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Teachers' perspectives of effective lesson planning: A comparative analysis

Jessica Miller Wunderle Straessle
William & Mary - School of Education

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TEACHERS' PERSPECTIVES OF EFFECTIVE LESSON PLANNING:

A COMPARATIVE ANALYSIS

A Dissertation

Presented to

The Faculty of the School of Education

The College of William and Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

By
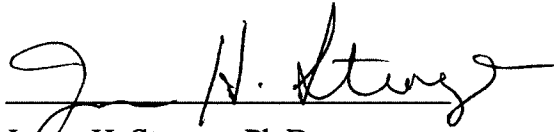
Jessica Miller Wunderle Straessle

March 2014

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DEDICATION

To all the dedicated educators

who make a difference in lives of children daily

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ACKNOWLEDGEMENTS

The successful completion of this dissertation is the product of the dedicated, supportive, and caring faculty at The College of William and Mary; without whom, I would not be the well-rounded educator and thinker that I have become. My experience at William and Mary has been blessed with a "village" that worked together to help me reach my goals. I appreciate everyone who played a role in my growth. The network and collegiality of professors, students, and staff is unparalleled and created a truly supportive environment.

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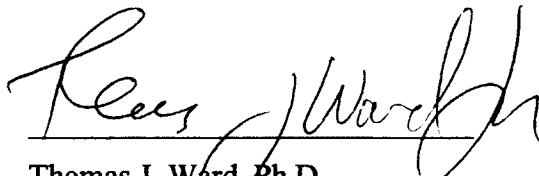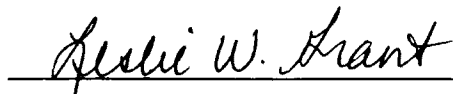
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TEACHERS' PERSPECTIVES OF EFFECTIVE LESSON PLANNING: A COMPARATIVE ANALYSIS

ABSTRACT

This study investigated the perceptions that K-12 teachers have about various Elements of Lesson Planning. Specifically, the researcher sought to determine which research-based Elements of Lesson Planning teachers perceived as having the greatest impact on student achievement and if certain demographic characteristics affected those perceptions. Data were collected with two surveys created by the researcher based on Stronge's (2007) *Framework for Effective Teachers*. A national stratified random sample of 184 U.S. educators ranked seven elements of teacher planning in the order they believed that those qualities impact student achievement. Participants were also asked to rank aspects of Creating Quality Assignments and Logically Structured Lessons in the order they believed those aspects to impact student achievement. Finally, participants were asked to self-report what elements they have used in their classroom and how they plan lessons. This study revealed that teachers did not differentiate among the Elements of Lesson Planning, but that teachers reported using Clear Lesson and Learning Objectives significantly more than other elements. It was also found teachers believe some aspects of Creating Quality Assignments impact student achievement significantly more than others including: Real World Connections, Depth of Knowledge Necessary to Complete Assignments, Providing Students with Performance Standard and/or Guideline, Student Control and Cross Curricular Assignments. Teachers also noted using Real World Connections to Assignments when creating assignments significantly more often than any other aspect. Additionally, teachers perceived all aspects of Logically Structured Lessons as having a more significant impact on student achievement than Sequencing of Questions to be Asked by the Teacher. Teachers also reported using all the other aspects significantly more than Sequencing of Questions to be Asked by the Teacher. Finally, it was found that most teachers use written lesson plans and that there is no standard practice for how often teachers refer to their written plans.

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TEACHERS' PERSPECTIVES OF EFFECTIVE LESSON PLANNING:

