned primarily practice homework? The independent variable analyzed to address this question was types of homework.

The coefficient for frequency of “Types of HW 1” (preparation homework) was 1.437, the value in the B column. This number represented the change in the log odds of being in this category rather than the reference category practice homework. To address

Research Question 2, preparation and practice were compared against each other to determine which type of homework was more likely to statistically significantly affect the dependent variable. According to the B column, teachers who assigned primarily preparation homework were 1.437 times more likely to statistically significantly affect the dependent variable (student growth) than teachers who primarily assigned practice homework.

The odds of teachers assigning preparation homework was 4.206, 95% CI [-1.047, 3.920] times that of teachers who assigned neither preparation nor practice homework (other), a statistically insignificant effect,  $\chi^2(2) = 1.285$ ,  $p = .257$ .

The coefficient for frequency of “Types of HW 0” (other) was .396, the value in the B column. This number represented the change in the log odds of being in this category rather than the reference category practice homework. According to the B column, teachers in the “other” category were .396 times more likely to statistically significantly affect the dependent variable (student growth) than teachers who primarily assigned practice homework.

The odds of teachers in the “other” category was 1.486, 95% CI [-2.426, 3.218], times that of teachers who assigned either preparation or practice homework (reference category), a statistically insignificant effect  $\chi^2(1) = .076$ ,  $p = .783$ .

**Test of model effect – Research Questions 1 and 2.** The parameter estimates table for the GENLIN procedure illustrated the results of the dummy (indicator) variables, but the table did not provide the result of the overall omnibus statistical test for this variable. The GENLIN procedure produced a Tests of Model Effects table that reported an overall test of significance for each variable entered into the logistic regression model. These results are illustrated in Table 24.

Table 24

*Test of Model Effects Table Used to Address Research Questions 1 and 2*

Source	Wald Chi-Square	Df	Sig.
Frequency of homework	1.862	2	.394
Homework v. no homework	.698	1	.404
Types of homework	.459	1	.498

The table above illustrated the omnibus test result for the three independent variables in the study using the Wald statistical test. The table revealed that the overall effect of the three independent variables on the dependent variable (student growth) was statistically not significant. The frequency of homework variable was not statistically significant,  $\chi^2(1) = 1.862$ ,  $p = .394$ . The homework v. no homework variable was not statistically significant,  $\chi^2(1) = .698$ ,  $p = .404$ , and the types of homework variable not statistically significant,  $\chi^2(2) = .459$ ,  $p = .498$ . The study concludes that overall effect of the three independent variables were statistically insignificant because of the small sample size of teachers in the study.

### **Data Collection – Research Question 3**

The researcher collected the survey results from the three groups of participants utilizing the Google Forms survey summary.

#### **Research Question 3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning?**

**(Quantitative/Qualitative).** To determine perceptions of the three stakeholder groups (teachers, students, and parents) toward homework and its impact on student learning at the target high school, all groups were invited to participate in a survey created by the researcher as previously described. Quantitative and qualitative data were collected and analyzed, and the results were presented and discussed for this research question.

Nine Likert scale items (quantitative) and two open-ended items (qualitative) from all three surveys were analyzed. Items 2-10 on the teacher survey consisted of Likert scale items that asked teachers about their perceptions of homework on student learning. Items 14-15 were open-ended items that also asked teachers about their perceptions of homework on student learning at the target high school. The same Likert scale and open-ended items on the teacher survey were also included on the student and parent surveys (items 1-9 and items 10-11) to achieve an accurate and valid comparison from the analysis.

**Quantitative data collection.** Quantitative items that addressed Research Question 3 were in Likert scale format from strongly disagree (1) to strongly agree (5). Different tables for teachers, students, and parents were created to illustrate the results for each survey item. Results from all three surveys are illustrated in Tables 25-27.

Table 25

*Teacher Survey Quantitative Data Results for Research Question 3*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 2 – Homework leads to increased student achievement (n=83).				
6 (7.2%)	13 (15.7%)	35 (42.2%)	20 (24.1%)	9 (10.8%)
Item 3 – Homework provides an immediate effect on the retention and understanding of the material it covers (n=83).				
6 (7.2%)	19 (22.9%)	31 (37.3%)	18 (21%)	10 (12%)
Item 4 – Homework increases academic motivation in students (n=83).				
19 (23.2%)	33 (40.2%)	21 (25.3%)	7 (8.4%)	3 (3%)
Item 5 – Homework improves students’ attitudes toward school, because it helps them understand that learning can take place anywhere, not just in school (n=83).				
13 (15.7%)	33 (39.8%)	26 (31.3%)	8 (9.6%)	3 (3.6%)
Item 6 – Homework leads to increased boredom for students toward their learning (n=83).				
6 (7.2%)	23 (27.7%)	29 (34.9%)	19 (22.9%)	6 (7.2%)
Item 7 – Students at this school complete homework assignments without the assistance of other students (copying answers) -(n=83).				
36 (43.4%)	26 (31.3%)	18 (21.7%)	2 (2.4%)	1 (1.2%)
Item 8 – Teachers assign too much homework at this school (n=83).				
9 (11%)	25 (30.5%)	32 (39%)	13 (15.9%)	4 (3.7%)
Item 9 – School work should be completed during the normal school hours, not as homework (n=83).				
7 (8.4%)	17 (20.5%)	17 (20.5%)	32 (38.6%)	10 (12%)
Item 10 – Teachers assign homework because there is not enough time to cover the material during a normal class period (n=83).				
6 (7.2%)	16 (19.3%)	24 (28.9%)	26 (31.3%)	11 (13.3%)

*Note.* N represents the total number of respondents for each category.

This table presents the collected quantitative responses from 83 teachers for items 2-10 from the teacher survey. The frequency and percentages of responses are listed for each item. Each item addressed Research Question 3 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on



student learning?

Findings from this table reveal that teacher perceptions were primarily neutral (neither agree nor disagree) on items 2, 3, 6, and 10. Teachers strongly disagreed on items 4 and 7, slightly disagreed on items 5 and 8, and slightly agreed on item 9. Two items stood out from the table – items 4 and 7. In these items, teachers strongly disagreed that homework increases academic motivation in students and that students at the target high school complete homework assignments without the assistance of other students.

Table 26

*Student Survey Quantitative Data Results for Research Question 3*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 1 – Homework leads to increased student achievement (n=165).				
24 (14.5%)	42 (25.5%)	55 (33.3%)	38 (23%)	6 (3.6%)
Item 2 – Homework provides an immediate effect on the retention and understanding of the material it covers (n=165).				
26 (15.8%)	46 (27.9%)	49 (29.7%)	33 (20%)	11 (6.7%)
Item 3 – Homework increases academic motivation in students (n=165).				
68 (41.5%)	55 (33.3%)	28 (17%)	7 (4.2%)	7 (4.2%)
Item 4 – Homework improves students’ attitudes toward school, because it helps them understand that learning can take place anywhere, not just in school (n=165).				
88 (53.3%)	44 (26.7%)	25 (15.2%)	3 (1.8%)	5 (3%)
Item 5 – Homework leads to increased boredom for students toward their learning (n=165).				
10 (6.1%)	11 (6.7%)	30 (18.2%)	51 (30.9%)	63 (38.2%)
Item 6 – Students at this school complete homework assignments without the assistance of other students (copying answers) - (n=165).				
71 (43.3%)	37 (22.6%)	29 (17.7%)	17 (10.4%)	11 (6.1%)
Item 7 – Teachers assign too much homework at this school (n=165).				
6 (3.7%)	19 (11.7%)	52 (31.9%)	50 (30.7%)	38 (22.1%)
Item 8 – School work should be completed during the normal school hours, not as homework (n=165).				
4 (2.4%)	3 (1.8%)	32 (19.3%)	42 (25.3%)	84 (50%)
Item 9 – Teachers assign homework because there is not enough time to cover the material during a normal class period (n =165)				
22 (13.3%)	15 (9%)	50 (30.1%)	53 (31.9%)	26 (15.7%)

*Note.* N represents the total number of respondents for each category.

This table presents the collected quantitative responses from 165 students for items 1-9 from the student survey. The frequency and percentages of responses are listed for each item. Each item addressed Research Question 3 of the study.

Findings from this table reveal that student perceptions were primarily neutral

(neither agree nor disagree) on items 1, 2, 7, and 9. They strongly disagreed on items 3, 4, and 6 and strongly agreed on items 5 and 8. Five items stood out from the table – items 3, 4, 5, 6, and 8. In these items, students strongly disagreed that homework increases academic motivation in students, homework improves student attitudes toward school, and students complete homework assignments without the assistance of other students. In items 5 and 8, students strongly agreed that homework leads to increased boredom and that school work should be completed during the normal school hours, not as homework.

Table 27

*Parent Survey Quantitative Data Results for Research Question 3*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 1 – Homework leads to increased student achievement (n=151)				
8 (5.3%)	30 (20%)	55 (36.7%)	38 (25.3%)	19 (12.7%)
Item 2 – Homework provides an immediate effect on the retention and understanding of the material it covers (n=151).				
14 (9.3%)	23 (15.2%)	42 (27.8%)	51 (33.8%)	21 (13.9%)
Item 3 – Homework increases academic motivation in students (n=151).				
29 (19.2%)	50 (33.1%)	47 (31.1%)	21 (13.9%)	4 (2.6%)
Item 4 – Homework improves students’ attitudes toward school, because it helps them understand that learning can take place anywhere, not just in school (n=151).				
43 (28.5%)	52 (34.4%)	41 (27.2%)	12 (7.9%)	3 (2%)
Item 5 – Homework leads to increased boredom for students toward their learning (n=151).				
16 (10.7%)	32 (21.5%)	45 (30.2%)	37 (24.8%)	19 (12.8%)
Item 6 – Students at this school complete homework assignments without the assistance of other students (copying answers) - (n=151).				
32 (21.2%)	44 (29.1%)	50 (33.1%)	17 (11.3%)	8 (5.3%)
Item 7 – Teachers assign too much homework at this school (n=151).				
12 (8%)	34 (22.7%)	54 (36%)	30 (20%)	20 (13.3%)
Item 8 – School work should be completed during the normal school hours, not as homework (n=151).				
8 (5.3%)	23 (15.2%)	33 (21.9%)	44 (29.1%)	43 (28.5%)
Item 9 – Teachers assign homework because there is not enough time to cover the material during a normal class period (n =151)				
13 (8.6%)	35 (23.2%)	46 (30.5%)	37 (24.5%)	20 (13.2%)

Note. N represents the total number of respondents for each category.

This table presents the collected quantitative responses from 151 parents for items 1-9 from the parent survey. The frequency and percentages of responses are listed for each item. Each item addressed Research Question 3 of the study.

Findings from this table reveal that parent perceptions were primarily neutral (neither agree nor disagree) on items 1, 5, and 9. They strongly disagreed on item 4, slightly disagreed on items 3 and 6, slightly agreed on items 2 and 7, and strongly agreed on item 8. Two items stood out from the table – items 4 and 8. In these items, students strongly disagreed that homework improves student attitudes toward school and strongly agreed that school work should be completed during normal school hours and not as homework.

**Qualitative data collection.** The researcher collected the qualitative survey results from teachers, students, and parents on their perceptions of homework and its effects on student learning (Research Question 3) utilizing the Google Forms survey summary. The three participant groups were asked to respond to the same two survey items: In your opinion, what impact does homework have on student learning in general? In your opinion, what impact does homework have on EOC/NC Final Exams?

The two open-ended survey items were numbered differently (items 14 and 15 on the teacher survey and items 10 and 11 on the student and parent surveys). The open-ended responses from the two items were manually coded for themes, categories, and frequencies and compared to the quantitative findings.

Before conducting the coding process for the qualitative data, the researcher began with a list of preset codes known as *a priori codes*. These initial codes were derived from the conceptual framework, research questions, and literature review of this study. The preset codes were originally established in Table 1. As the researcher carefully read through the open-ended survey responses from the two items, common themes emerged that coincided with the themes and categories identified in Table 1. Table 28 presents the a priori codes used to analyze the qualitative data for Research

Question 3.

Table 28

*Preset Codes used to Organize Qualitative Data for Research Question 3*

<i>Student learning</i>			
Positive impacts		Negative impacts	
Category	<i>f</i>	Category	<i>f</i>
Increase in academic achievement		Increase in boredom	
Improved retention of material		Overworked	
Increase in academic motivation		Exhausted	
Develops understanding of learning outside the context of school		Increase in cheating	
<i>n</i>		<i>n</i>	

*Note.* F represents the frequency of responses. N represents the total number of responses.

This table includes the two main categories (positive and negative impacts) and the subcategories that fall under each one. Frequencies and the total number of frequencies for each category are also included in this table.

Teacher, student, and parent responses were manually coded using the comment tool in Microsoft Word. A sample page from phase one of the manual coding method is presented in Figure 10.

Impact on Student Learning Teacher Results (74 Responses)	
Familiarizes students with concepts that they may have not encountered prior to the class. (2)	TP Thomas Perry January 26, 2018 Familiarizes students with concepts
Not much, because usually its busy work. (2)	<a href="#">Reply</a> <a href="#">Resolve</a>
Homework strongly reinforces concepts learned at school.	TP Thomas Perry its busy work. (2)
Homework, when completed correctly and honestly, should improve retention of learned material and emphasize to students the proper work ethic that is needed to enjoy success at higher levels of education.	TP Thomas Perry reinforces concepts learned at school
I do not think homework has any impact on student learning. I believe that students must have some reinforcement, but not so much that they cannot complete the assignment in class. I very seldom have any assignments that are due the next day. I tend to create assignments and give due dates that are at least 2 days out. If a student chooses not to complete the assignment in class, it becomes homework. However, that is a result of their choice.	TP Thomas Perry should improve retention of learned material
depends on student and home life	TP Thomas Perry enjoy success at higher levels of education.
I assign them prep. homework to review fundamentals that are required (e.g. arithmetic with rational numbers) so that they are prepared to do arithmetic with rational expressions. It helps me a lot with cutting down on time spent reviewing old stuff.	TP Thomas Perry I do not think homework has any impact on student learning
Helps them to practice skills they have learned which increases retention.	TP Thomas Perry complete the assignment in class
I think they need to practice the concepts to understand them better.	TP Thomas Perry assign them prep. homework to review fundamentals
It does have a positive impact on student learning, but that is assuming actual student engagement with the assignments. In real practice of teaching I find it next to useless save for a few students that actually care to do it. The rest either copy answers and gain nothing or they do not do it.	
I think homework gives students the chance to practice the skills learned in class on their own. Often times it helps them see what they need extra help on and the things they are understanding clearly.	
I think the extra practice is good for some students but going over it in class takes so much time that I don't feel it's worth it. The students who didn't complete the homework are totally disengaged, when they could be learning.	
Students that do their homework on a regular basis tend to perform better in the class.	
Practice is required for students to master the subject I teach. Struggling students have much more growth with the added practice of homework.	
My hope is that homework reinforces learning that took place in the classroom.	
Valuable for extra practice and reinforcement of skills. Extends the school day to allow more time for lengthier assignments or assignments best completed individually anyway such as reading assignments,	

Figure 10. Manual Coding Phase One Sample for Open-ended Qualitative Data.

This figure represents a page of qualitative data collected from parents for open-ended item 14. On the right-hand side of the page, the researcher coded important words and phrases from the responses to utilize in the coding process of the analysis.

### Research Question 3 Quantitative Data Analysis Results

To determine how the quantitative data addressed Research Question 3, the researcher sent the data to a professional statistician to be analyzed using IBM SPSS software. Analyses of the quantitative data included descriptive and inferential statistics as well as ANOVAs to decide if relationships existed between the perceptions of

teachers, students, and parents associated with homework's impact on student learning.

Research Question 3 addressed the impact of homework on the learning of high school students at the target school. Of specific interest were the levels of agreement with the nine items used to assess perceptions of the positive effect of homework on learning-related outcomes and the level of the combined mean across the nine items among teachers, students, and parents. In addition, it was of interest to ascertain whether differences existed between these groups on any of the nine items and on the overall scale.

The overall 9-item scale had an alpha reliability of .976, categorized as very high. The descriptive statistics for the nine items and the overall scales are presented in Table 29.



Table 29

*Descriptive Statistics by Group for the Items Assessing Effect of Homework on Learning and for the Overall Scale*

Item	Group	Statistics					
		N	Min	Max	Mode	Mean	SD
(1) ...leads to increased student achievement	Teacher	83	1	5	3	3.16	1.05
	Student	165	1	5	3	2.73	1.07
	Parent	151	1	5	3	3.21	1.08
	Total	399	1	5	3	3.00	1.09
(2) ...improves retention and understanding	Teacher	83	1	5	3	3.07	1.10
	Student	165	1	5	3	2.73	1.07
	Parent	151	1	5	4	3.28	1.16
	Total	399	1	5	3	3.01	1.17
(3) ...increases academic motivation in students	Teacher	83	1	5	2	3.07	1.10
	Student	165	1	5	1	2.74	1.15
	Parent	151	1	5	2	2.48	1.04
	Total	399	1	5	2	2.23	1.07
(4) ...improves students' attitudes toward school	Teacher	83	1	5	2	2.46	.99
	Student	165	1	5	1	1.75	.99
	Parent	151	1	5	2	2.21	1.01
	Total	399	1	5	1	2.07	1.03
(5) ...leads to increased boredom for students (Reversed)	Teacher	83	1	5	3	2.95	1.05
	Student	165	1	5	5	3.88	1.17
	Parent	151	1	5	3	3.10	1.20
	Total	399	1	5	4	3.39	1.23
(6) ...promotes independent work	Teacher	83	1	5	1	1.87	.92
	Student	165	1	5	1	2.15	1.27
	Parent	151	1	5	3	2.50	1.11
	Total	399	1	5	1	2.23	1.16
(7) ...too much homework is assigned (Reversed)	Teacher	83	1	5	3	2.73	1.01
	Student	165	1	5	3	3.58	1.08
	Parent	151	1	5	3	3.09	1.14
	Total	399	1	5	3	3.22	1.13

(continued)

Item	Group	Statistics					
		N	Min	Max	Mode	Mean	SD
(8) ...takes up too much non-school time (Reversed)	Teacher	83	1	5	4	3.25	1.17
	Student	165	1	5	5	4.21	.98
	Parent	151	1	5	4	3.60	1.20
	Total	399	1	5	5	3.78	1.17
(9) ...inappropriately used to make up for inadequate classroom time (Reversed)	Teacher	83	1	5	4	3.24	1.13
	Student	165	1	5	4	3.27	1.22
	Parent	151	1	5	3	3.11	1.16
	Total	399	1	5	3	3.20	1.18
Impact on Learning Scale	Teacher	83	1	5	1.00	2.78	1.00
	Student	165	1	5	2.33	2.92	1.03
	Parent	151	1	5	3.78	2.95	1.08
	Total	399	1	5	2.33	2.90	1.04

The table above illustrates the three participant groups in the study and how they responded to the Likert scale items in the surveys. The mean, mode, and standard deviation is included. Findings from this table reveal that mean scores were fairly consistent among the three participant groups. All three groups responded neutral to the nine items on the surveys. The mode revealed more meaningful results. The most frequent response for teachers was a 1, which was *strongly disagree* on the Likert scale response choices. The mode for parents was 3.78, which was closer to *agree* on the Likert scale response choices; and the student mode was 2.33, which was closer to the *disagree* response choice.