A COMPARATIVE ANALYSIS

Chapter 1

Introduction

Background of the Study

The Call for Teacher Quality

On February 17, 2009, President Obama signed into law the *American Recovery and Reinvestment Act (ARRA)* of 2009. This historic legislation was designed not only to stimulate the economy, but also to invest in critical sectors, including education (United States Department of Education, 2009). The ARRA provided $4.35 billion for the Race to the Top Fund, a competitive grant program designed to "encourage and reward States that are creating the conditions for education innovation and reform" (U.S. Department of Education, 2009, p. 2). In order to receive funds, states must show and implement ambitious plans in four core education reform areas, including: "adopting standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy; building data systems that measure student growth and success, and inform teachers and principals about how they can improve instruction; recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most; and turning around our lowest-achieving schools" (U.S. Department of Education, 2009, p. 2). Most important among these core areas, as reflected in the weights assigned in the grant decision-making process, is the development of effective teachers (U.S. Department of Education, 2009). This emphasis placed on teacher effectiveness by the policymakers is a clear indicator they believe the quality of instruction that students receive is the most important influence on student

achievement (Hershberg & Robertson-Kraft, 2010). Therefore, the need for teachers to be effective in their teaching is vital to student achievement.

Rationale of the Study

Having a deeper understanding of what constitutes teacher effectiveness is important. In the recent past, substantial attention has been paid to teacher effectiveness due to rising concerns regarding the quality of education students receive. Teacher effectiveness is now being considered when developing teacher evaluations, when teacher compensation is being discussed, and when teacher preparation changes. These discussions are taking place at all levels of policy making, including federal, state, and local levels. Recently, during a speech on the National Call on Flexibility and Productivity, The U.S. Secretary of Education, Arne Duncan, suggested that "states and districts use teacher effectiveness in the classroom as a factor in teacher layoffs." (Duncan, 2011, p 1).

Teachers are an important link in the educational chain. As Brophy and Good (1986) determined, "the myth that teachers do not make a difference in student learning has been refuted" (p. 370). The difference teachers make even outweighs the impact of the school. Teachers interact with students through daily instruction, which gives teachers the ability to directly impact student achievement. As Jackson and Davis (2000) stated, "instruction is the daily bread of life, composed of the tools, strategies, lessons, and activities, teachers and students use to learn" (p. 63). While school district curricula, state standards, and national standards all play a role in what students should learn, it falls

to the teacher to structure how students actually learn the material (Stronge, 2007). Therefore, teachers play a significant role in the educational system.

Additionally, in a speech regarding "A New Approach to Teacher Education Reform and Improvement," the Secretary of Education called for teacher preparation programs to turn out effective teachers—a mission which is "central to the future of our children and our nation in a globally competitive, knowledge-based economy" (Duncan, 2011, p 1). Without a deeper understanding of what constitutes teacher effectiveness, important decisions will be made without the full depth of knowledge. These decisions will impact schools, teachers, and students alike; therefore it is vital to have a deeper understanding of teacher effectiveness.

The Importance of Being Effective

There is abundant evidence that teacher effectiveness raises student achievement (Ascher & Frucher, 2001; Borman & Kimbal, 2005; Chard, 2004; Darling-Hammond, 2000; Haycock, 1998). Effective teachers do make a difference in the lives of students. Marzano, Pickering, and Pollock (2001) found that an individual teacher can have a powerful effect on students even if the school does not. This important finding recognizes the importance of having qualified and effective teachers in the classrooms. In recent years, research on teacher effectiveness has reported a direct relationship to student learning (Darling-Hammond & Young, 2002; Stronge, Ward, & Grant, 2011; Stronge, Ward, Tucker, & Hindman, 2007). It has been documented how important effective teachers are to the success of students (Allington & Johnston, 2000; Hattie, 2003; Hanushek, Kain, O'Brien, & Rivkin, 2005; Sanders, Wright, & Langeuin, 2008;

Wright, Horn, & Sanders, 1997). While these studies are just the tip of the iceberg to understanding the importance of teachers being effective, the results reveal that both students and schools require quality teachers to excel.

What Makes a Teacher Effective?

While the relationship between teacher effectiveness and student achievement can easily be seen in the above studies, figuring out what makes a teacher effective is much more difficult. Hattie (2003) identified five major dimensions of excellent teachers: "Expert Teachers

- can identify essential representations of their subject,
- can guide learning through classroom interactions,
- can monitor learning and provide feedback,
- can attend to affective attributes, and
- can influence student outcomes" (p.5).