In order to use parametric statistics to compare the item and scale means between the three groups, it was necessary that the distributions of the items and scale met the assumption of normality. Testing this assumption using the Shapiro-Wilk test found that only items 1, 2, 7, and 9 and the overall scale satisfied this assumption. All four of these items and the overall scale also satisfied the homogeneity of variance assumption, as

indicated by nonsignificant Levene test results. One-way ANOVA was consequently applied to each of these items and the overall scale, followed by Tukey-corrected post hoc pairwise comparisons. The results of these ANOVAs are presented in Table 30.

Table 30

*Results of ANOVAs of Items 1, 2, 7, and 9 and of the Overall Scale by Respondent Group*

Dependent Variable	Source	df	Mean Square	<i>F</i>	<i>p</i>
(1) ...leads to increased student achievement	Between Groups	2	10.274	8.992	<.001
	Within Groups	396	1.143		
	Total	398			
(2) ...improves retention and understanding	Between Groups	2	11.630	8.896	<.001
	Within Groups	396	1.307		
	Total	398			
(7) ...too much homework is assigned (Reversed)	Between Groups	2	21.428	18.086	<.001
	Within Groups	396	1.185		
	Total	398			
(9) ...inappropriately used to make up for inadequate classroom time (Reversed)	Between Groups	2	1.104	.792	.454
	Within Groups	396	1.393		
	Total	398			
Impact on Learning Scale	Between Groups	2	.819	.750	.473
	Within Groups	396	1.092		
	Total	398			

The ANOVAs for items 1, 2, and 7 reached significance. It is concluded that there is evidence that the three groups differ in their mean responses to these three items, but they do not differ in their responses to item 9 or to the overall impact on learning scale. The results of the post hoc pairwise comparisons between the groups are presented in Table 31.

Table 31

*Results of Tukey-Corrected Post Hoc Comparisons of Respondent Groups on Items 1, 2, and 7*

Dependent Variable	Group (I)	Group (J)	Mean Difference (I-J)	Std. Error	p
(1) ...leads to increased student achievement	Teacher*	Student	.423	.144	.010
		Parent	-.055	.146	.924
	Student	Parent*	-.423	.120	<.001
(2) ...improves retention and understanding	Teacher	Student	.333	.154	.079
		Parent	-.206	.156	.386
	Student	Parent*	-.333	.129	<.001
(7) ...too much homework is assigned (Reversed)	Teacher	Student*	-.841	.146	<.001
		Parent*	-.358	.149	.004
	Student*	Parent	.841	.123	<.001

Note. \* Represents the group with the higher mean of the pair for items 1, 2, and 7.

The remaining items (3, 4, 5, 6, 8, and 10) did not satisfy parametric assumptions and were consequently subjected to analysis using the nonparametric Kruskal-Wallis method. The results of these analyses are presented in Table 32.

Table 32

*Results of Kruskal-Wallis Analyses of Items 3, 4, 5, 6, and 8 by Respondent Group*

Item	Chi-Square	df	p
(3) ...increases academic motivation in students	23.011	2	<.001
(4) ...improves students' attitudes toward school	37.867	2	<.001
(5) ...leads to increased boredom for students (Reversed)	50.955	2	<.001
(6) ...promotes independent work	19.759	2	<.001
(8) ...takes up too much non-school time (Reversed)	44.289	2	<.001

The results of the analyses of all five of these items were significant, calling for the use of follow-up nonparametric pairwise comparisons using the Mann-Whitney test with a Bonferroni adjusted alpha of .0167. The results of these tests are presented in Table 33.

Table 33

*Results of Bonferroni Corrected Post Hoc Mann-Whitney Comparisons of Respondent Groups on Items 3-6, and 8*

Item	Mann-Whitney U	<i>p</i> (2-tailed)
(3) ...increases academic motivation in students		
Teacher* vs. Student	5454.5	.006
Teacher vs. Parent	5612.5	.169
Student* vs. Parent	8824.5	<.001
(4) ...improves students' attitudes toward school		
Teacher* vs. Student	3980.5	<.001
Teacher vs. Parent	5389	.064
Student vs. Parent*	8989	<.001
(5) ...leads to increased boredom for students (Reversed)		
Teacher vs. Student*	3685	<.001
Teacher vs. Parent	5790	.321
Student* vs. Parent	7830	<.001
(6) ...promotes independent work		
Teacher vs. Student	6260.5	.245
Teacher vs. Parent*	4214	<.001
Student vs. Parent*	9966.5	.001
(8) ...takes up too much non-school time (Reversed)		
Teacher vs. Student*	3648.5	<.001
Teacher vs. Parent	5214	.028
Student vs. Parent*	8830.5	<.001

\* Group with higher mean of the pair

Ten of the 15 pairwise comparisons were significant. It is concluded that there is evidence that the three groups differ in their mean responses to these five items and that within each item, two of the three pairwise comparisons are significant. Overall responses from teachers versus students significantly differ as well as students versus parents on the items associated with Research Question 3. Overall, teachers versus parent comparisons were too similar to reveal significant differences.

### **Research Question 3 Quantitative Data Analysis Summary**

Quantitative data were collected from the three participant groups' survey responses taken from nine Likert scale items associated with this research question. The purpose behind the collection and analysis of these data was to inquire as to the degree of impact of homework on the various aspects of student achievement of high school students at the target school and whether perceptions of such impacts differ among students, teachers, and parents.

Findings from this study indicate that perceptions on the effect of homework on student learning differ among teachers, students, and parents but differ the least among teachers versus parent responses.

Results from the SPSS statistical analysis of the quantitative data indicate that all three participant groups perceived homework's impact to be primarily *neutral* towards student achievement, both positive and negative. Overall, teacher responses revealed a slightly more negative perception of homework's impact on student achievement than the other two participant groups.

### **Research Question 3 Qualitative Data Analysis Results**

During the first phase of the coding process, the researcher collected data from teachers, students, and parents on their responses from two open-ended items associated with Research Question 3: In your opinion, what impact does homework have on student learning in general? In your opinion, what impact does homework have on EOC/NC Final Exams?

After collecting the original coding data (Figure 10), results were coded a second time to determine the categories (positive or negative impacts) and subcategories that matched up with those in the pre-coded table (Table 28). A sample page from stage two

of the manual coding method is presented in Figure 11.

It can benefit student learning at times, but a lot of the time students are just trying to complete the work quickly and therefore don't retain much of the material. <b>P1</b>	Thomas Perry	can benefit student learning at
Better retention of learned material. <b>P2</b>	Thomas Perry	Better retention of learned
For some students, it creates a negative school experience.	Thomas Perry	it creates a negative school
Depends on teacher. Some is busy work others reinforce teaching.	Thomas Perry	Depends on teacher.
If the homework isn't from a math teacher or other select teacher's, then most of the time it doesn't have much impact of the student.	Thomas Perry	most of the time it doesn't have
The students gain some self-responsibility as if they don't complete the homework their grades suffer <b>P4</b>	Thomas Perry	gain some self-responsibility
Provides review of material <b>P2</b>	Thomas Perry	Provides review of material
High school she'd kids shouldn't be required to do much homework. Most high school kids have jobs outside of school and done have school, jobs and sports. They just sinking don't have time for everything. Assigning homework makes kids hate school even more at this age. They usually just copy from the internet or another student anyway, so they aren't learning anything extra by doing homework. <b>N4</b>	Thomas Perry	Provides review of material
	Thomas Perry	High school she'd kids shouldn't
	Thomas Perry	makes kids hate school
	Thomas Perry	just copy from the internet or
I disagree with most forms of homework. They are at school for most of the day. They should not have to spend hours at home doing additional work! <b>N2</b>	Thomas Perry	They should not have to spend
	Thomas Perry	reinforce practices what you

Figure 11. Manual Coding Phase Two Sample from Open-ended Qualitative Data.

In the figure, the data were coded with a P if the response fit in the positive category of the pre-coded table and an N if the response fit in the negative category of the table. The numbers represent the subcategories under which the responses were placed in the table.

After phase two of the manual coding method, responses and frequencies were recorded in pre-coded tables. Tables were created from the responses of each participant group taken from the two open-ended items for this research question. Results from item 10 (students and parents) and item 14 (parents) are presented first in Tables 34-36. Table 34 presents results from the teacher-coded responses for item 14.

Table 34

*Teacher-Coded Responses – Survey Item 14*

In your opinion, what impact does homework have on student learning?					
Student learning					
Positive impacts			Negative impacts		
Code	Category	<i>f</i>	Code	Category	<i>f</i>
P1	Increase in academic achievement	10	N1	Increase in boredom/ <i>decrease in motivation</i>	4
P2	Improved retention of material	24	N2	Overworked	6
P3	Increase in academic motivation	0	N3	Exhausted/ <i>stressed</i>	4
P4	Develops understanding of learning outside the context of school	12	N4	Increase in cheating	3
			N5	<i>Impacts grades</i>	3
Category Totals		<i>n</i> =46 (69.7%)	Category Totals		<i>n</i> =20 (30.3%)

The table includes preset codes for the two primary categories (positive and negative) and additional subcategories. Positive subcategories are labeled P1-P5, and negative subcategories are labeled N1-N5. The frequencies (*f*) of responses from teachers for each category are also included in the table as well as the total number of responses (*n*) for each primary category. Respondents from all three surveys frequently mentioned words or phrases that the researcher deemed necessary to include that were not already in the pre-coded table. These emergent codes are seen in *italics*.

Teacher perceptions on this item revealed a more positive attitude about homework's impact on student learning. Forty-six (70%) of the responses from item 14 viewed homework as positive. Twenty-four teachers (52% of the positive category responses and 36% of all responses) stated that the impact of homework was positive on



student learning because it improved student retention of the material learned in their courses. A teacher from the target high school commented, “Homework, when completed correctly and honestly, improves retention of learned material.” A second teacher responded, “Homework helps students to practice skills they have learned, which increases retention.” A third teacher commented, “Homework allows for repetition and skill development that leads to better student learning.” Twelve teachers (18%) perceived homework to have a positive impact on learning outside the context of school. One teacher responded, “Homework ... helps students emphasize the proper work ethic that is needed to enjoy success at higher levels of education.”

The category with the largest number of negative responses from teachers focused on how homework “overworked” students. Six teachers (9%) responded to this category. One teacher responded, “Homework is usually stressful to students because of the amount of useless repetition that causes them to become frustrated with learning.” A second teacher stated, “Too much homework will frustrate students and send them down a stressful road that hinders their learning process.”

Table 35 presents results from the student-coded responses for item 10.

Table 35

*Student-coded Responses – Survey Item 10*

In your opinion, what impact does homework have on student learning?					
Student learning					
Positive impacts			Negative impacts		
Code	Category	<i>F</i>	Code	Category	<i>f</i>
P1	Increase in academic achievement	10	N1	Increase in boredom/ <i>decrease in motivation</i>	20
P2	Improved retention of material	22	N2	Overworked	12
P3	Increase in academic motivation	0	N3	Exhausted/ <i>stressed</i>	30
P4	Develops understanding of learning outside the context of school	6	N4	Increase in cheating	8
			N5	<i>Impacts grades</i>	5
Category Totals		<i>n</i> =38 (34%)	Category Totals		<i>n</i> =75 (66%)

The frequencies (*f*) of responses from students for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category and the emergent codes.

Student perceptions on this item revealed opposite results from the teachers. Seventy-five of the 113 students (66%) responded negatively toward homework's impact on student learning. Two subcategories stood out from the analysis. Of the 75 students who responded negatively to this item, 30 (40%) perceived homework to cause exhaustion and stress; and 20 (27%) perceived it to cause boredom and a decrease in motivation. One student responded, "Homework may help some, but it causes students to lose sleep which affects their productivity the next day at school." A second student stated, "Some students have to work late, and then have to come home and do homework which ... Leads to less sleep making it difficult to function right at school the next day."

A third student proclaimed, “Excessive homework can cause students to no longer see the joy in learning and grow bored of school.”

Thirty-eight of the students (34%) responded positively toward item 10. Of the 38 students, 22 (58%) responded that homework improved retention of the material being taught. One student replied, “Homework covers what we learn in school that day, so we can remember it better.” A second student responded, “Homework can help you retain information and more than if it was just classwork.” A third student remarked, “Homework drives it into a student’s head what they already learned in class.”

Table 36 presents results from the parent-coded responses for item 10.

Table 36

*Parent-Coded Responses – Survey Item 10*

In your opinion, what impact does homework have on student learning?					
Student learning					
Positive impacts			Negative impacts		
Code	Category	<i>f</i>	Code	Category	<i>f</i>
P1	Increase in academic achievement	5	N1	Increase in boredom/ <i>decrease in motivation</i>	14
P2	Improved retention of material	22	N2	Overworked	22
P3	Increase in academic motivation	2	N3	Exhausted/ <i>stressed</i>	24
P4	Develops understanding of learning outside the context of school	8	N4	Increase in cheating	7
			N5	<i>Impacts grades</i>	0
Category Totals		<i>n</i> =37 (36%)	Category Totals		<i>n</i> =67 (64%)

The frequencies (*f*) of responses from students for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary

category and the emergent codes.

Parent perceptions of homework and its impact on student learning was primarily negative according to the responses taken from item 10 from the parent survey. Sixty-seven (64%) parents perceived homework to be negative compared to 37 (36%) who perceived it as positive. Parents responded negatively to item 10 in two main subcategories. Twenty-four of the 104 parents (23%) responded that homework negatively impacted student learning because it caused exhaustion and stress among students. A parent from the target high school stated, “last year my daughter had homework almost daily and she sometimes worked the entire night to get it done.” A second parent stressed, “students become frustrated when they have an overload of homework from all of their courses.” A third parent complained, “When homework is overwhelming and assigned in excess, students must choose between sleep and which teacher’s homework was the most important.”

Within the second negative subcategory, 22 parents (21%) responded that homework impacted students negatively by causing them to feel overworked. One parent responded, “too much homework can cause students to feel overwhelmed.” A second parent stressed, “excessive homework overwhelmed her children causing them to disengage from learning.”

Twenty-two (21%) of the 37 parents who responded positively to item 10 perceived that it impacted student learning by helping them retain the material covered in class. One parent stated, “homework is effective for students wanting to retain information from the course material.” “A second parent found homework to help her child with practicing and mastering skills that reinforce the material covered in class.” A third parent claimed, “not only does homework increase retention of material, it also

helps increase student confidence in what they are learning.”

Analysis of the results from the three groups of participants revealed that teacher perceptions were mostly positive about homework’s impact on student learning, while students and parents were primarily negative. The most frequent positive impact mentioned by the three participant groups was homework’s ability to increase the retention of material for students to utilize on tests. The most frequent negative impacts mentioned by the three groups was the exhaustion, stress, and excessive amount of work that homework places on students, especially among those who are involved in after-school jobs, sporting events, and extracurricular activities.

Results from item 15 (teachers) and item 11 (students and parents) were assessed next to address Research Question 3. These are presented in Tables 37-39. Table 37 presents results from the teacher-coded responses for item 15.

Table 37

*Teacher-Coded Responses – Survey Item 15*

In your opinion, what impact does homework have on EOC/NC Final Exams?					
Student learning					
Positive impacts			Negative impacts		
Code	Category	<i>f</i>	Code	Category	<i>F</i>
P1	Increase in academic achievement	20	N1	Increase in boredom/ <i>decrease in motivation</i>	2
P2	Improved retention of material	8	N2	Overworked	2
P3	Increase in academic motivation	0	N3	Exhausted/ <i>stressed</i>	2
P4	Develops understanding of learning outside the context of school	0	N4	Increase in cheating	2
			N5	<i>Impacts grades Little to no impact (29)</i>	0
Category Totals		<i>n</i> =28 (78%)	Category Totals		<i>n</i> =8 (22%)

The frequencies (*f*) of responses from teachers for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category and the emergent codes.

Of the 72 teacher responses to this item, only 36 applied to the categories and subcategories from the table. Several teachers responded that homework had little or no effect on EOC, or they were unsure. Of the 36 teacher responses recorded on the table, 28 (78%) perceived homework's impact on EOC/NC Final Exams as positive, because it helps students retain material used to take the exams and it helps increase exam scores in general. One teacher responded, "homework has a great impact on Final Exams simply because, if the student is seeing and working with the class material more often, they are more likely to achieve mastery of it." A second teacher replied, "Homework impacts

NCFE scores because it better prepares students for testing.” A third teacher defended the impact of homework by saying, “When students complete homework, it makes them better prepared in class and therefore better prepares them for exams.” Only eight (22%) of the teachers responding to this item perceived homework’s impact to be positive.