From these five dimensions follow sixteen "prototypic attributes of expertise" (Hattie, 2003, p.5) that give further definition to the dimensions.

In addition to Hattie's findings, Stronge (2002, 2007) conducted a meta-review of the available research on teacher effectiveness and found that the "qualities of effective teachers could be divided into four dimensions:

- instruction
- student assessment

- learning environment

- personal qualities" (p. 168).

Finally, Danielson (2007) had similar findings in a study that identified aspects of teacher responsibilities. She found through empirical studies and theoretical research that the complex activity of teaching could be divided into four domains of teaching responsibility:

- planning and preparation

- the classroom environment

- instruction

- professional responsibilities (Danielson, 2007).

These studies represent specific ways instructional effectiveness can be observed or witnessed.

The Importance of Lesson Planning Research

Research has shown that thinking and planning play a significant role in classroom teaching (Earle, 1998); that teachers "plan in a rich variety of ways [that] have real consequences in the classroom"; that teachers "make planning decisions frequently during interactive teaching"; that teacher theories and belief systems "influence their perceptions, plans, and actions" (Clark & Peterson, 1986, p.292). Lesson planning is an important aspect of a teacher's job that directly impacts what and how students learn the necessary material; therefore how teachers plan is important to study. In addition, Smith (1977) states that "teacher planning is important for educational research and policy in

that: 1.) planning decisions and activities are a major factor affecting the quality, quantity, and nature of classroom instruction, 2.) the effects of planning decisions and activities upon instruction can be assessed, and 3.) the cost of making alterations and adjustments to planning decisions is minimal and thus planning represents a potentially powerful tool for the improvement of instruction" (p.1).

Although there is a growing body of evidence about teacher effectiveness, in general, and instructional planning, more specifically, there still remains a dearth of clear, direct evidence regarding teachers' lesson planning. Understanding the lesson planning process, and how to intervene in the process to improve instruction, is helpful for both teachers and administrators. This can be done through watching instruction and also through the pre-active or planning phase. When it comes to research regarding the relationship between the planning process and that which leads to effective instruction, there is a paucity of research available. As Jasper (1986) stated, it is important to understand the relationship between the planning process and effective instruction; until this relationship is understood, administrators and supervisors cannot help teachers plan effectively. There also is concern in the field as it is not really known how to differentiate good and bad plans, or how these plans play out in the classroom, so principals cannot use only the lesson plan to effectively monitor instruction.

Lesson Planning

It could be argued that a teacher's role is not to teach but to arrange for learning (Danielson, 2007). The importance in lesson planning is evident in the many decisions a teacher must make in order to prepare students for the learning experience. Panasuk,

Stone, & Todd (2002) agreed that lesson planning involves a conscious effort by teachers to develop "a coherent system of activities that promote the development of students' cognitive structures" (p. 808). A study by Zahorik, Halbach, Ehrle, & Molnar (2003) determined that effective teachers excel at instructional orientation, which deals with the type of content taught and how it is taught. The study highlighted the need for effective teachers to be effective planners as well. Lesson planning is the cognitive process of thinking about what will happen in the classroom during a lesson (Jalongo, Reig, & Helterbran, 2007). This involves the consideration of multiple aspects of the classroom, ranging from methods to engage the students in the material to the different ways students may react.

Looking at national level teaching standards such as the Interstate New Teacher Assessment and Support Consortium (INTASC) (2013) and the National Board for Professional Teaching Standards (NBPTS) (2012), instructional planning is a key aspect of any teacher's work in order to give students meaningful learning experiences (Ko, 2012). Planning for instruction is thus a critical step that all effective teachers take, whether intentionally or intuitively (Thompson & Stryker, 2010), and meaningful planning is complex (Marshall, 2012). Planning may appear simple but going through the day-to-day planning motions does not guarantee meaningful activities will avail (Marshall, 2012). According to Burden and Byrd (2003), "The goal of planning is to ensure student learning; therefore, planning helps create, arrange and organize instructional events to enable that learning to occur" (p. 23). It is important then that the planning is effective in order for the instructional events to be effective and for learning

to follow. An effective teacher should then be able to plan in a manner that understands the complexities of teaching and learning using a variety of skills and understanding to meet the needs of all students. As scholars have reported "carefully planned, fine-tuned lessons reflect an understanding of many different teaching techniques" (Orlich, Harder, Callahan, Trevisan, & Brown, 2004, p. 15). Effective teachers are effective planners as it would be difficult to carry out effective instruction without having a concrete solid plan beforehand. This plan would be based on the teacher's knowledge of the students, the content, the resources, and the instructional strategies available. Marshall (2012) says the depth of instructional planning comes from inquiry into the whys of children's actions and responses, and the hows of supporting each child. Thompson and Stryker (2010) state that "effective planning processes combined with appropriate teaching techniques lead to high quality learning experiences at all educational levels" (p. 187).

In Yinger's (1980) study of teacher planning, he found that an interesting characteristic emerged: Routines played a major role in the teacher's planning. Routines were used by the teacher to regulate activities and to simplify planning. In fact he found that routines were so much a part of planning that he described the planning "as decision-making about the selection, the organization, and the sequencing of routines" (p. 111). If planning can be described simply as coordinating many routines, then the development and use of routines by teachers must be important to the planning process, which is in turn, a quality of effective teachers. Hattie (2003) also discusses routines and the need for teachers to have routines in order to be experts. Listed under the dimension of Monitoring and Providing Feedback, Hattie (2003) determined that expert teachers are

more automatic than non-expert teachers. The difference between expert teachers and experienced teachers in the area of automaticity is that expert teachers use "automaticity so as to free working memory to deal with other more complex characteristics of the situation, whereas experienced non-experts do not optimize the opportunities gained from automaticity" (Hattie, 2003, p. 8). With this finding, the use of routines and how they free a teacher are important to teacher effectiveness in planning. Expert teachers take the time saved and put it into the act of teaching (Hattie, 2003).

Statement of the Problem

The problem investigated in this study is the lesson planning differences among teachers. While it has been found that effective teachers matter in terms of student success, and that key aspects of effectiveness are planning and the decisions made by a teacher, there is a lack of understanding as to the differences in planning among teachers and how to best impact teachers' lesson planning.

Statement of Purpose

The purpose of the study was to determine which of the seven elements of effective planning identified by Stronge (2007), teachers perceive as having the greatest impact on student achievement. In addition, the study explored the similarities and differences in teacher planning using the seven qualities of effective planning identified by Stronge (2007) in order to understand what teachers think the important aspects of planning for effectiveness are and if this differs depending on various descriptive data including region, level taught, gender, and years' experience.

Research Questions

1) Which of the following seven lesson planning elements do teachers perceive as having the greatest impact on student achievement: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?

2) Which of the following seven lesson planning elements are reported by teachers as being used and with what level of relative importance: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?

3) What aspects of creating a quality assignment do teachers perceive as having the greatest impact on student achievement? What aspects of creating a quality assignment do teachers use when planning?

4) What aspects of lesson structure do teachers perceive as having the greatest impact on student achievement? What aspects of lesson structure do teachers use when planning?

5) Is there a difference in teachers' perceptions regarding which lesson planning elements have the greatest impact on student achievement when considering: (a) elementary school, middle school, or high school level; (b) content areas such as science, social studies, language arts, mathematics; (c) region of the United States; (d) rural, urban, or suburban areas; (e) years of experience; and (f) gender?

6) What method of lesson planning do teachers use most prominently? For teachers who use formal written lesson plans, how many times per day do they reference the written plans?

Significance of the Study

The results from this study could be used to inform those in education about this particular aspect of teacher effectiveness. It might help identify what teachers perceive as being important in the planning process as opposed to what the research states. Additionally, the study could help administrators as they examine lesson plans, as they discuss planning with teachers, and as they discuss time management with teachers. It might impact the knowledge administrators have about planning to help focus more attention on this aspect of the teaching profession. Finally, the study may shed light on the disconnect between what the literature says concerning what teachers who plan effectively should do and the reality of what teachers perceive are effective planning strategies. This will help as administrators plan for staff development and making a connection between research and practice.