Twenty-nine teachers responded that homework had “little to no impact.” They could not discern whether homework positively or negatively impacted EOC or NC Final Exam scores because of so many other factors involved. One teacher responded, “if students actually complete assignments in school and for homework, they will be positively impacted on EOC/NC Final Exams.” A second teacher replied, “A variety of factors determine how much homework impacts exam scores – the nature of the state tests, how well the teacher teaches the curriculum, the quality of the homework being assigned, and the motivation of the students.”

Table 38 presents results from the student-coded responses for item 11.

Table 38

*Student-Coded Responses – Survey Item 11*

In your opinion, what impact does homework have on EOC/NC Final Exams?					
Student learning					
Positive impacts			Negative impacts		
Code	Category	<i>f</i>	Code	Category	<i>f</i>
P1	Increase in academic achievement	4	N1	Increase in boredom/ <i>decrease in motivation</i>	2
P2	Improved retention of material	8	N2	Overworked	3
P3	Increase in academic motivation	0	N3	Exhausted/ <i>stressed</i>	6
P4	Develops understanding of learning outside the context of school	0	N4	Increase in cheating	2
			N5	<i>Impacts grades</i>	0
<i>Little to no impact (54)</i>					
Category Totals		<i>n</i> =12 (48%)	Category Totals		<i>n</i> =13 (52%)

The frequencies (*f*) of responses from students for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category and the emergent codes.

Of the 171 student responses to this item, only 25 applied to the categories and subcategories from the table. Fifty-four students responded that homework had little to no impact on EOC/NC Final Exam scores, or they were unsure. Of the 25 responses recorded in the table, students perceived homework's impact on EOC/NC Final Exams as almost equal between the positive and negative categories. Twelve students (48%) perceived homework's impact as positive because of its ability to increase academic



achievement and improve the retention of the material covered in class. One student responded to item 15 by saying, “Homework has a positive effect, because teachers assign practice problems and questions based on their knowledge of EOC/NC Final Exams.” A second student agreed saying, “Homework helps get the information stuck in your head for exams.” A third student replied, “Homework has a positive effect on exams because of all of the repetition of the material.”

Even though 12 students responded positively, 13 (52%) responded negatively. Nine of 13 students perceived homework to negatively impact EOC/NC Final Exams because of the amount of frustration, exhaustion, and stress placed on them trying to complete all of it. A student responded, “Homework can help with exams to a point, but excessive homework becomes too stressful for students.” A second student agreed stating, “too much homework makes students discouraged about the class which affects exam performance.”

Results from the table revealed an equal perception from students between positive and negative impacts; however, the frequency of responses from these two categories was not significant. Fifty-four students responded with “little or no impact.” They could not discern whether homework positively or negatively impacted EOC or NC Final Exam scores because of so many other factors involved. One student responded, “Homework will only affect test performance if students understand the material the homework covered.” A second student replied, “It depends on the student, because homework can benefit some and not benefit others.” A third student commented, “homework can impact exam scores in some classes, but very little in others.”

Table 39 presents results from the parent-coded responses for item 11.

Table 39

*Parent-Coded Responses – Survey Item 11*

In your opinion, what impact does homework have on EOC/NC Final Exams?					
Student learning					
Positive impacts			Negative impacts		
Code	Category	<i>F</i>	Code	Category	<i>f</i>
P1	Increase in academic achievement	16	N1	Increase in boredom/ <i>decrease in motivation</i>	0
P2	Improved retention of material	25	N2	Overworked	2
P3	Increase in academic motivation	0	N3	Exhausted/ <i>stressed</i>	4
P4	Develops understanding of learning outside the context of school	0	N4	Increase in cheating	3
			N5	<i>Impacts grades</i>	0
			<i>Little to no impact (29)</i>		
Category Totals		<i>n</i> =41 (82%)	Category Totals		<i>n</i> =9 (18%)

The frequencies (*f*) of responses from students for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category and the emergent codes.

Of the 129 parent responses to this item, 50 applied to the categories and subcategories from the table. Twenty-nine parents responded that homework had little to no impact on EOC/NC Final Exam scores, or they were unsure.

Forty-one of 50 responses (82%) were positive and fell into two subcategories. Parents perceived homework to have positive impacts on EOC/NC Final Exams because of its ability to improve retention of the class material and improve academic achievement. One parent responded, “Homework impacts exams, because you can see clearly which students do theirs and those who do not.” A second parent replied, “Students who get more practice and reinforcement tend to do better on exams.” A third

parent stated, “homework helps again with the ‘practice makes perfect’ aspect and preparedness aspect of doing well on exams.”

Only nine parents (18%) responded negatively, which was insignificant toward the results. A larger number of parents (29) responded with “little or no impact.” They could not discern whether homework positively or negatively impacted EOC or NC Final Exam scores because of so many other factors involved. One parent responded that the impact of homework “depends on the quality of the teacher.” A second parent agreed saying, “it depends on the correlation of the homework given, and the material tested on the exams.” A third parent replied to item 11 with, “Homework’s impact on exam scores depends on the individual student and whether or not homework is necessary to help them.”

### **Research Question 3 Qualitative Data Analysis Summary**

Qualitative data for this research question consisted of two open-ended items. To determine comparisons between the participant groups, tables were created from the responses and combined for the analysis. Tables 40-41 present the comparisons.

Table 40 revealed responses from the participant groups about their perceptions of homework’s impact on overall student learning.

Table 40

*Participant Group Comparisons – Homework’s Impact on Student Learning*

In your opinion, what impact does homework have on student learning?							
Positive impacts	T	S	P	Negative impacts	T	S	P
	%	%	%		%	%	%
Increase in academic achievement	15.2	8.7	4.8	Increase in boredom/decrease in motivation	6.1	17.7	13.5
Improved retention of material	36.4	19.4	21.2	Overworked	9.1	10.6	21.2
Increase in academic motivation	0	0	1.9	Exhausted/stressed	6.1	26.5	23.1
Develops understanding of learning outside the context of school	18.1	5.5	7.7	Increase in cheating	4.5	7.2	6.7
				Impacts grades	4.5	4.4	0
Positive Category Totals	69.7	33.6	35.6	Negative Category Totals	30.3	66.4	65.4

*Note.* T represents teachers. S represents students. P represents parents.

This table presents the percentages for each category and subcategory from survey item 10 (students and parents) and item 14 (teachers) for comparing the three participant groups. Total positive and negative impact percentages were also included for each participant group.

Findings from this table reveal a significant difference between teachers and the other two participant groups. Teachers perceived homework to have a much larger positive impact on student learning than students and parents. Students and parents both responded more negatively toward homework’s impact on student learning. Their results differed by just one percentage point.

Table 41 revealed responses from the participant groups about their perceptions of

homework's impact on EOC/NC Final Exams.

Table 41

*Participant Group Comparisons – Homework's Impact on EOC/NC Final Exams*

In your opinion, what impact does homework have on EOC/NC Final Exams?							
Positive impacts	T	S	P	Negative impacts	T	S	P
	%	%	%		%	%	%
Increase in academic achievement	55.7	16	32	Increase in boredom/decrease in motivation	5.5	8	0
Improved retention of material	22.3	32	50	Overworked	5.5	12	4
Increase in academic motivation	0	0	0	Exhausted/stressed	5.5	24	8
Develops understanding of learning outside the context of school	0	0	0	Increase in cheating	5.5	8	6
				Impacts grades	0	0	0
Positive Category Totals	78	48	82	Negative Category Totals	22	52	18

*Note.* T represents teachers. S represents students. P represents parents.

This table presents the percentages for each category and subcategory from survey item 11 (students and parents) and item 15 (teachers) for comparing the three participant groups. Total positive and negative impact percentages were also included for each participant group.

Findings from this table reveal a significant difference between students and the other two participant groups. Teachers and parents overwhelmingly perceived homework to have a positive impact on EOC/NC Final Exam results. Students were almost equally divided on their responses. They perceived homework to have both positive and negative impacts on EOC/NC Final Exam results. Their responses were slightly more negative than positive (52% to 48%).

### **Research Question 3 Summary**

To address Research Question 3, the researcher collected and analyzed both quantitative and qualitative data to determine if homework impacted student learning at the target high school.

Quantitative data findings conclude that perceptions from the three participant groups perceived homework's impact on student learning to be primarily neutral towards student achievement, both positive and negative. Overall, teacher responses revealed a slightly more negative perception of homework's impact on student achievement than the other two participant groups.

Consequently, the quantitative findings contradicted those found in the qualitative data. Teacher responses on the open-ended survey items were much more positive toward homework's impact on student learning than the quantitative findings, and students and parents were more negative. A possible explanation for the contradictory findings might be the neutral response choice provided in the Likert scale items. Many respondents selected neutral as a response on several items, which might have skewed the overall results. If this choice was omitted from the surveys, the results might have aligned better to the qualitative data.

### **Data Collection – Research Question 4**

The researcher collected the survey results from the three groups of participants utilizing the Google Forms survey summary.

**Research Question 4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students? (Quantitative/Qualitative).** To determine perceptions of the three stakeholder groups (teachers, students, and parents) toward homework and its impact on

the personal development of students from the target high school, all three groups were invited to participate in a survey created by the researcher as previously described. Quantitative and qualitative data were collected and analyzed, and the results were presented and discussed for this research question.

Four Likert scale items (quantitative) and one open-ended item (qualitative) from all three surveys were analyzed. Items 16-19 on the teacher survey consisted of Likert scale items that asked teachers about their perceptions of homework on the personal development of students. Item 20 was an open-ended item that also asked teachers about their perceptions of homework on the personal development of students at the target high school. The same Likert scale items and open-ended item on the teacher survey were also included on the student and parent surveys (items 12-15 and item 16) to achieve an accurate and valid comparison from the analysis.

The researcher collected the survey results from teachers, students, and parents on their perceptions of homework and its impact on the personal development of students (Research Question 4) utilizing the Google Forms survey summary.

**Quantitative data collection.** Quantitative items that addressed Research Question 4 were in Likert scale format from strongly disagree (1) to strongly agree (5). Different tables for teachers, students, and parents were created to illustrate the results for each survey item. Results from all three surveys are illustrated in Tables 42-44. Table 42 presents the collected quantitative responses from 83 teachers for items 16-19 from the teacher survey.

Table 42

*Teacher Survey Quantitative Data Results for Research Question 4*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 16 – Homework interferes with the social life of students (n=83).				
8 (9.6%)	27 (32.5%)	17 (20.5%)	20 (24.1%)	11 (13.3%)
Item 17 – Homework develops responsibility in students (n=83)				
1 (1.2%)	4 (4.8%)	24 (28.9%)	36 (43.4%)	18 (21.7%)
Item 18 – Homework denies students access to leisure time activities (n=83).				
11 (13.3%)	27 (32.5%)	23 (27.7%)	13 (15.7%)	9 (10.8%)
Item 19 – Homework impacts the physical health of students (n=83)				
21 (25.3%)	22 (26.5%)	27 (32.5%)	9 (10.8%)	4 (4.8%)

*Note.* N represents the total number of respondents for each category.

The frequency and percentages of responses are listed for each item. Each item addressed Research Question 4 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students?

Findings from this table reveal that teacher perceptions were primarily neutral (neither agree nor disagree) on item 16. Teachers slightly disagreed on items 18 and 19 and strongly agreed on item 17. One item stood out from the table – item 17. In this item, teachers strongly agreed that homework develops responsibility in students.

Table 43 presents the collected quantitative responses from 165 students for items 12-15 from the student survey.



Table 43

*Student Survey Quantitative Data Results for Research Question 4*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 12 – Homework interferes with the social life of students (n=165).				
4 (2.4%)	7 (4.3%)	16 (9.7%)	64 (38.8%)	74 (44.8%)
Item 13 – Homework develops responsibility in students (n=165).				
15 (9.1%)	20 (12.1%)	47 (28.5%)	57 (34.5%)	26 (15.8%)
Item 14 – Homework denies students access to leisure time activities (n=165).				
3 (1.8%)	11 (6.7%)	32 (19.4%)	65 (39.4%)	54 (32.7%)
Item 15 – Homework impacts the physical health of students (n=165)				
31 (18.8%)	27 (16.4%)	41 (24.8%)	35 (21.2%)	31 (18.8%)

*Note.* N represents the total number of respondents for each category.

The frequency and percentages of responses are listed for each item. Each item addressed Research Question 4 of the study.

Findings from this table reveal that student perceptions were primarily neutral (neither agree nor disagree) on items 13 and 15. Students strongly agreed on items 12 and 14. Two items stood out from the table – items 12 and 14. In these two items, teachers strongly agreed that homework interferes with the social life of students and denies students access to leisure time activities.

Table 44 presents the collected quantitative responses from 151 parents for items 12-15 from the parent survey.

Table 44

*Parent Survey Quantitative Data Results for Research Question 4*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 12 – Homework interferes with the social life of students (n=151).				
9 (5.9%)	29 (19.2%)	41 (27.2%)	38 (25.2%)	34 (22.5%)
Item 13 – Homework develops responsibility in students (n=151)				
5 (3.3%)	12 (8%)	31 (20.5%)	77 (51%)	26 (17.2%)
Item 14 – Homework denies students access to leisure time activities (n=151).				
12 (8%)	35 (23.2%)	35 (23.2%)	41 (27.2%)	28 (18.5%)
Item 15 – Homework impacts the physical health of students (n=151).				
30 (19.9%)	33 (21.8%)	35 (23.2%)	30 (19.9%)	23 (15.2%)

*Note.* N represents the total number of respondents for each category.

The frequency and percentages of responses are listed for each item. Each item addressed Research Question 4 of the study.

Findings from this table reveal that parent perceptions were primarily neutral (neither agree nor disagree) on items 12, 14, and 15. Parents strongly agreed on item 13. One item stood out from the table – item 13. In this item, parents strongly agreed that homework develops responsibility in students.

**Qualitative data collection.** The researcher collected the qualitative survey results from teachers, students, and parents on their perceptions of homework and its impact on the personal development of students (Research Question 4) utilizing the Google Forms survey summary. The three participant groups were asked to respond to the same survey item: In your opinion, what impact does homework have on the personal development of students?

The open-ended survey item was numbered differently (item 20 on the teacher survey and item 16 on the student and parent surveys). The open-ended responses from

this item were manually coded for themes, categories, and frequencies and compared to the quantitative findings.

The same coding procedures were followed as those in Research Question 3 for the qualitative data. Table 45 presents the a priori codes used to analyze the qualitative data for Research Question 4.

Table 45

*Preset Codes used to Organize Qualitative Data for Research Question 4*

Personal Development			
Positive impacts		Negative impacts	
Category	<i>f</i>	Category	<i>f</i>
Develops responsibility		Decrease in time for relationships	
		Decrease in time for leisure activities	
		Negative impacts on physical health	
<i>n</i>		<i>n</i>	

*Note.* F represents the frequency of responses. N represents the total number of responses.

This table includes the two main categories (positive and negative impacts) and the subcategories that fall under each one. Frequencies and the total number of frequencies for each category are also included in this table.

Teacher, student, and parent responses were manually coded using the comment tool in Microsoft Word. This same method was described in Research Question 3.

#### **Research Question 4 Quantitative Data Analysis Results**

To determine how the quantitative data addressed Research Question 4, the researcher sent the data to a professional statistician to be analyzed using IBM SPSS software. The same analyses were conducted as those discussed in Research Question 3.

Of specific interest were the levels of agreement with the four items used to assess perceptions of the positive effect of homework on student personal development and the level of the combined mean across the four items among teachers, students, and parents.

In addition, it was of interest to ascertain whether differences existed between these groups on any of the four items and on the overall scale.

The overall four-item scale had an alpha reliability of .949, considered very high.

The descriptive statistics for the four items and the overall scale are presented in Table 46.

Table 46

*Descriptive Statistics by Group for the Items Assessing Effect of Homework on Personal Development and for the Overall Scale*

Item/Scale	Group	N	Min	Statistics			
				Max	Mode	Mean	SD
(12) ...interferes with the social life of students (Reversed)	Teacher	83	1	5	2	2.99	1.23
	Student	165	1	5	5	4.19	.95
	Parent	151	1	5	3	3.45	1.15
	Total	399	1	5	4	3.66	1.19
(13) ...develops responsibility in students	Teacher	83	1	5	4	3.80	.88
	Student	165	1	5	4	3.36	1.16
	Parent	151	1	5	4	3.71	.96
	Total	399	1	5	4	3.58	1.05
(14) ...denies students access to leisure time activities (Reversed)	Teacher	83	1	5	2	2.78	1.19
	Student	165	1	5	4	3.95	.98
	Parent	151	1	5	4	3.25	1.23
	Total	399	1	5	4	3.44	1.21
(15) ...impacts the physical health of students (Reversed)	Teacher	83	1	5	3	2.43	1.13
	Student	165	1	5	3	3.05	1.37
	Parent	151	1	5	3	2.89	1.35
	Total	399	1	5	3	2.86	1.33
Impact on Personal Development Scale	Teacher	83	1	5	2.00	3.00	1.06
	Student	165	1	5	5.00	3.64	1.07
	Parent	151	1	5	5.00	3.32	1.13
	Total	399	1	5	5.00	3.39	1.12

The table above illustrates the three participant groups in the study and how they responded to the Likert scale items in the surveys. The mean, mode, and standard

deviation are included.