Definitions of Key Terms

Assignments: Assignments are comprised of activities that students work on independently after teaching has taken place. Students complete assignments in the classroom.

Child-managed activity: This term differs from child-centered in this study and is defined as an activity that allows the students or child to manage their own attention (Cameron, Connor & Morrison, 2005).

Curriculum Standards: Also termed *Curriculum Goals* by some and defined as part of the Curriculum designing process that is the result of answering the question "What destination do you have in mind for learners as far as a particular curriculum or subject is concerned" (Ornstein & Hunkins, 2009, p. 225). Goals are derived from aims and indicate "what a particular subject or educational program should teach students" (Ornstein & Hunkins, 2009, p.225).

Depth of Knowledge: This pertains to the extent to which teachers require students to "demonstrate mastery of knowledge in day-to-day classroom assignments or assessment tasks" (Koh & Luke, 2009).

Instructional Strategies: Also referred to as *Instructional Activities* by some researchers, these are the various choices educators have in determining what the students could do or participate in to learn a concept (Danielson, 2007).

Planning: Clark and Yinger (1979) described planning as "a process of preparing a framework for guiding teacher action, a process strongly oriented toward particular action" (p. 9-10).

Planning Decisions: Peterson, Marx, and Clark (1978) defined planning decisions as the decisions a teacher makes "prior to the act of teaching" (p. 418).

Routines: Yinger (1980) defined routines as mechanisms that a teacher uses to "establish and regulate activities and to simplify planning" (p.111).

Scaffolding: Scaffolding refers to the teacher giving students help: not so much as "to rob the child of his or her own initiative, and not too little so that a child got frustrated by failure" (Bruner, 2000, p.). Scaffolding allows students to solve a problem or reach a goal which would be beyond their abilities if not for the assistance (Mertzman, Vierk, Kildahl, Wintheiser, Hung, & Goldstein, 2007).

Student Control: Student control refers to students having the opportunity to determine the parameters of a task or assignment in class (Koh & Luke, 2009). Koh and Luke (2009) give the following examples as areas where students might exercise some control within classroom assignments: "determining the topics or questions to answer, alternate procedures, tools and resources to use, length of a writing response, or performance marking criteria" (p. 296).

Student Misconceptions: These are inaccurate ideas students have about the subject matter they are to be taught, prior to the lesson or unit being taught. Teachers can use a pre-assessment to determine students' misconceptions about the topic and then plan to help them see and understand this misconception during the teaching of the lesson or unit (Stronge, 2007).

Timing: Timing in this paper, unless otherwise stated, refers to the teacher planning in such a way that students' time with the material is maximized which includes scaffolding, discussions, reaching conclusions or applying what has been learned, taking

notes or writing about the experience, and replacing any materials used (Ornstein & Lasley, 2004).

Limitations and Delimitations of the Study

Limitations describe the characteristics of a study that may impact the generalizability of findings, which are outside of the researcher's control. Delimitations describe the purposeful inclusionary or exclusionary decisions that limit the scope of the study (http://www.clt.astate.edu/sdrake/Research/chapter_1.htm).

There are some limitations to this study to which the researcher has no control and therefore must acknowledge before beginning.

1) The number of teachers choosing to respond to the survey. While it is hoped that all the teachers will respond and with 100% effort, that aspect is not within the researcher's control.

2) The number of teachers from each subgroup who respond is not able to be controlled. While the sample size and number of possible participants is elevated to get as many responses as possible, which teachers choose to participate cannot be controlled and may impact generalizability.

3) Determining which teachers receive the survey. Since a third party is sending out the survey to a random sample of teachers, the researcher does not have control over which teachers receive the survey. This is positive for the randomness of the sample, as well as the researcher not impacting the sample; however, it may impact generalizability.

4) All school districts and each school within that district have different policies regarding lesson planning. This limitation can impact the study in terms of the influence of these policies on teacher behaviors and perceptions in a systemic manner.

5) The lesson planning training that the teachers received by their School of Education and through staff development may vary among teachers included in the study.

6) The researcher cannot control how the teachers plan or if the teachers in the study plan at all. For the most part it is believed that teachers plan lessons ahead of time; however, it is not outside the realm of possibility that a teacher might "wing it" when it comes to planning. It is assumed on the researcher's part that teachers plan beforehand.

In addition to the limitations that exist, a few delimitations exist.

1) The biggest delimiter is the number of surveys to be distributed. This decision is made and set by the researcher and the third party executes those decisions. Hoping to get the best response rate, the researcher will set the number of surveys sent out in hopes of having both a reasonable sample size and goodness of sample.

2) The researcher also controls the number of surveys sent out to the subgroups. By dividing the large sample into equal parts for the subgroups, it is hoped that close to the same percentage will respond.

3) The survey created was rank ordered which forces the participants to make a decision by ranking items. Rank ordering "represents an ordering of values of a variable with no assumption of an equal interval between the values" (Gall, Gall, & Borg, 2007, p. 132); therefore it will be unknown how strongly participants feel about each item.

4) The aspects of effective teachers' planning come exclusively from those stated in Stronge's (2007) book *Qualities of Effective Teachers*. While a section is included for participants to add other aspects they perceive as having an impact on student achievement, they will not have the chance to rank order written-in responses.

5) Participation in the study will be limited to teachers teaching in a K-12 setting in public schools. Those in private or charter schools will not be included and this may impact the generalizability of the results to those populations.

Chapter 2

Literature Review

Secretary of Education, Arne Duncan, said in a speech given at the U. S. Chapter

of Commerce's Education and Workforce Summit (2009),

> I believe that the quality of our education system says as much about the
>
> long-term health of our economy as the stock market, the unemployment
>
> rate and the size of the gross domestic product. That's because the quality
>
> of our work force and the intellectual breadth and depth of our future
>
> leaders is directly related to the quality of education we provide today...
>
> recognizing [that] America's common agenda [is] to promote economic
>
> security through education. (para. 2-3)

The educational system, therefore, is an important aspect of our country's global success.

One way to improve the quality of the education system is to improve those who directly

impact the education of its children—teachers. As noted in *How the World's Best-*

Performing School Systems Come out on Top, an international study comparing data from

the Organization for Economic Co-operation and Development's (OECD) Programme for

International Student Assessment (PISA), "The quality of an education system cannot

exceed the quality of its teachers" (Barber & Mourshed, 2007, p. iii). Therefore, the need

for teachers to be effective in their craft is vital to student achievement, the educational

system, and the economy at large.

The review of related literature will focus on the need for effective teachers, what qualities make a teacher effective, and finally, how effective teachers conduct lesson planning. The chapter will include major reviews of the following key topics related to the qualities of effective teachers and, more specifically, will examine aspects of lesson planning that have been noted as used by effective teachers.

Importance of Teacher Effectiveness

The report "A Nation at Risk" by the National Commission on Excellence in Education (1983) highlighted the need for accountability within the educational system and started the nation's movement to high standards. The report ushered in a new era in education, the Age of Accountability (Stronge et al., 2007). In 2001 the No Child Left Behind Act was signed into law, and established requirements for the standards and assessment systems of states (United States Department of Education, 2001). As a result of the accountability movement, the past three decades of reform have focused on the development of standards, assessments to measure student achievement, and school reporting to explain results (Stronge et al., 2007). Due to the focus on standards and assessment practices, it has become apparent that many policy makers and funding agencies, both public and private, believe that test scores are directly related to teaching quality (Ding & Sherman, 2006; Kupermintz, 2003; Newton, Darling-Hammond, Haertel, & Thomas, 2010). The public has also come to believe that in order to improve education the quality of teachers must be upgraded (Johnson, 1997). Therefore, a lot of pressure has been put on university Schools of Education and school districts to ensure teachers are effective.