Findings from this table reveal that total mean scores were fairly consistent among the three participant groups. All three groups responded neutral to the four items on the surveys, but student responses were slightly more negative toward homework's impact on personal development. The mode revealed more meaningful results. The most frequent response from teachers was a 2, representing *disagree* on the Likert scale response choices. The mode for both parents and students was 5, representing *strongly agree* on the Likert scale response choices.

The normality assumption of parametric statistics was tested using the Shapiro-Wilk test, which found that three of the four items (viz., 12, 14, and 15) and the overall scale satisfied this assumption. One-way ANOVA was consequently applied to each of these items and to the overall scale, followed by Tukey-corrected post hoc pairwise comparisons. The Welch correction was applied to the degrees of freedom in the analysis for items 12 and 14 due to their failure to satisfy the homogeneity of variance assumption of ANOVA as determined from their significant Levene test results. Results of these ANOVAs are presented in Table 47.

Table 47

*Results of ANOVAs of Items 12, 14, and 15 and of the Overall Impact on Personal Development Scale by Respondent Group*

Dependent Variable	Source	df	Mean Square	<i>F</i>	<i>p</i>
(12) ...interferes with the social life of students (Reversed)	Between Groups	2	45.582	39.047	<.001
	Within Groups	203.18*	1.167		
	Total	205.18			
(14) ...denies students access to leisure time activities (Reversed)	Between Groups	2	41.662	35.033	<.001
	Within Groups	206.55*	1.189		
	Total	208.55			
(15) ...impacts the physical health of students (Reversed)	Between Groups	2	10.528	6.068	.003
	Within Groups	396	1.735		
	Total	398			
Impact on Personal Development Scale	Between Groups	2	11.640	9.747	<.001
	Within Groups	396	1.194		
	Total	398			

\* Welch-corrected degrees of freedom

The ANOVAs for the three items (viz., 12, 14, and 15) and for the impact on personal development scale reached significance. The results of the post hoc pairwise comparisons between the groups are presented in Table 48.

Table 48

*Results of Tukey-Corrected Post Hoc Comparisons of Respondent Groups on Items 12, 14, and 15 and on the Impact on Personal Development Scale*

Dependent Variable	Group (I)	Group (J)	Mean Difference (I-J)	Std. Error	p
(12) ...interferes with the social life of students (Reversed)	Teacher	Student*	-1.206	.147	<.001
	Teacher	Parent*	-.462	.149	.006
	Student*	Parent	.744	.123	<.001
(14) ...denies students access to leisure time activities (Reversed)	Teacher	Student*	-1.162	.151	<.001
	Teacher	Parent*	-.469	.153	.007
	Student*	Parent	.694	.126	<.001
(15) ...impacts the physical health of students (Reversed)	Teacher	Student*	-.615	.177	.002
	Teacher	Parent*	-.454	.180	.032
	Student	Parent	.161	.148	.523
Impact on Personal Development Scale	Teacher	Student*	-.636	.147	<.001
	Teacher	Parent	-.325	.149	.077
	Student*	Parent	.312	.123	.031

\* Group with higher mean of the pair.

Ten of the 12 pairwise comparisons were significant. It is concluded that there is evidence that the three groups differ in their mean responses to these three items and on the impact on personal development scale. Within each item and the scale, at least two of the three pairwise comparisons are significant.

The remaining item (viz., 13) did not satisfy parametric assumptions and was consequently subjected to analysis using the nonparametric Kruskal-Wallis method. This analysis produced a chi-square (2) = 10.899,  $p = .004$ , which is significant at the alpha set for this study. A post hoc nonparametric pairwise comparison using the Mann-Whitney test with a Bonferroni adjusted alpha of .0167 was conducted, with the results presented in Table 49.

Table 49

*Results of Bonferroni Corrected Post Hoc Mann-Whitney Comparisons of Respondent Groups on Item 13*

Item	Mann-Whitney U	p (2-tailed)
(13) ...increases academic motivation in students		
Teacher* vs. Student	5469.500	.007
Teacher vs. Parent	6108.500	.732
Student vs. Parent*	10303.500	.005

\* Group with higher mean of the pair

Ten of the 15 pairwise comparisons were significant. It is concluded that there is evidence that the three groups differ in their mean responses to these five items and that within each item, two of the three pairwise comparisons are significant. Overall, responses from teachers versus students significantly differ as well as students versus parents on the items associated with Research Question 3. Overall, teachers versus parent comparisons were too similar to reveal significant differences.

#### **Research Question 4 Quantitative Data Analysis Summary**

Quantitative data were collected from the three participant groups' survey responses taken from four Likert scale items associated with this research question. The purpose behind the collection and analysis of these data was to inquire as to the degree of impact of homework on the various aspects of the personal development of high school students at the target school and whether perceptions of such impacts differ among students, teachers, and parents. Findings from the quantitative data from this study indicate that perceptions on homework's effect on personal development differ among teachers, students, and parents but differ the least among teachers versus parent responses.

Results from the SPSS statistical analysis on the quantitative data associated with Research Question 4 indicate that students agree more than the other two participant



groups that homework positively impacts the personal development of students. Parent and teacher perceptions are more neutral toward these four survey items. They neither agreed nor disagreed that homework has an impact on the personal development of students.

#### **Research Question 4 Qualitative Data Analysis Results**

During the first phase of the coding process, the researcher collected data from teachers, students, and parents on their responses from the open-ended item associated with Research Question 4: In your opinion, what impact does homework have on the personal development of students?

After collecting the original coding data, results were coded a second time to determine the categories (positive or negative impacts) and subcategories that matched up with those in the pre-coded table. This same coding procedure was discussed during the data analysis for Research Question 3.

After phase two of the manual coding method, responses and frequencies were recorded in pre-coded tables. Tables were created from the responses of each participant group taken from the open-ended item for this research question. Results from item 20 (teachers) and item 16 (students and parents) are presented in Tables 50-52.

Table 50 illustrates the recorded teacher responses from open-ended item 20.

Table 50

*Teacher-Coded Responses – Survey Item 20*

In your opinion, what impact does homework have on the personal development of students?					
Personal Development					
Positive impacts			Negative impacts		
Code	Category	<i>F</i>	Code	Category	<i>F</i>
P1	Develops responsibility	29	N1	Decrease in time for relationships	5
P2	<i>Time management skills</i>	7	N2	Decrease in time for leisure activities	4
			N3	Negative impacts on physical/mental health	6
Category Totals		<i>n</i> =36 (71%)	Category Totals		<i>n</i> =15 (29%)

This table includes preset codes for the two primary categories (positive and negative) and additional subcategories. Positive subcategories are labeled P1-P2, and negative subcategories are labeled N1-N3. The frequencies (*f*) of responses from teachers for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category. Respondents from all three surveys frequently mentioned words or phrases the researcher deemed necessary to include that were not already in the pre-coded table. These emergent codes are seen in italics.

Of the teacher responses to this item, only 54 applied to the categories and subcategories from the table. Thirty-six of the 51 responses recorded in this table (71%) perceived homework's impact on the personal development of students as positive, because it helps students develop responsibility and time management skills. The term *time management skills* was added to the table as an emergent code. This code made up a significant percent of the teacher responses. Fifty-seven percent of all teachers responded

that homework positively impacted students by teaching them to be more responsible.

One teacher stated, “I believe that homework teaches them self-motivation and responsibility, which they will need in college and later in life.” A second teacher agreed, saying, “I think that homework is an important part of preparing students for their future. There are many industries in which homework mimics the idea of bringing work home to complete or prepare for work.” A third teacher replied, “Homework teaches students responsibility as sometimes we have to take on extra tasks and complete them whether we want to or not.”

Only 15 (29%) teachers responded negatively to homework’s impact on the development of students. Responses were evenly divided between negatively decreasing student time for relationships and leisure activities and its impact on their physical/mental health. Mental health or stress was added as an emergent code in the table. Six teachers (12%) responded that homework negatively impacted students’ physical and mental health, especially if it was excessive and unnecessary. One teacher stated, “I do think that too much homework creates a lot of stress for students that often forces them to stay up late, not eat properly, and leads to physical challenges.”

Table 51 presents results from the student-coded responses for item 16.

Table 51

*Student-Coded Responses – Survey Item 16*

In your opinion, what impact does homework have on the personal development of students?					
Personal Development					
Positive impacts			Negative impacts		
Code	Category	<i>f</i>	Code	Category	<i>f</i>
P1	Develops responsibility	19	N1	Decrease in time for relationships	13
P2	<i>Time management skills</i>	6	N2	Decrease in time for leisure activities	18
			N3	Negative impacts on physical/mental health	36
Category Totals		<i>n</i> =25 (27%)	Category Totals		<i>n</i> =67 (73%)

The frequencies (*f*) of responses from students for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category.

Ninety-three student responses were recorded in this table. Of the 93 responses, 67 (73%) considered homework to negatively impact the personal development of students. These results completely contradicted those made by teachers for the same item. The most frequent subcategory for students was the negative impacts of homework on physical/mental health. Thirty-six responses (34%) from students mentioned stress, loss of appetite, loss of sleep, and even depression as negative impacts of excessive amounts of homework. Another 31 responses (33%) perceived homework to decrease the amount of family and leisure times available to students because of excessive homework. One student responded, “I have personally experienced what excessive homework can do, because it resulted in a loss of appetite, emotional stress, and trouble

sleeping.” A second student agreed saying, “Excessive homework can cause students to have mental breakdowns or even just completely give up on education all together.” A third student responded to the negative impact of homework on family and leisure time by saying, “Homework causes students to have less time for themselves, and even fewer opportunities to spend time with their families.”

Of the 25 positive responses from students on this open-ended item, 19 (21%) considered homework to develop responsibility that will benefit them in the future.

A student responded, “Homework helps students become more responsible, because they learn how to balance homework with other activities to become more organized.” A second student agreed, saying, “I think that it does take up some of the student’s time, but at the same time, it helps them learn responsibility.”

Table 52 presents results from the parent-coded responses for item 16.

Table 52

*Parent-Coded Responses – Survey Item 16*

In your opinion, what impact does homework have on the personal development of students?					
Positive impacts			Personal Development		
Code	Category	<i>f</i>	Code	Category	<i>F</i>
P1	Develops responsibility	31	N1	Decrease in time for relationships	3
P2	<i>Time management skills</i>	18	N2	Decrease in time for leisure activities	16
			N3	Negative impacts on physical/ <i>mental</i> health	22
Category Totals		<i>n</i> =49 (54%)	Category Totals		<i>n</i> =41 (46%)

The frequencies (*f*) of responses from students for each subcategory are also

included in the table as well as the total number of responses (*n*) for each primary category.

Unlike teachers who considered homework to be primarily positive (71%) on the personal development of students or students who considered it to be primarily negative (73%), parents responded more neutral giving a slight advantage to positive impacts. Of the 90 responses, 49 (54%) were positive and 41 (46%) were negative.

Parent perceptions on the positive impacts of homework revealed comparable results to the other two participant groups. The positive subcategory with the most responses for all three groups was “developed responsibility.” Thirty-one parents (34%) perceived homework to develop responsibility among students who complete homework on a consistent basis. One parent responded, “homework develops responsibility in students, because it teaches them the importance of deadlines.” A second parent replied, “homework develops responsible adults.” Several parents combined developing responsibility with developing time management skills as positive impacts of homework. A parent replied, “Homework has taught my child time management skills and a sense of responsibility that will benefit her when she goes to college.”

Unlike teachers, parents (25%) agreed with students (39%) that homework negatively impacts the physical/mental health of students. One parent shared her concern with excessive homework, stating, “my child is having to go to counseling and take medication to help her deal with the stress of all of her homework assignments.” A second parent agreed, stating, “homework creates a large amount of stress and added anxiety that can create an unhealthy lifestyle.”

#### **Research Question 4 Qualitative Data Analysis Summary**

Qualitative data for this research question consisted of one open-ended item. To

determine comparisons between the participant groups, a table was created from the responses and combined for the analysis. Table 53 presents the comparisons.

Table 53

*Participant Group Comparisons – Homework’s Impact on Personal Development*

<i>In your opinion, what impact does homework have on the personal development of students?</i>							
Positive impacts	T	S	P	Negative impacts	T	S	P
	%	%	%		%	%	%
Develops responsibility	56.9	20.7	34.9	Decrease in time for relationships	9.8	14.1	3.4
<i>Time management skills</i>	13.7	6.5	20	Decrease in time for leisure time activities	7.8	19.6	17.8
				Negative impacts on physical/ <i>mental</i> health	11.8	39.1	24.4
Positive Category Totals	70.6	27.2	54.4	Negative Category Totals	29.4	72.8	45.6

*Note.* T represents teachers. S represents students. P represents parents.

This table presents percentages for each category and subcategory from survey item 16 (students and parents) and item 20 (teachers) for comparing the three participant groups. Total positive and negative impact percentages are included for each participant group.

Comparisons of participant groups presented in this table reveal noteworthy results about homework’s impact on the personal development of students (Research Question 4). Teachers overwhelmingly supported homework as a positive impact, whereas students overwhelmingly perceived it to be negative. Parents perceived homework for this item to be equally positive and negative.

#### **Research Question 4 Summary**

To address Research Question 4, the researcher collected and analyzed both

quantitative and qualitative data to determine if homework impacted the personal development of students from the target high school.

Findings conclude that results from the study are unclear because they contradict each other. Teachers perceived homework's impact on the personal development of students as primarily neutral according to survey item responses but responded overwhelmingly positive on the open-ended response item. Parents' findings were consistent. They responded neutral that homework neither positively nor negatively impacted the personal development of students at the target high school on both the survey items and open-ended response item. Student responses on the four survey items revealed positive perceptions toward homework's impact on personal development, but the open-ended responses revealed overwhelming negative results. A possible explanation for these contradictory findings might be the neutral response choice provided in the Likert scale items. Many respondents selected neutral as a response on several items, which might have skewed the results. If neutral had not been provided as a choice, results from the quantitative and qualitative data might have been more compatible.

#### **Data Collection – Research Question 5**

The researcher collected the survey results from the three groups of participants utilizing the Google Forms survey summary.

**Research Question 5: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the family relationships of students? (Quantitative/Qualitative).** To determine perceptions of the three stakeholder groups (teachers, students, and parents) toward homework and its impact on the family relationships of students from the target high school, all groups were invited to



participate in a survey created by the researcher as previously described. Quantitative and qualitative data were collected and analyzed, and the results were presented and discussed for this research question.

Four Likert scale items (quantitative) and one open-ended item (qualitative) from all three surveys were analyzed. Items 21-24 on the teacher survey consisted of Likert scale items that asked teachers about their perceptions of homework and its impact on the family relationships of students. Item 25 was an open-ended item that also asked teachers about their perceptions of homework and its impact on the family relationships of students at the target high school. The same Likert scale items and open-ended item on the teacher survey were also included on the student and parent surveys (items 17-20 and item 21) to achieve an accurate and valid comparison from the analysis.

The researcher collected the survey results from teachers, students, and parents on their perceptions of homework and its impact on family relationships of students (Research Question 5) utilizing the Google Forms survey summary.

**Quantitative data collection.** Quantitative items that addressed Research Question 5 were in Likert scale format from strongly disagree (1) to strongly agree (5). Different tables for teachers, students, and parents were created to illustrate the results for each survey item. Results from all three surveys are illustrated in Tables 54-56.

Table 54 presents the collected quantitative responses from 83 teachers for items 21-24 from the teacher survey.

Table 54

*Teacher Survey Quantitative Data Results for Research Question 5*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 21 – Homework interferes with the time students spend doing things with their families (n=83).				
4 (4.8%)	30 (36.1%)	18 (21.7%)	22 (26.5%)	9 (10.8%)
Item 22 – Homework increases school/family communication (n=83).				
5 (6.1%)	23 (28%)	34 (41.5%)	14 (17.1%)	7 (8%)
Item 23 – The parent-child relationship is impacted by the negative consequences of homework (n=83).				
6 (7.2%)	20 (24.1%)	26 (31.3%)	27 (32.5%)	4 (4.8%)
Item 24 – Homework unfairly punishes students from low socioeconomic households (n=83).				
9 (11%)	19 (23.2%)	19 (23.2%)	24 (29.3%)	12 (14%)

*Note.* N represents the total number of respondents for each category.

The frequency and percentages of responses are listed for each item. Each item addressed Research Question 5 of the study: What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the family relationships of students?

Findings from this table reveal that teacher perceptions were primarily neutral (neither agree nor disagree) on items 21, 23, and 24. Teachers slightly disagreed on item 22. No items stood out from the table as significant to the study.

Table 55 presents the collected quantitative responses from 165 students for items 17-20 from the student survey.

Table 55

*Student Survey Quantitative Data Results for Research Question 5*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 17 – Homework interferes with the time students spend doing things with their families (n=165).				
6 (3.7%)	7 (4.3%)	18 (11%)	51 (31.3%)	83 (50%)
Item 18 – Homework increases school/family communication (n=165).				
57 (34.5%)	54 (32.7%)	32 (19.4%)	12 (7.3%)	10 (6.1%)
Item 19 – The parent-child relationship is impacted by the negative consequences of homework (n=165).				
10 (6.1%)	15 (9.1%)	45 (27.3%)	49 (29.7%)	46 (27.9%)
Item 20 – Homework unfairly punishes students from low socioeconomic households (n=165).				
12 (7.3%)	19 (11.5%)	61 (37%)	40 (24.2%)	33 (20%)

*Note.* N represents the total number of respondents for each category.

The frequency and percentages of responses are listed for each item. Each item addressed Research Question 5 of the study.

Findings from this table reveal that students strongly agreed with items 17 and 19 on their survey responses. Students strongly disagreed on item 18 and slightly agreed on item 20. One item stood out from the table – item 18. In this item, students strongly disagreed that homework increases school/family communication.

Table 56 presents the collected quantitative responses from 151 parents for items 17-20 from the parent survey.

Table 56

*Parent Survey Quantitative Data Results for Research Question 5*

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Item 17 – Homework interferes with the time students spend doing things with their families (n=151).				
12 (7.9%)	25 (16.6%)	21 (13.9%)	45 (29.8%)	48 (31.8%)
Item 18 – Homework increases school/family communication (n=151).				
25 (16.6%)	44 (29.1%)	44 (29.1%)	35 (23.2%)	3 (2%)
Item 19 – The parent-child relationship is impacted by the negative consequences of homework (n=151).				
15 (10%)	29 (19.3%)	34 (22.7%)	42 (28%)	31 (20%)
Item 20 – Homework unfairly punishes students from low socioeconomic households (n=151).				
23 (15.2%)	28 (18.5%)	38 (25.2%)	42 (27.8%)	20 (13.2%)

*Note.* N represents the total number of respondents for each category.

The frequency and percentages of responses are listed for each item. Each item addressed Research Question 5 of the study.

Findings from this table reveal that parents strongly disagreed on item 18, slightly agreed on item 20, and strongly agreed on items 17 and 19. Three items stood out from the table – items 17, 18, and 19. In these items, teachers strongly disagreed that homework increases school/family communication and strongly agreed that homework interferes with the time students spend with their families and negatively impacts the parent-child relationship.

**Qualitative data collection.** The researcher collected the qualitative survey results from the teachers, students, and parents on their perceptions of homework and its impact on the family relationship of students (Research Question 5) utilizing the Google Forms survey summary. The three participant groups were asked to respond to the same survey item: In your opinion, what impact does homework have on family relationships?

The open-ended survey item was numbered differently (item 25 on the teacher survey and item 21 on the student and parent surveys). The open-ended responses from this item were manually coded for themes, categories, and frequencies and compared to the quantitative findings. The same coding procedures used in Research Questions 3 and 4 were utilized in this research question.

Table 57 presents the a priori codes used to analyze the qualitative data for Research Question 5.

Table 57

*Preset Codes used to Organize Qualitative Data for Research Question 5*

Family Relationships			
Positive impacts		Negative impacts	
Category	<i>f</i>	Category	<i>f</i>
Increase in school/family partnerships		Reduced time for family activities	
Increase in school/family communication		Increased frustration	
		Increased conflict	
		Lack of appropriate knowledge and support	
		Issues of equity	
<i>n</i>		<i>n</i>	

*Note.* F represents the frequency of responses. N represents the total number of responses.

This table includes the two main categories (positive and negative impacts) and the subcategories that fall under each one. Frequencies and the total number of frequencies for each category are also included in this table.

Teacher, student, and parent responses were manually coded using the comment tool in Microsoft Word. This same method was described in Research Questions 3 and 4.

**Research Question 5 Quantitative Data Analysis Results**

To determine how the quantitative data addressed Research Question 5, the researcher sent the data to a professional statistician to be analyzed using IBM SPSS software. The same analyses discussed in Research Questions 3 and 4 were conducted in this research question.

Of specific interest were the levels of agreement with the four items used to assess perceptions of the positive effect of homework on student family relationships and the level of the combined mean across the four items among teachers, students, and parents. In addition, it was of interest to ascertain whether differences existed between these groups on any of the four items and on the overall scale.

The overall four-item scale had an alpha reliability of .949, which is very high. The descriptive statistics for the four items and the overall scale are presented in Table 58.

Table 58

*Descriptive Statistics by Group for the Items Assessing Effect of Homework on Family Relationships and for the Overall Scale*

Item/Scale	Group	Statistics					
		N	Min	Max	Mode	Mean	SD
(17) ...interferes with family relationships (Reversed)	Teacher	83	1	5	2	3.02	1.13
	Student	165	1	5	5	4.20	1.04
	Parent	151	1	5	5	3.61	1.30
	Total	399	1	5	5	3.73	1.24
(18) ...increases school/family communication	Teacher	83	1	5	3	2.94	1.02
	Student	165	1	5	1	2.18	1.16
	Parent	151	1	5	2	2.65	1.07
	Total	399	1	5	2	2.51	1.14
(19) ...has negative consequences for parent-child relationships (Reversed)	Teacher	83	1	5	4	3.04	1.03
	Student	165	1	5	4	3.64	1.17
	Parent	151	1	5	4	3.30	1.27
	Total	399	1	5	4	3.38	1.20
(20) ...unfairly punishes students from low socioeconomic households	Teacher	83	1	5	4	3.13	1.24
	Student	165	1	5	3	3.38	1.15
	Parent	151	1	5	4	3.05	1.27
	Total	399	1	5	3	3.21	1.22
Impact on Family Relationships Scale	Teacher	83	1	5	2.00	3.03	1.07
	Student	165	1	5	2.75	3.35	1.06
	Parent	151	1	5	4.75	3.15	1.19
	Total	399	1	5	3.75	3.21	1.12

The table above illustrates the three participant groups in the study and how they responded to the Likert scale items in the surveys. The mean, mode, and standard deviation are included.

Findings from this table reveal that total mean scores were fairly consistent among the three participant groups. All three groups responded neutral to the four items on the surveys with no significant statistical differences. The mode revealed more meaningful results. The most frequent response from teachers was a 2, representing

disagree on the Likert scale response choices. The mode for students was 2.75, similar to teacher responses; however, the most frequent parent response was 4.75, which leaned to strongly agree on the Likert scale response choices.

The normality assumption of parametric statistics was tested using the Shapiro-Wilk test, which found that only one of the four items (viz., 20) and the impact on family relationships scale satisfied this assumption. One-way ANOVA was consequently applied to this item and to the scale, followed by Tukey-corrected post hoc pairwise comparisons. Both dependent variables met the homogeneity of variance assumption as indicated by their nonsignificant Levene test results, so there was no need to apply the Welch correction to the degrees of freedom. The results of these ANOVAs are presented in Table 59.

Table 59

*Results of ANOVAs of Item 20 and of the Overall Impact on Family Relationships Scale by Respondent Group*

Dependent Variable	Source	df	Mean Square	<i>F</i>	<i>p</i>
(20) ...unfairly punishes students from low socioeconomic households	Between Groups	2	4.542	3.090	.047
	Within Groups	396	1.470		
	Total	398			
Impact on Family Relationships Scale	Between Groups	2	3.131	2.523	.081
	Within Groups	396	1.241		
	Total	398			

The ANOVA for item 20 was barely significant and that for the impact on family relationships scale was nonsignificant. The results of the post hoc pairwise comparisons between the groups for item 20 are presented in Table 60.



Table 60

*Results of Tukey-Corrected Post Hoc Comparisons of Respondent Groups on Item 20*

Dependent Variable	Group (I)	Group (J)	Mean Difference (I-J)	Std. Error	<i>p</i>
(20) ...unfairly punishes students from low socioeconomic households	Teacher	Student	-.249	.162	.278
		Parent	.080	.171	.887
	Student*	Parent	.329	.136	.043

\* Group with higher mean of the pair

Only one of the three pairwise comparisons was significant. It is concluded that there is evidence that the student and parent groups differ in their mean responses to item 20, but none of the group pairs differ on the broader impact on family relationships scale.

The remaining items (viz., 17, 18, and 19) did not satisfy parametric assumptions and were consequently subjected to analysis using the nonparametric Kruskal-Wallis method. The results of these analyses are presented in Table 61.

Table 61

*Results of Kruskal-Wallis Analyses of Items 17, 18, and 19 by Respondent Group*

Item	Chi-Square	df	<i>p</i>
(17) ...interferes with family relationships (Reversed)	55.823	2	<.001
(18) ...increases school/family communication	32.949	2	<.001
(19) ...has negative consequences for parent-child relationships (Reversed)	16.420	2	<.001

The results indicate that one or more pairs of respondent groups differed significantly on all three of these items, calling for the use of follow-up nonparametric pairwise comparisons using the Mann-Whitney test with a Bonferroni adjusted alpha of .0167. The results of these tests are presented in Table 62.

Table 62

*Results of Bonferroni Corrected Post Hoc Mann-Whitney Comparisons of Respondent Groups on Items 17 18, and 19*

Item	Mann-Whitney U	<i>p</i> (2-tailed)
(17) ...interferes with family relationships (Reversed)		
Teacher vs. Student*	3047.5	<.001
Teacher vs. Parent*	4096.5	<.001
Student* vs. Parent	4747.5	<.001
(18) ...increases school/family communication		
Teacher* vs. Student	4528	<.001
Teacher vs. Parent	5422	.077
Student vs. Parent	5436	.085
(19) ...has negative consequences for parent-child relationships (Reversed)		
Teacher vs. Student*	9206	<.001
Teacher vs. Parent*	9223.5	<.001
Student* vs. Parent	10590.5	.018

\* Group with higher mean of the pair

All three of the Table 66 pairwise comparisons were significant for item 17; only one of the three pairwise comparisons was significant for item 18; and two of the three pairwise comparisons were significant for item 19. It is concluded that all three pairwise comparisons were significant for this research question. Teacher versus student was the most significant among the three comparisons.

### **Research Question 5 Quantitative Data Analysis Summary**

Quantitative data were collected from the three participant groups' survey responses taken from four Likert scale items associated with this research question. The purpose behind the collection and analysis of these data was to inquire as to the degree of impact of homework on the various aspects of family relationships of high school students at the target school and whether perceptions of such impacts differ among

students, teachers, and parents. Findings from the quantitative data from this study indicate that perceptions on homework's effect on personal development differ among teachers, students, and parents.

Results from the SPSS statistical analysis on the quantitative data associated with Research Question 5 indicate that all three participant groups responded neutral overall toward the four survey items. They neither agreed nor disagreed that homework has an impact on the family relationships of students from the target high school.

### **Research Question 5 Qualitative Data Analysis Results**

During the first phase of the coding process, the researcher collected data from teachers, students, and parents on their responses from the open-ended item associated with Research Question 5: In your opinion, what impact does homework have on the family relationships of students?

After collecting the original coding data, results were coded a second time to determine the categories (positive or negative impacts) and subcategories that matched up with those in the pre-coded table. This same coding procedure was discussed during the data analysis for Research Questions 3 and 4.

After phase two of the manual coding method, responses and frequencies were recorded in pre-coded tables. Tables were created from the responses of each participant group taken from the open-ended item for this research question. Results from item 25 (teachers) and item 21 (students and parents) are presented in Tables 63-65.

Table 63 illustrates the recorded teacher responses from open-ended item 25.

Table 63

*Teacher-Coded Responses – Survey Item 25*

In your opinion, what impact does homework have on the family relationships of students?					
Family relationships					
Positive impacts			Negative impacts		
Code	Category	<i>f</i>	Code	Category	<i>f</i>
P1	Increase in school/family partnerships	2	N1	Reduced time for family activities	11
P2	Increase in school/family communication	4	N2	Increased frustration	4
P3	<i>Increase in student/parent communication</i>	16	N3	Increased conflict	19
			N4	Lack of appropriate knowledge and support	5
			N5	Issues of equity	6
Category Totals		<i>n</i> =22 (33%)	Category Totals		<i>n</i> =45 (67%)

The table includes preset codes for the two primary categories (positive and negative) and additional subcategories. Positive subcategories are labeled P1-P3, and negative subcategories are labeled N1-N5. The frequencies (*f*) of responses from teachers for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category. Respondents from all three surveys frequently mentioned words or phrases that the researcher deemed necessary to include that were not already in the pre-coded table. These emergent codes are seen in italics.

Of the 67 teacher responses to this item, 45 (67%) perceived homework's impact on family relationships of students as negative for two main reasons: It increased family conflicts, and it reduced time for family activities. One parent replied, "Homework is a negative word in most families that leads to arguments and stress in our household." A

second parent agreed, stating, “Homework often leads to arguments and conflicts that really hurt family relationships.” A third parent responded, “Homework can be a lightning rod that highlights existing family conflicts.”

Even though most parents found homework to impact families negatively, 15 perceived it to positively increase parent and student communication, strengthening family relationships. This subcategory was not originally included in the pre-coded table, but it was added because of the frequency of responses about this theme. One parent stated, “parents who help students with homework will increase communication between the parent/student strengthening the relationships.” A second parent agreed, saying, “Homework often enhances family relationships, because it opens communication between parents and children about what they are learning in school.”

Table 64 presents results from the student-coded responses for item 21.

Table 64

*Student-Coded Responses – Survey Item 21*

In your opinion, what impact does homework have on the family relationships of students?					
Positive impacts			Family relationships		
Code	Category	<i>f</i>	Code	Negative impacts	<i>f</i>
P1	Increase in school/family partnerships	2	N1	Reduced time for family activities	50
P2	Increase in school/family communication	1	N2	Increased frustration	6
P3	<i>Increase in student/parent communication</i>	7	N3	Increased conflict	28
			N4	Lack of appropriate knowledge and support	5
			N5	Issues of equity	3
Category Totals		n=10 (10%)	Category Totals		n=92 (90%)

The frequencies (*f*) of responses from students for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category.

More than any other open-ended item response, this item revealed the most noteworthy results toward one category; 92 (90%) student respondents perceived homework to negatively impact family relationships. Seventy-eight of the 92 responses in this category focused on two subcategories: reduced time for family activities and increased family conflicts. Students were adamant about their disapproval of homework's negative impact on relationships with their families. One student responded, "homework stresses me out causing me to have a negative attitude toward my parents without meaning it." A second student agreed, saying, "homework makes everyone at

my house stressed out because nobody has time for it.”

A third student described a negative experience with family members over homework, saying,

My parents always expect me to do my homework immediately after I get home from school. I need time to relax or be with my friends, because I just spent seven hours at school doing work. This often results in screaming matches and me getting grounded all because of homework.

Students were also concerned about the lack of time available to do things with their families because of homework. Student after student responded, “homework does not allow me to spend time with my family,” or “homework negatively affects relationships with my family members and friends.”

Table 65 presents results from the parent-coded responses for item 21.

Table 65

*Parent-Coded Responses – Survey Item 21*

In your opinion, what impact does homework have on the family relationships of students?					
Positive impacts			Family relationships		
Code	Category	<i>f</i>	Code	Category	<i>f</i>
P1	Increase in school/family partnerships	0	N1	Reduced time for family activities	24
P2	Increase in school/family communication	3	N2	Increased frustration	7
P3	<i>Increase in student/parent communication</i>	21	N3	Increased conflict	19
			N4	Lack of appropriate knowledge and support	10
			N5	Issues of equity	3
Category Totals		<i>n</i> =24 (28%)	Category Totals		<i>n</i> =63 (72%)

The frequencies (*f*) of responses from students for each subcategory are also included in the table as well as the total number of responses (*n*) for each primary category.

Not only did students respond negatively to this item, so did 63 (72%) of the parents. The most frequent negative responses from parents focused on homework's impact of time spent with family members. One parent complained, "Homework takes up all of my child's time at home in the evenings leaving very little time for family or for fun things." A second parent commented, "homework takes away the time we used to just sit around and talk in the evenings."

Even though nearly three fourths of parents responded negatively toward this item, the subcategory with the second highest amount of responses was a positive impact



of homework on family relationships. Twenty-one parents (24%) perceived homework to positively impact student/parent communication. One parent responded, “The homework assignments often start good conversations at home and teach us about things many times.” A second parent commented, “being involved as a parent is important, because it lets the children know that we care about their lives, school, and future.”

### Research Question 5 Qualitative Data Analysis Summary

Qualitative data for this research question consisted of one open-ended item. To determine comparisons between the participant groups, a table was created from the responses and combined for the analysis. Table 66 presents the comparisons.

Table 66

#### *Participant Group Comparisons – Homework’s Impact on Family Relationships*

In your opinion, what impact does homework have on the family relationships of students?							
Positive impacts	T %	S %	P %	Negative impacts	T %	S %	P %
Increase in school/ family partnerships	3	2	0	Reduced time for family activities	16.4	49	27.5
Increase in school/ family communication	5.9	1	3.5	Increased frustration	5.9	5.9	8.1
<i>Increase in student/parent communication</i>	23.9	6.8	24.1	Increased conflict	28.4	27.5	21.8
				Lack of appropriate knowledge and support	7.5	4.9	11.5
				Issues of equity	9	2.9	3.5
Positive Category Totals	32.8	9.8	27.6	Negative Category Totals	67.2	90.2	72.4

*Note.* T represents teachers. S represents students. P represents parents.

This table presents percentages for each category and subcategory from survey

item 21 (students and parents) and item 25 (teachers) for comparing the three participant groups. Total positive and negative impact percentages are included for each participant group.

Comparisons of participant groups presented in this table reveal noteworthy results about homework's impact on the family relationships of students (Research Question 5). All three participant groups decisively perceived homework as a negative impact on family relationships; however, teachers and parents both considered homework impactful at building positive relationships between parents and students, even though the negative impacts outweighed them.

### **Research Question 5 Summary**

To address Research Question 5, the researcher collected and analyzed both quantitative and qualitative data to determine if homework impacted family relationships of students from the target high school. The three groups of participants (teachers, students, and parents) completed perceptual surveys that included Likert scale and open-ended items.

Findings conclude that all three participant groups perceived homework's impact on the family relationships of students as primarily neutral, neither positive nor negative, according to the quantitative survey item results but responded more negative on the open-ended qualitative response item. As mentioned in the summaries of Research Questions 3 and 4, the neutral response choice provided in the Likert scale items might be responsible for the different findings between the two types of data.

### **Chapter 4 Summary**

A convergent mixed-methods design was employed in this research study that utilized both qualitative and quantitative data instruments to determine answers to issues

identified in the anti-homework versus pro-homework debate among teachers at the target high school. The instruments included teacher, student, and parent perception surveys and EVAAS student growth data collected from the participants in the study. Chapter 4 included a comprehensive explanation of the study's findings obtained from the data results and analyses that were utilized to address the five research questions.

The final chapter of this research study begins with a summary of the research study and is followed by interpretations, limitations, and suggestions for further research.