The research on teaching, and the urgency to upgrade teacher quality, first began as a reaction to the reports by Coleman (1966) and Jencks (1972) which were interpreted to say that neither schools nor teachers made a difference in student achievement (Porter & Brophy, 1988). As a result of these reports, efforts were made to try and "teacher proof" the curriculums (Porter & Brophy, 1988, p. 74). The failed attempts at "teacher proofing" the curriculum led to the discovery that in order to achieve true gains in education, the system would need to work through teachers instead of trying to work around them (Porter & Brophy, 1988). Nuthall (2005) said that research should first "find out what kind of knowledge would be most useful for informing teachers thinking and guiding their practice" (p. 900). By discovering this information, it is possible to work through teachers in a meaningful manner to promote student achievement. This sentiment also acknowledges what research has shown on the impact of teachers on student achievement.

Variety of Teacher Effectiveness

As Darling-Hammond and Youngs (2002) stated there is a wide degree of variety when it comes to effectiveness level in teachers. To elaborate on that statement, Nye, Konstantopoulos, and Hedges (2004) found in their study that there are substantial differences among teachers' abilities to produce achievement gains in students. Likewise, Hanushek, Kain, O'Brien, and Rivkin (2005) found variation in teacher effectiveness, most of which was within a school as opposed to between schools. It is clear that some teachers are more effective than others. The differences in effectiveness, however, can have a startling impact on students. Determining a teacher's effectiveness

can be a difficult proposition with the school culture being a nested system and the extraordinarily large number of variables that impact students on a daily basis.

Impact of an Effective Teacher

Since the inception of accountability and testing in the world of education began, efforts to evaluate teachers based on student achievement have become a primary focus (Kuppermintz, 2003). This move has resulted in the growth of educational outcome indicators (Meyer, 1996). While most schools and districts have yet to develop and implement viable performance indicators (Meyer, 1996), value-added models have begun to be used. Of the various value-added models used in the literature, a common characteristic is that they measure the school performance or the school inputs using a statistical regression model which includes many variables as possible in order to isolate the contribution of schools from other sources of student achievement (Meyer, 1996). One of the most talked about value added models is the Tennessee Value Added Assessment System (TVAAS). A study using TVAAS, which uses a "statistical mixed model methodology to enable multivariate, longitudinal analysis of student achievement data" (Wright, Horn & Sanders, 1997, p 58), found that the most important factor affecting student learning is the teacher. Specifically, the study by Wright et. al (1997) examined the 1994-1995 Tennessee Comprehensive Assessment Program (TCAP) scores across 5 subjects for students in grades 3-5. TCAP tests are given to students in grades 2-8 each spring. Therefore student academic gain can be seen from year to year (Wright, et al., 2007). This study conducted 30 analyses, 15 subject-grade analyses were done in two different sets of school systems in Tennessee. Of the two sets of school systems, one

consisted of 30 East Tennessee school systems and the other had 24 Middle Tennessee school systems. The results from the analysis showed that the teacher and the achievement level for the student had the biggest impact on student achievement. In fact, the teacher effect was highly significant in every analysis and has a "larger effect-size than any other factor in 20 of 30 analyses" (p 61). The results of this large scale analysis show that teachers make a difference.

Using the TVAAS, Sanders, Wright, and Langeuin (2008) conducted a study of the impact of teacher effectiveness. They found that highly effective teachers are capable of producing nearly three times the student achievement gains of low-performing teachers. They also found that five above average teachers can overcome the deficit reported for low socio-economic status. The study which looked at 5,300 math teachers from Tennessee for grades 4-8 during the school year 2002-2003 through 2006-2007 used a 2-way ANOVA to find that the differences among classrooms are primarily attributable to the individual teacher. The study also found a significant positive effect in teacher effectiveness when teachers moved from high poverty to lower poverty schools. This result demonstrates that an effective teacher can be effective in multiple settings.

Another value-added study by Hanushek, Kain, O'Brien, and Rivkin in 2005 looked at the impact of teachers on student achievement. Using data from the Texas Assessment of Academic Skills (TAAS) from the 1995-1996 school year to the 2000-2001 school year, on students in grades 4-8 in Texas, they found that if a student is placed with a teacher who is in the 85th percentile in their skill then students can be expected to achieve 0.22 standard deviations above the achievement gains of those placed

with a median teacher. In order to try and circumvent problems with reliability and

validity, the researchers matched teachers and students using data from Texas Schools

Micropanel Data (TSMD). These data show that having an effective teacher has a

positive impact on student achievement. The results also show the possibility of an

achievement gap between students who consistently have effective teachers and those

who consistently do not have effective teachers.