## Chapter 5: Discussion

### Overview

Arguments both for and against homework are not new. As determined from an extensive literature review, the homework pendulum over the last hundred years has consistently swung from pro-homework to anti-homework and back again. The historical arguments for or against homework are familiar because they bear a striking similarity to arguments taking place in today's debates (Vatterott, 2009, p. 3).

In 2014, the homework debate became more personal to the researcher. Teachers from the researcher's high school were assigned a schoolwide book read on the topic of homework. The book *Rethinking Homework: Best Practices that Support Diverse Needs* by Vatterott (2009) sparked heated discussions between pro-homework and anti-homework teachers over the importance of homework and its impact on student achievement at the target high school. Unfortunately, no data from the target school existed to support either side of the argument. A year later, the researcher set out to determine whether homework at the target high school impacted student achievement by providing data that could be analyzed to determine findings and conclusions for this debated issue.

Not only was homework versus no homework a debate, but differences arose over what types of homework were most effective for student achievement. Teachers who assigned homework at the target high school gave the impression that they primarily assigned two of the four types of homework identified in Lee and Pruitt's (1979) taxonomy - practice homework and preparation homework. Researchers have investigated the impact of homework on student achievement for years; however, most studies have limited the research to the homework versus no homework debate or the

time and length of homework assignments. Little research has been designed to investigate the effectiveness of different types of homework on student achievement, especially at the high school level. To find out more about the homework versus no homework debate, an extensive literature review conducted by the researcher shaped the framework for this study.

The conceptual framework of this study was based on research on homework conducted by Cooper (1989), Lee and Pruitt (1979), and Foyle (1984) and from three reoccurring themes identified in the literature review – homework’s impact on student learning, personal development, and family relationships.

The research study consisted of a threefold purpose: (a) to add to Cooper’s (1989) research on homework and student achievement by determining if higher achievement existed among students assigned homework compared to students not assigned homework at the target high school, (b) to examine the use of two of the four types of homework included in Lee and Pruitt’s (1979) taxonomy – preparation homework and practice homework – to ascertain if one type produced greater student achievement at the target high school over the other, and (c) to add to the research on homework by determining the perceptions of stakeholders (teachers, students, and parents) regarding the impact of homework in three areas: student learning, personal development, and family relationships.

To evaluate the study’s threefold purpose, the researcher investigated five research questions:

1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework?
2. What differences in academic achievement exist among students assigned

primarily preparation homework compared to those assigned primarily practice homework?

3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning?
4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students?
5. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships?

The methodology for this study was conducted as a convergent parallel mixed-methods design. Both quantitative and qualitative instruments were collected, analyzed separately, and then compared to determine if the findings confirmed or disconfirmed each other in the study. Quantitative data consisted of teachers' EVAAS student growth results from the 2015-2016 and 2016-2017 school years and survey results from Likert scale items retrieved from teacher, student, and parent surveys. Qualitative data consisted of survey responses retrieved from four open-ended items about the participant groups' perceptions of homework's impact on student learning, personal development, and family relationships.

The research study consisted of five different analyses of the collected data that were aligned to the five research questions. In phase one, data from teacher surveys and EVAAS cumulative student growth results were analyzed to address Research Questions 1 and 2 of the study.

1. What differences in academic achievement exist among students assigned no homework compared to those assigned homework?
2. What differences in academic achievement exist among students assigned

primarily preparation homework compared to those assigned primarily practice homework?

The researcher ran ordinal regression tests on the data for analyses one and two using the IBM SPSS Statistics program to determine correlations that addressed the two research questions.

Research Question 1 determined if students assigned homework revealed differences in student achievement (EVAAS student growth results) when compared to students not assigned homework. Research Question 2 determined if students assigned specific types of homework revealed differences in student achievement (EVAAS student growth results).

In phase two, the researcher sent the quantitative data to a professional statistician to be analyzed using IBM SPSS software to determine how results from the survey responses addressed Research Questions 3, 4, and 5.

3. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on student learning?
4. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on the personal development of students?
5. What perceptions of stakeholders (teachers, students, and parents) exist about the impact of homework on family relationships?

Analyses of the quantitative data included descriptive and inferential statistics as well as ANOVAs to determine if relationships existed between the perceptions of teachers, students, and parents associated with homework's impact on student learning, personal development, and family relationships.

In phase three, the researcher collected the responses from the four open-ended

survey items completed by the participant groups to determine how the qualitative data addressed Research Questions 3, 4, and 5. The researcher read the participant groups' responses from the four open-ended survey items carefully and jotted down ideas and themes using a manual coding strategy.

Before conducting the coding process for the qualitative data, the researcher began with a list of preset codes known as a priori codes. These initial codes were derived from the conceptual framework, research questions, and literature review of this study. As the researcher carefully read through the open-ended survey responses from the four items, common themes, categories, and subcategories emerged for Research Questions 3, 4, and 5.

Analysis of the quantitative and qualitative data resulted in noteworthy findings for each of the five research questions. Results were presented in tables and descriptive summaries in Chapter 4. Before revealing the findings and implications of the study, the limitations faced while conducting the research study are addressed.

### **Limitations of Study**

The researcher described two limitations at the onset of the study: limited EVAAS student growth data from teachers and limited student survey participation. These two limitations affected the data collection for the study. To determine answers to Research Questions 1 and 2, the study required teachers to participate in a homework perception survey and agree to volunteer their individual EVAAS identification numbers. Of the 99 classroom teachers, 61 taught subjects that provided EVAAS student growth data. Nine of the 61 teachers were not eligible to participate, because they could not provide 2 years of EVAAS data required for the study. This left 52 teachers to participate in the study. Of the 52 teachers, 37 participated in the survey and provided their EVAAS identification



numbers for the study. This number worked for the study, but the reliability and validity for the results were limited because of the small sample size.

The second limitation mentioned at the onset of the study also affected the data collection for the study. The population size for the student participation group was 1,543. This target group provided the quantitative and qualitative data needed to address Research Questions 3, 4, and 5. To meet guidelines set forth by the Institutional Review Board (IRB), a student/parent consent/assent form was sent home with each of the 1,543 students for their parents/guardians to read, sign, and return to the researcher. The form also provided a space for parents to assent to participate in the parent survey themselves. The population size for the parent participation group was also 1,543. Having to collect consent/assent forms not only affected the participation rate of student survey responses but also affected the amount of parent survey responses. Of the 1,543 students and parents, 165 students and 151 parents participated in the perception surveys. This number worked for the study, but the reliability and validity for the results were limited because of the small sample sizes.

### **Interpretation of Findings**

Data collected on the five research questions yielded a great deal of data and several significant correlations. The findings are discussed as five distinct groups: Research Question 1 and ancillary findings (Homework's Impact on Student Achievement), Research Question 2 and ancillary findings (Preparation versus Practice Homework and Student Achievement), Research Question 3 and ancillary findings (Perceptions of Homework's Impact on Student Learning), Research Question 4 (Perceptions of Homework's Impact on Personal Development), and Research Question 5 (Perceptions of Homework's Impact on Family Relationships).

To conclude, findings for each research question are converged and compared to determine if they confirm or disconfirm each other as part of the convergent parallel mixed-methods design. The conceptual framework created for the study is revisited and used as a guide for each research question.

**Conceptual framework.** The conceptual framework for the study was used to guide the research questions as well as methodological choices of instrumentation and study design. Ravitch and Riggan (2012) defined conceptual frameworks as “both a guide and a ballast for empirical research, situating specific questions and strategies for exploring them within the wider universe of what is already known about a given topic or question” (p. xiii). Before revealing the findings for each research question and theme, the conceptual framework alignment is broken down and illustrated using a flow chart.

**Homework’s impact on student achievement.** The conceptual framework alignment for Research Question 1 is illustrated in Figure 12.

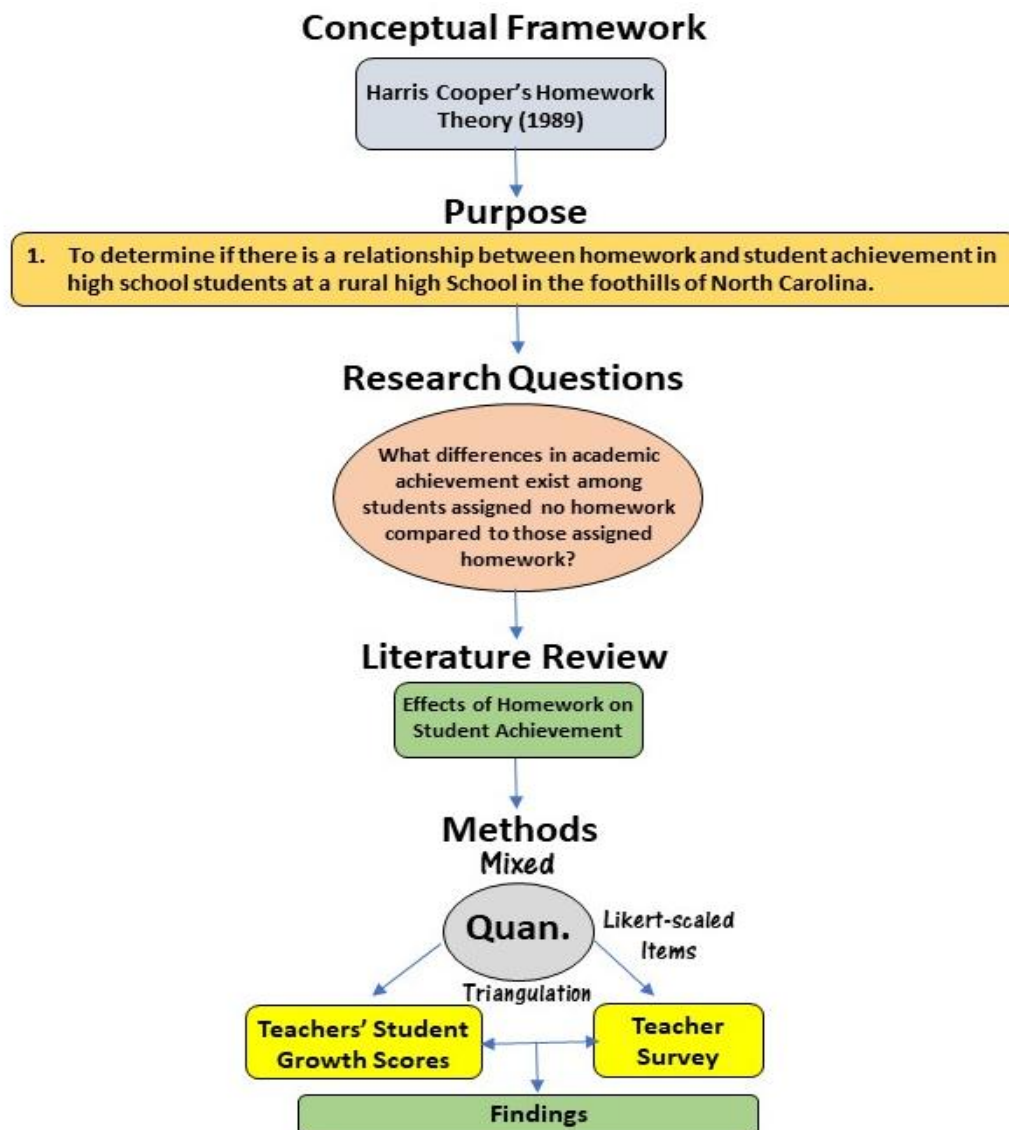


Figure 12. Research Question 1 Conceptual Framework Alignment.

The original purpose of this research study was to determine if there was a relationship between homework and student achievement in students from the target high school. Since the schoolwide book reading and discussions on Vatterott's (2009) book *Rethinking Homework: Best Practices that Support Diverse Needs*, teachers at the site desired to know if homework impacted student achievement at the school. The researcher set out to find answers to this question. Initially, the researcher conducted an

extensive literature review on homework and student achievement. The studies of Dr. Harris Cooper from Duke University emerged as seminal. Research Question 1 and the study that followed resonated with the research and findings of Cooper et al. (2006) in his meta-analysis on homework and its relationship to academic achievement.

Research Question 1 set out to determine if students assigned homework achieved higher scores on EOC/NC Final Exams than students assigned no homework.

Findings for Research Question 1 indicate that 29 of the 37 teachers who submitted their individual composite EVAAS student growth scores met or exceeded EVAAS expected growth for the students they taught and tested during the 2015-2016 and 2016-2017 school years. Of the 37 teachers who provided EVAAS data, 26 (78%) claimed to have assigned homework to their students and 11 (22%) did not. Of the 26, 23 (88%) met or exceeded expected growth. Of the 11 who did not claim to assign homework to their students, 72% met or exceeded expected growth. The research findings concluded that teachers who provided EVAAS data and assigned homework achieved higher student achievement on EOC/NC Final Exam scores than those who did not assign homework to their students; however, the differences were not statistically significant because of the small sample size of teachers who participated in the study.

The findings also indicated how frequently teachers at the target school assigned homework to their students and if the amount of homework assigned impacted student achievement. Of the 37 teachers who provided EVAAS data, nine (24%) assigned no homework to their students, 20 (54%) assigned homework sometimes, four (11%) assigned homework most of the time, and four (11%) always assigned homework. During the analysis of this data, teachers who responded never or sometimes were coded as infrequent amounts of homework teachers, while those who responded most of the

time or always were coded as frequent amounts of homework teachers. Analyzing the data in this way did not contradict the results from the first analysis. In fact, it strengthened the findings. All eight (100%) of the teachers who assigned frequent amounts of homework met or exceeded expected growth, while 29 (79%) teachers who assigned infrequent amounts of homework met or exceeded expected growth. These results were significant for addressing the research question but deemed statistically insignificant according to the SPSS ordinal regression statistical analysis because of the small sample size of respondents.

Cooper (1989) compared the achievement of students given homework assignments to students given no homework or any other treatment to compensate for the lack of required home study. Of 20 independent samples, 14 produced effects favoring homework, whereas six favored no homework. These studies revealed that the average high school student in a class doing homework would outperform 75% of the students in a no homework class. The findings in this study did not reveal as noteworthy results as Cooper's (1989) study, but they did agree with his findings that students assigned homework outperformed those not assigned homework. This study was significant to the research on homework and student achievement because it added statistical data and additional research to Cooper's (1989) research and the homework versus no homework topic.

**Preparation versus practice homework and student achievement.** The conceptual framework alignment for Research Question 2 is illustrated in Figure 13.

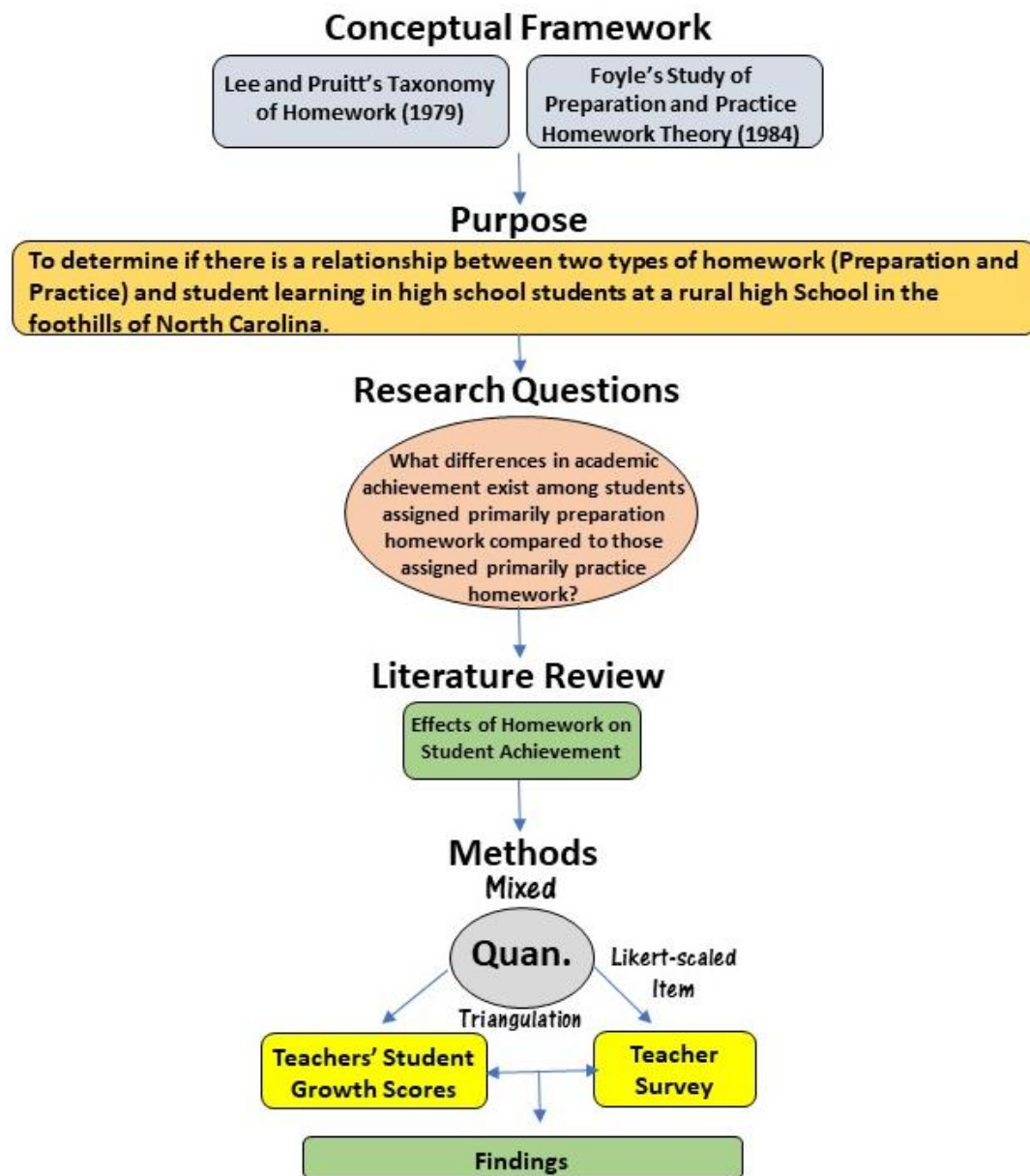


Figure 13. Research Question 2 Conceptual Framework Alignment.

While searching the literature for studies on homework and student achievement, the researcher came across studies on the different types of homework. Since types of homework and their impact on student achievement was also a topic of discussion among teachers during the book read discussions at the high school, it was included as part of the

research study. Teachers at the target high school desired to know if differences in academic achievement existed among students assigned primarily one type of homework over another. The conceptual framework for this theme and the research question that followed evolved from the studies of Lee and Pruitt (1979) and Foyle (1984). Lee and Pruitt created a taxonomy that classified homework according to four purposes: (a) preparation, (b) practice, (c) extension, and (d) creativity. Foyle conducted the first experiment specifically using Lee and Pruitt's homework taxonomy at Emporia High School in Kansas. His study examined two of Lee and Pruitt's four types of homework assignments – preparation and practice – to ascertain which type produced greater student achievement among the 131 tenth-grade American History students studied. The literature found on the research conducted by Lee and Pruitt and the studies of Foyle guided the conceptual framework for this research question.

Findings indicate that of the 37 teachers who provided EVAAS data for the study, 14 assigned primarily practice homework, five assigned primarily preparation homework, five assigned other types (creative and extension), two assigned both types (preparation and practice), and 11 assigned no homework to their students. For this study, teachers who assigned primarily preparation homework were compared to those who assigned primarily practice homework to determine if the type assigned to students resulted in differences in academic achievement according to EVAAS student growth scores (Research Question 2). The findings indicated that 12 of the 14 (85%) teachers who primarily assigned practice homework met or exceeded EVAAS expected student growth on their EOC/NC Final Exam results. All five teachers (100%) who primarily assigned preparation homework met or exceeded EVAAS expected student growth. The research revealed minor differences in student achievement between students assigned primarily

preparation homework compared to those assigned primarily practice homework. They both revealed positive results in student achievement; however, preparation homework was slightly more significant in the findings. These results were deemed statistically insignificant according to the SPSS ordinal regression statistical analysis of the data for this research question because of the small sample size of respondents. The significance of the findings for this research question would be more reliable and valid with a larger sample of teacher participants.

Foyle (1984) conducted a study on 131 students from American History classes in a high school in Kansas. He divided the students into three participant groups: practice homework, preparation homework, and no homework. Students were administered a pretest and posttest, and the results were compared at the end of the study. Foyle's (1984) results indicated insignificant differences in achievement mean scores between students assigned preparation homework compared to those assigned practice homework, yet both types of homework revealed increases in student achievement. These results almost mirrored those found by the researcher.

Conclusions from Research Question 2 reveal that the findings of Foyle (1984) were comparable to the findings in this study. Both studies found insignificant differences in achievement between students assigned preparation or practice homework. The research also concludes that either preparation or practice homework can be assigned to students and have similar positive effects on student achievement.

The literature review revealed little research on the different types of homework assigned by teachers. Even less research was found on how different types of homework impact student achievement. This study added to this research.

The third phase of the research focused on teachers, students, and parents and



their perceptions on the impacts of homework. The literature review allowed the researcher to investigate the history of homework, purposes of homework, positive and negative effects of homework, and the different perceptions on homework of the three participant groups in the study – teachers, students, and parents. Even though the study primarily focused on homework and its relationship to student achievement, it was necessary to also know how the different stakeholders perceived homework. The literature review evolved into three themes that consistently stood out in the literature. The three themes (student learning, personal development, and family relationships) were utilized as the framework for the study's final three research questions.

Findings for Research Questions 3, 4, and 5 are discussed individually according to their themes.

**Perceptions of homework's impact on student learning.** The conceptual framework alignment for Research Question 3 is illustrated in Figure 14.

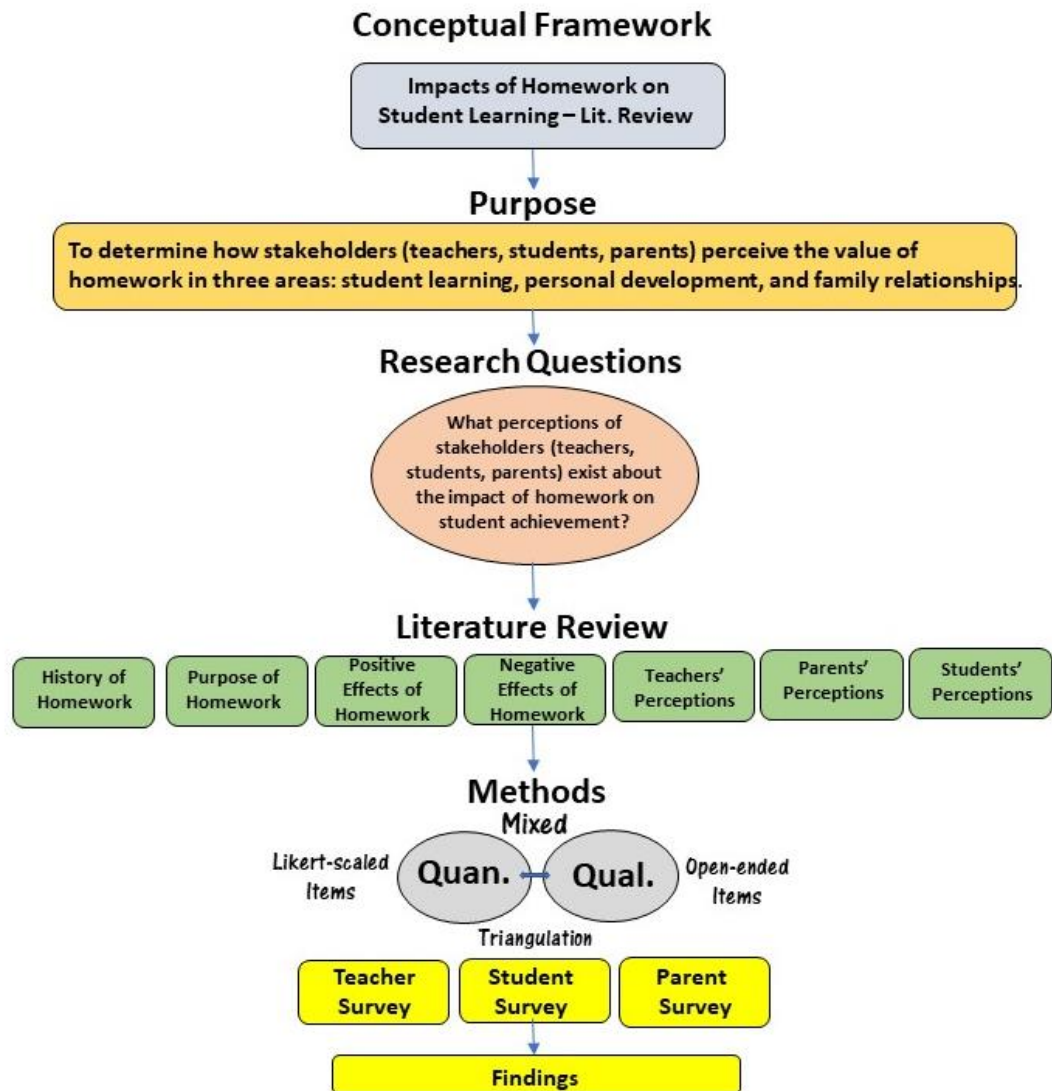


Figure 14. Research Question 3 Conceptual Framework Alignment.

Research Question 3 focused on the perceptions of homework's impact on student learning. Findings from the quantitative data indicate that perceptions on homework's effect on student learning differ among teachers, students, and parents. The differences are illustrated in Figure 15.

<b>Teachers agree significantly more strongly than students that homework...</b>
leads to increased student achievement. increases academic motivation in students. improves students' attitudes toward school.
<b>Students agreed significantly more strongly than teachers that:</b>
too much homework is assigned. homework leads to increased boredom for students. takes up too much non-school time.
<b>Parents agreed significantly more strongly than teachers that...</b>
too much homework is assigned. homework promotes independent work.
<b>Parents agreed significantly more strongly than students that homework...</b>
leads to increased student achievement. improves retention and understanding. improves students' attitudes toward school. promotes independent work. takes up too much non-school time.
<b>Students agreed significantly more strongly than parents that...</b>
too much homework is assigned at the target school. homework increases academic motivation in students. homework leads to increased boredom for students.
<b>Students agreed significantly more strongly than both teachers and parents that...</b>
too much homework is assigned at the target school.
<b>Parents agreed significantly more strongly than both teachers and students that homework...</b>
promotes independent work.
<b>Both teachers and parents agreed significantly more strongly than students that homework...</b>
leads to increased student achievement. improves students' attitudes toward school.

*Figure 15. Differences in perceptions – Homework's impact on student achievement.*

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According to the overall SPSS statistical analysis of the quantitative survey items for Research Question 3, the findings indicate that all three groups' responses perceived homework's impact to be primarily neutral towards student achievement, both positive and negative. Teacher responses revealed a slightly more negative perception on homework's impact on student achievement than the other two participant groups.

These results refuted the research found in the literature review that showed teachers as more positive toward homework's impact on student learning. The findings are difficult to explain. Teachers may not have known how to respond confidently to this research question, since no data existed to prove whether or not homework impacted student learning at the target school. The lack of data on homework may have resulted in higher percentages of "neutral" Likert scale responses from the participants on the surveys, thus skewing the results. This research study provided the missing data about the impacts of homework that can be shared with teachers, students, and parents in the future.

According to qualitative data findings associated with Research Question 3, significant differences exist in perceptions of homework's impact on student learning between students and the other two participant groups. Responses from the first open-ended response revealed that teachers and parents overwhelmingly perceived homework to have a positive impact on EOC/NC Final Exams. Students were equally divided on their responses, perceiving homework to have both positive and negative impacts on EOC/NC Final Exams. According to the literature review, proponents of homework argue that students who do homework result in higher achievement levels, especially at the high school level (Cooper, 1989). "Although common sense dictates that there is a point of diminishing returns, the more homework that high school students do, the higher their achievement levels" (Cooper & Valentine, 2001, p. 145).

According to the second open-ended response, students perceive homework to have a much larger negative impact on student learning overall than teachers and parents. It is difficult to determine how these findings relate to findings in other studies, because there is little evidence from research about the viewpoints of students toward homework

and student learning. “Although literature on homework is extensive, the concerns of students, the principal participants, remain largely unheard” (Warton, 2001, p. 158).

Teachers and parents responded similarly to this research question. They both were more positive toward homework’s impact on student learning than students.

Teacher responses associated with the quantitative data for this research question were primarily neutral, but they slightly leaned to homework as negative. These results contradicted those in the qualitative data. The findings could have been affected by the neutral responses category from the survey items.

**Perceptions of homework’s impact on personal development.** The conceptual framework alignment for Research Question 4 is illustrated in Figure 16.

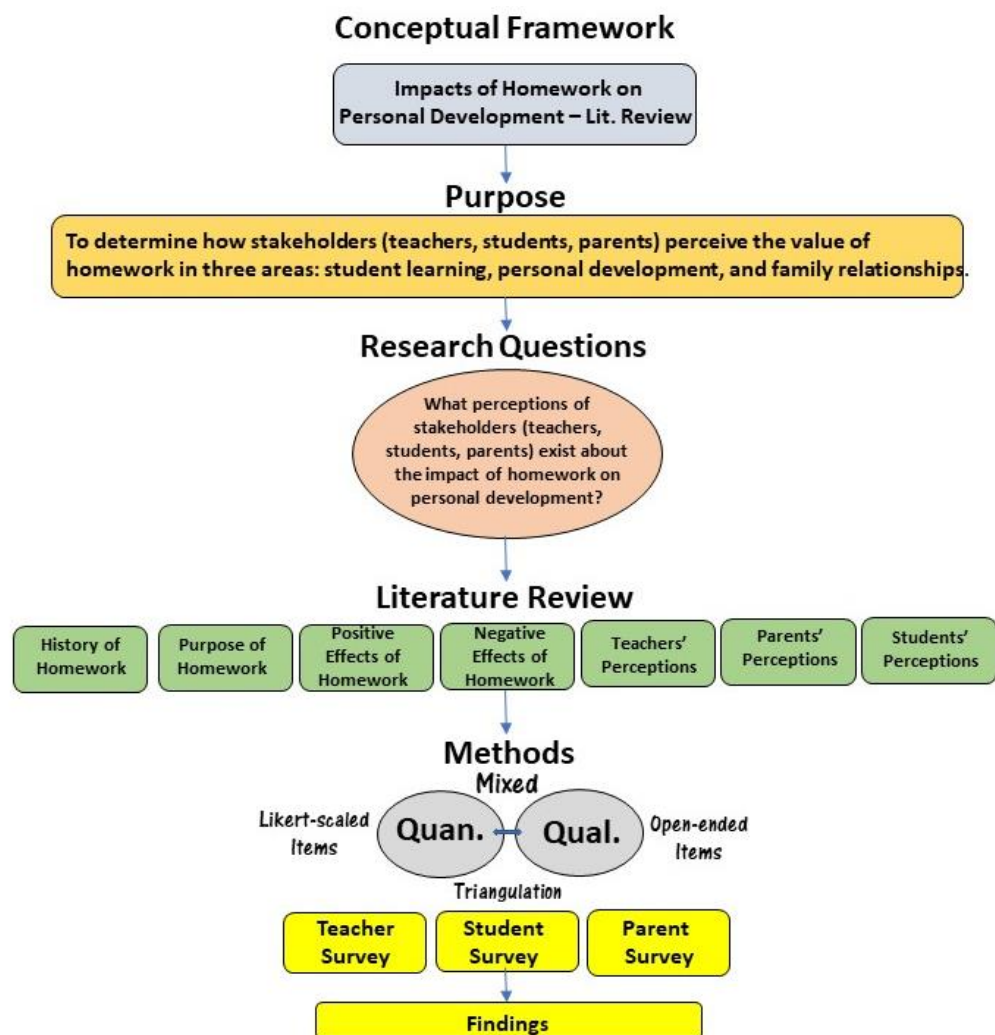


Figure 16. Research Question 4 Conceptual Framework Alignment.

Findings from the quantitative data reveal that perceptions on the effects of homework on the personal development of students differ among teachers, students, and parents. The differences are illustrated in Figure 17.

<b>Teachers agree significantly more strongly than students that homework...</b>
increases academic motivation in students.
<b>Students agreed significantly more strongly than teachers that homework:</b>
interferes with the social life of students.
denies students access to leisure time activities.
impacts the physical health of students.
impacts the overall Impact on Personal Development Scale.
<b>Parents agreed significantly more strongly than teachers that homework...</b>
interferes with the social life of students.
denies students access to leisure time activities.
impacts the physical health of students.
<b>Parents agreed significantly more strongly than students that homework...</b>
increases academic motivation in students.
<b>Students agreed significantly more strongly than parents that homework...</b>
interferes with the social life of students.
denies students access to leisure time activities.
impacts the overall impact of Personal Development Scale.
<b>Students agreed significantly more strongly than both teachers and parents that homework...</b>
interferes with the social life of students.
denies students access to leisure time activities.
impacts the overall impact of Personal Development Scale.
<b>Both teachers and parents agreed significantly more strongly than students that homework...</b>
increases academic motivation in students.
<b>Both students and parents agreed significantly more strongly than teachers that homework...</b>
interferes with the social life of students.
denies students access to leisure time activities.
impacts the physical health of students.

*Figure 17. Differences in Perceptions – Homework’s Impact on Personal Development.*

According to the overall SPSS statistical analysis of the quantitative survey items for Research Question 4, the findings indicate that all three participant groups significantly differ in their overall mean scores. Students rated the impact of homework on personal development significantly more favorably than both teachers and parents, and parents rated this impact significantly more favorably than teachers. Although the participant groups were in the neutral interval for this research question, students were

slightly into the agree range.

According to qualitative data results associated with Research Question 4, teachers overwhelmingly supported homework as a positive impact, whereas students overwhelmingly perceived it to be negative. According to Kralovec and Buell (2000), homework negatively impacts the personal development of students because students claim they do not have enough time to complete it. Students perceive homework as something that interferes with their social lives (Kralovec & Buell, 2000, p. 56). Parents fell into the neutral interval. They perceived homework for this item to be equally positive and negative at impacting the personal development of students.

Results from the study for this research question are unclear after converging the quantitative and qualitative data findings. They tend to contradict each other. Teachers supported homework's impact on the personal development of students as primarily neutral according to survey item responses but responded overwhelmingly positive on the open-ended response item. Parent findings were consistent. They responded neutral that homework neither positively nor negatively impacted the personal development of students at the target high school on both the survey items and open-ended response item. Student responses on the four survey items revealed favorable results toward homework's impact on personal development, but the open-ended responses revealed overwhelming negative results. The negative findings coincide with the findings in the literature review. Exhaustion and frustration caused by homework greatly impact the personal development of students. "Most attentive parents can testify that their children are chronically frustrated by homework – weepy, stressed out, and fed up" (Kohn, 2006, p. 10). As one frustrated parent stated about the impact of homework on his child's personal development, "It is not at all rare for our 11th grader to be up after the rest of us go to bed



and also before we get up” (Kohn, 2006, p. 11). Results from the open-ended item show that students perceive homework as primarily negative on their personal development. “Opponents of homework caution that it is time to stop dismissing students’ criticisms and excuses for not doing homework, and to ask ourselves if these excuses are valid and need to be taken more seriously” (Cooper, 1989, p. 18). The converged results completely contradict each other. A possible explanation for these findings might be the neutral response choice provided in the Likert scale items. Many respondents selected neutral as a response on several items, which might have skewed the results.

**Perceptions of homework’s impact on family relationships.** The conceptual Framework alignment for Research Question 5 is illustrated in Figure 18.

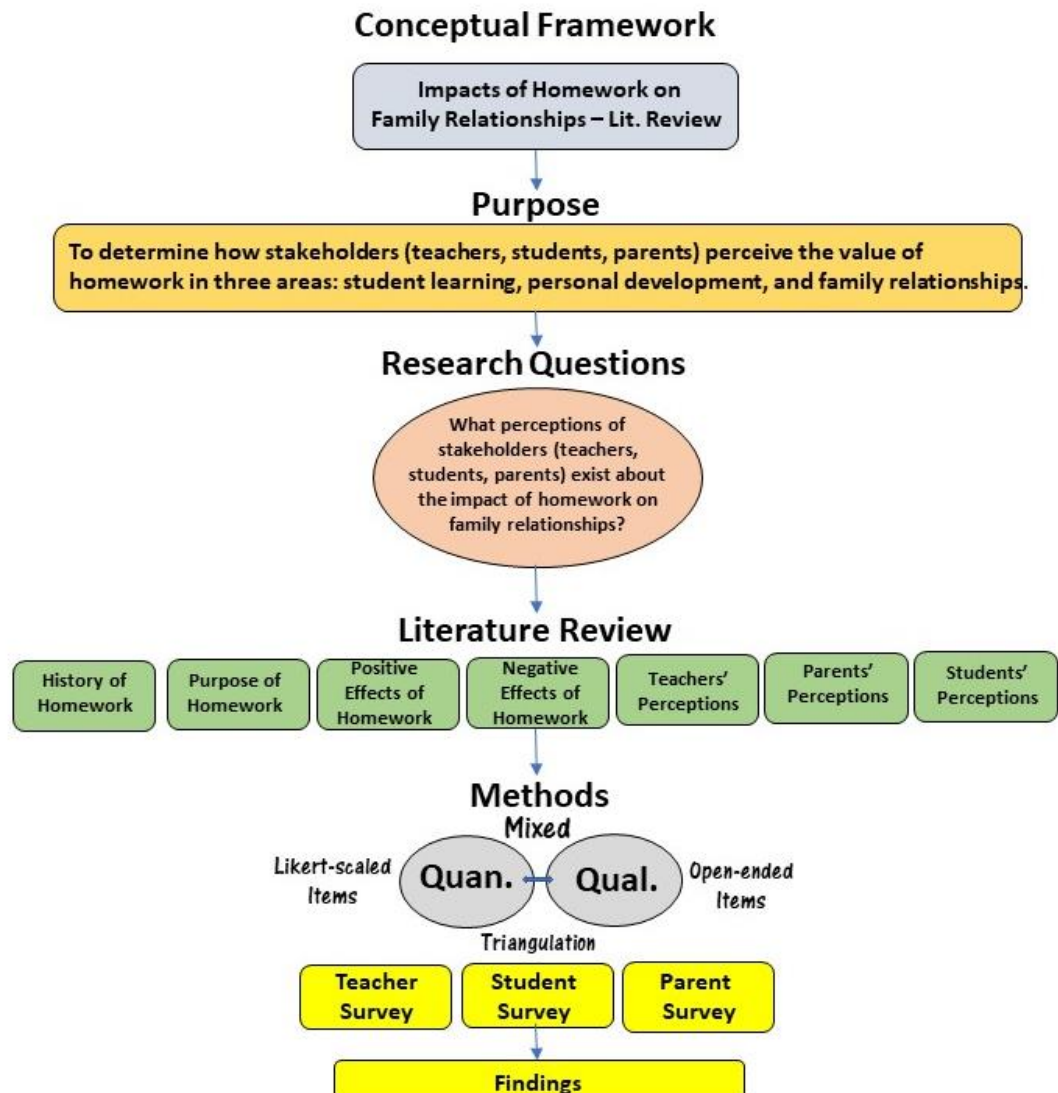


Figure 18. Research Question 5 Conceptual Framework Alignment.

Research Question 5 focused on the perceptions of homework's impact on the family relationships of students. The differences are illustrated in Figure 19.

<b>Teachers agreed significantly more strongly than students that homework...</b>
increases school/family communication.
<b>Students agreed significantly more strongly than teachers that homework...</b>
interferes with family relationships.
has negative consequences for parent-child relationships.
<b>Parents agreed significantly more strongly than teachers that homework...</b>
interferes with family relationships.
has negative consequences for parent-child relationships.
<b>Students agreed significantly more strongly than parents that homework...</b>
unfairly punishes students from low socio-economic households.
interferes with family relationships.
has negative consequences for parent-child relationships.
<b>Students agreed significantly more strongly than both teachers and parents that homework ...</b>
interferes with family relationships.
has negative consequences for parent-child relationships.
<b>Both students and parents agreed significantly more strongly than teachers that homework...</b>
interferes with family relationships.
has negative consequences for parent-child relationships.

*Figure 19. Differences in Perceptions – Homework’s Impact on Family Relationships.*

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Findings from the quantitative data reveal that perceptions on the effect of homework on family relationships differ among teachers, students, and parents.

According to the overall SPSS statistical analysis of the quantitative data for Research Question 5, findings indicate that all three participant groups significantly differ in their overall mean scores for Research Question 5; however, the overall results are not considered significant in the study. All participant groups responded in the neutral interval overall toward homework’s impact on family relationships. They neither agreed nor disagreed on homework’s overall impact on the family relationships of students; however, student responses agreed slightly more positive than teachers and parents.

According to qualitative data results associated with Research Question 5, all three participant groups decisively perceived homework as negatively impacting family

relationships. Students were overwhelmingly negative. Even though negative impacts were predominant among the responses of parents and teachers, they both perceived homework as impactful at building positive relationships between parents and their children.

According to the quantitative and qualitative data analyses in Research Question 5, conclusive findings could not be determined as to whether homework impacts the family relationships of students at the target high school, because the qualitative results contradicted the quantitative results. As mentioned in the other research questions, the neutral response choice in the Likert scale survey items might have skewed the results. If the respondents were forced to choose from disagree or agree, the results might have been clearer.

### **Implications**

Homework continues to be a topic of national interest and local importance. The homework debate is not going away any time soon. Dialogue and debates need to continue in the future if solutions are going to be reached. Policies and guidelines that all stakeholders can agree upon that best meet the needs of students need to be established in schools. Research studies like this one need to continue to take place; however, if the findings are not discussed and considered by teachers, administrators, and school district leaders, solutions to issues associated with homework will never be resolved.

The significance of this study was to inform the homework versus no homework debate by determining if teachers from the target school who assigned homework demonstrated higher student achievement than teachers who did not assign homework.

Findings in this study supported the views of homework supporters. Teachers who assigned homework demonstrated higher student growth results than teachers who

did not assign homework, but the results were not significantly different. This study added to this research.

This study also investigated the types of homework teachers from the target high school assigned students and which of the two types of homework (preparation or practice) showed more student growth as revealed by the data from survey results and EVAAS student growth data. Since little research has been conducted in this area of homework, the findings were significant for further research. There is much discussion about homework in general, yet the types of homework are not normally part of the discussions. Hopefully, this study will ignite an interest in studying the different types of homework and how they impact student achievement.

Last, this study added to the research on the perceptions of teachers, students, and parents about the impacts of homework. Research shows that there is much data from teachers and parents on their perceptions of homework but very little from students. Opinions from students are often left out of homework debate discussions, and studies like this one add to the data and research for those interested in the topic of homework for research in the future. Student perceptions should be valued more by school districts, administrators, and teachers. If homework continues to be assigned to students, it is important to understand from students the types and amounts they consider to be the most effective for how they learn.

Students and parents should be better informed about the positive impacts of homework on student learning. This study confirmed the findings made by Cooper (1989) that homework positively impacts student achievement in high school students. It is important to share these findings with teachers, students, and parents at the target school and at the district office to see if or how perceptions change.

### **Recommendations for Future Research**

The following recommendations are based on the findings of this study.

1. That the study be replicated using several high schools instead of just one.
2. That the study be replicated at the elementary and middle school levels, not just high school.
3. That Lee and Pruitt's (1979) taxonomy of homework be studied further by using the two types of homework not investigated during this study: extension and creativity homework.
4. That classroom teachers examine and implement the findings of this study within their individual classrooms.
5. That high schools and school districts examine and implement the findings of this study as part of in-service trainings with regard to homework and its usage.
6. That findings from the perceptions of teachers, students, and parents be examined and considered when establishing homework policies at individual schools and district levels.
7. That more efficient and reliable methods for collecting data be established in future research studies to make the findings more valid and reliable.
8. That more surveys and studies be conducted on high school students' perceptions of homework's impact on student achievement, personal development, and family relationships because the data are very limited.
9. That future research not include neutral Likert scale response choices on perceptual surveys about homework, because they may skew the data results.

**Summary**

Chapter 5 began with a summary of the research study and conceptual framework. It was followed by interpretations of the data analyses results and limitations of the study and concluded with suggestions for further research.

The threefold purpose of the research study was to determine if a relationship existed between homework and student achievement in students from a rural high school in the foothills of North Carolina to determine if a relationship existed between two specific types of homework (preparation and practice) and student learning in high school students from the target school and to determine stakeholder perceptions (teachers, students, and parents) regarding the impact of homework on student learning, personal development, and family relationships. The original threefold purpose was achieved, and the findings of the study should impact further research and ignite dialogue on the homework versus no homework topic in the future.

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## Appendix A

## Teacher Homework Perception Survey



#### 4. Homework increases academic motivation in students.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

5. Homework improves students' attitudes toward school, because it helps them understand that learning can take place anywhere, not just in school.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**6. Homework leads to increased boredom for students toward their learning.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

7. Students at this school complete homework assignments without the assistance of other students (copying answers).

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**8. Teachers assign too much homework at this school.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**9. School work should be completed during the normal school hours, not as homework.**

Mark only one oval.

Strongly disagree      1      2      3      4      5      Strongly agree

10. Teachers assign homework because there is not enough time to cover the material during a normal class period.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

11. In a typical school week (Monday-Friday), how often do you assign homework to students in your non-state tested courses?

Mark only one oval.

- ☐ Never  
☐ Sometimes  
☐ Most of the time  
☐ Always  
☐ Non-Applicable

12. In a typical school week (Monday-Friday), how often do you assign homework to students in your state tested courses?

Mark only one oval.

- ☐ Never  
☐ Sometimes  
☐ Most of the time  
☐ Always  
☐ Non-Applicable

13. Preparation homework is homework that prepares students for material that they have not learned yet, but will learn in the next unit of study. Practice homework is homework that asks students to practice material that they have already learned in class. Which statement below best applies to you concerning these two types of homework?

Mark only one oval.

- ☐ Of these two types of homework assignments, I assign preparation homework more frequently.  
☐ Of these two types of homework assignments, I assign practice homework more frequently.  
☐ I assign these two types of homework equally.  
☐ I assign other types of homework.  
☐ I do not assign homework in my classes.

14. In your opinion, what impact does homework have on student learning in general?

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**15. In your opinion, what impact does homework have on EOC/NC Final Exams?**

### Section 3 - Impact of Homework on the Personal Development of Students

Mark the extent to which you agree or disagree with the following statements using the following ratings.  
1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 - Agree 5 - Strongly agree

**16. Homework interferes with the social life of students.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**17. Homework develops responsibility in students.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

18. Homework denies students access to leisure time activities.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

19. Homework impacts the physical health of students.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

20. In your opinion, what impact does homework have on the personal development of students?

.....

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.....

## **Section 4 - Impact of Homework on Family Relationships**

Mark the extent to which you agree or disagree with the following statements using the following ratings.  
1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 - Agree 5 - Strongly agree

21. Homework interferes with the time students spend doing things with their families.

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

22. Homework increases school/family communication.

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

23. The parent-child relationship is impacted by the negative consequences of homework.

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

24. Homework unfairly punishes students from low socioeconomic households.

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

25. In your opinion, what is the impact of homework on family relationships?

.....

.....

.....



26. If you would like to support the researcher in understanding connections between teacher homework perceptions and student growth data and you have more than 2 years teaching experience, please provide your EVAAS identification number. EVAAS identification numbers will be sent separately from the survey data to the district data manager who will send anonymous growth composite scores with identification numbers. No names or subject areas will be given in conjunction with the identification numbers or growth data. As a reminder, the researcher cannot use your identification number because he has no access to your EVAAS password. This information is not required. If you choose not to provide your identification number, only your perceptual data will be analyzed for the purposes of this research.
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## Appendix B

## Student Homework Perception Survey

# Student Homework Perceptions Survey

This online survey is part of a dissertation research study on homework and student achievement. The survey was created to gain perceptions from students about homework at the high school level. By answering the survey items, you consent to your responses being used for dissertation purposes. Your participation is voluntary. Information will be confidential and your privacy will be protected. You have the option to skip items or quit the survey at any time; however, you are encouraged to answer all survey items. If you have questions or need additional information about the survey, you may contact the researcher at [REDACTED].

This survey consists of 21 items and will take approximately 10 minutes to complete.

## Section 1 - Impact of Homework on Student Learning

Mark the extent to which you agree or disagree with the following statements using the following ratings.  
1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 - Agree 5 - Strongly agree

**1. Homework leads to increased student achievement.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

2. Homework provides an immediate effect on the retention and understanding of the material it covers.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

### 3. Homework increases academic motivation in students.

Mark only one oval.

Strongly disagree      1      2      3      4      5      Strongly agree

4. Homework improves students' attitudes toward school, because it helps them understand that learning can take place anywhere, not just in school.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**5. Homework leads to increased boredom for students toward their learning.**

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

**6. Students at this school complete homework assignments without the assistance of other students (copying answers).**

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	strongly agree

**7. Teachers assign too much homework at this school.**

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

**8. School work should be completed during the normal school hours, not as homework.**

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

**9. Teachers assign homework because there is not enough time to cover the material during a normal class period.**

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

**10. In your opinion, what impact does homework have on student learning in general?**

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11. In your opinion, what impact does homework have on EOC/NC Final Exams?

## Section 2 - Impact of Homework on the Personal Development of Students

Mark the extent to which you agree or disagree with the following statements using the following ratings.  
1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 - Agree 5 - Strongly agree

**12. Homework interferes with the social life of students.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**13. Homework develops responsibility in students.**

Mark only one oval.

Strongly disagree      1      2      3      4      5      Strongly agree

**14. Homework denies students access to leisure time activities.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**15. Homework impacts the physical health of students.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

16. In your opinion, what impact does homework have on the personal development of students?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### **Section 3 - Impact of Homework on Family Relationships**

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Mark the extent to which you agree or disagree with the following statements using the following ratings.  
1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 - Agree 5 - Strongly agree

17. Homework interferes with the time students spend doing things with their families.

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

18. Homework increases school/family communication.

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

19. The parent-child relationship is impacted by the negative consequences of homework.

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

20. Homework unfairly punishes students from low socioeconomic households.

*Mark only one oval.*

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

21. In your opinion, what is the impact of homework on family relationships?

\_\_\_\_\_

## Appendix C

### Parent Homework Perception Survey

# Parent Homework Perceptions Survey

This online survey is part of a dissertation research study on homework and student achievement. The survey was created to gain perceptions from parents about homework at the high school level. By answering the survey items, you consent to your responses being used for dissertation purposes. Your participation is voluntary. Information will be confidential, and your privacy will be protected. You have to options to skip items or quit the survey at any time; However, you are encouraged to answer all survey items.

While responding, please only consider your high school age child/children.

This survey consists of 21 questions and will take approximately 10 minutes to complete.

## **Section 1 - Impact of Homework on Student Learning**

Mark the extent to which you agree or disagree with the following statements using the following ratings.

1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 - Agree 5 - Strongly agree

**1. Homework leads to increased student achievement.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

2. Homework provides an immediate effect on the retention and understanding of the material it covers.

Mark only one oval.

Strongly disagree      1      2      3      4      5      Strongly agree

### 3. Homework increases academic motivation in students.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

4. Homework improves students' attitudes toward school, because it helps them understand that learning can take place anywhere, not just in school.

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree



5. Homework leads to increased boredom for students toward their learning.

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

6. Students at this school complete homework assignments without the assistance of other students (copying answers).

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

7. Teachers assign too much homework at this school.

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

8. School work should be completed during the normal school hours, not as homework.

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

9. Teachers assign homework because there is not enough time to cover the material during a normal class period.

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

10. In your opinion, what impact does homework have on student learning in general?

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11. In your opinion, what impact does homework have on EOC/NC Final Exams?

## Section 2 - Impact of Homework on the Personal Development of Students

Mark the extent to which you agree or disagree with the following statements using the following ratings.  
1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 - Agree 5 - Strongly agree

**12. Homework interferes with the social life of students.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**13. Homework develops responsibility in students.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**14. Homework denies students access to leisure time activities.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

**15. Homework impacts the physical health of students.**

Mark only one oval.

1 2 3 4 5

Strongly disagree Strongly agree

16. In your opinion, what impact does homework have on the personal development of students?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Section 3 - Impact of Homework on Family Relationships

Mark the extent to which you agree or disagree with the following statements using the following ratings.  
1 - Strongly disagree 2 - Disagree 3 - Neither agree nor disagree 4 - Agree 5 - Strongly agree

17. Homework interferes with the time students spend doing things with their families.

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

18. Homework increases school/family communication.

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

19. The parent-child relationship is impacted by the negative consequences of homework.

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

20. Homework unfairly punishes students from low socioeconomic households.

Mark only one oval.

	1	2	3	4	5	
Strongly disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly agree

21. In your opinion, what is the impact of homework on family relationships?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_