Hattie (2003) provided a pie chart (Figure 1) which shows the variance attributed

to various influences on student achievement. This chart mimics what was found by

Wright et al. (1997) in that the student and the teacher have the biggest influence over

student achievement. The chart is a compilation of many studies on the subject of student

achievement variance using Hierarchical Linear Modeling (HLM).
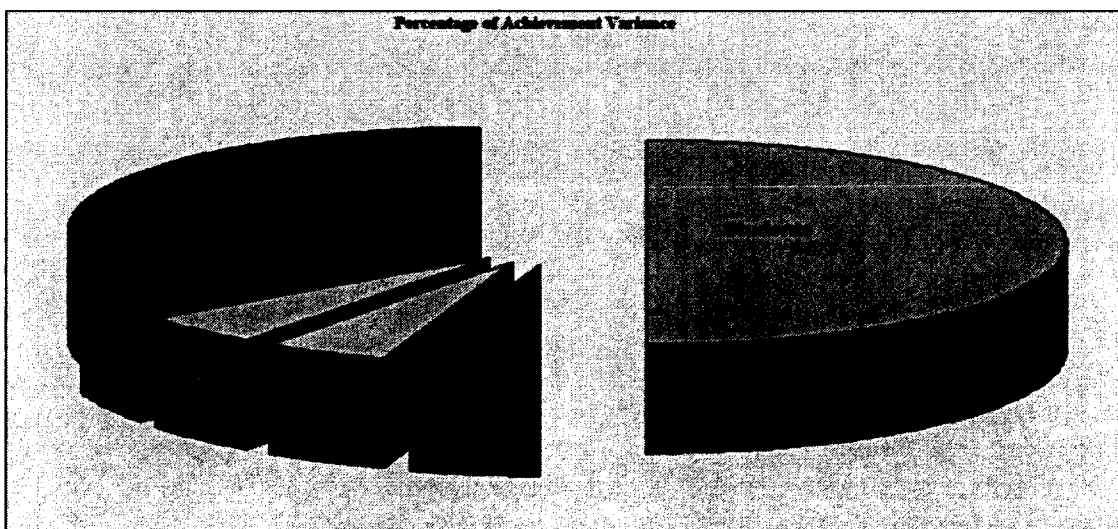
Figure 1- The major sources of variance in a student's achievement. Adapted from
Hattie 2003

Figure 1 shows that while students themselves account for the greatest amount of variance in achievement, teachers are the next biggest influence (Hattie, 2003) and are the largest source of varience that the schools have control over. As Hattie (2003) stated the answer "lies in the person who gently closes the classroom door and performs the teaching act—the person who puts into place the end effects of so many policies, who interprets these policies, and who is alone with students during their 15,000 hours of schooling" (p. 2-3).

Debating Teacher Effectiveness

While many studies exist that promote the link between teacher effectiveness and student achievement, there are others which debate how much the teacher effectiveness literature can be trusted to give a complete picture of characteristics of effective teachers (Brophy, 1986; Porter & Brophy, 1988). Concerns regarding the use of value added measures abound. One issue critics have with value added models is that they seem to tie quality to a test score (Hill, 2009). The belief is that quality needs to be determined by more than one factor and include items such as: emotional support, instructional quality, and quantity of exposure to subject matter for example (Hill, 2009).

The value-added model has been criticized for its "lack of external review, lack of transparency, issues with missing data, and the lack of consideration of student background variables" (Eckert & Dabrowski, 2010, p. 89). In fact, there is little published research findings from TVAAS that specifically pertain to teacher effectiveness, which Kuppermitz (2003) found puzzling. Likewise, TVAAS findings have not been widely published, and those that have did not use the entire TVAAS model

and all these concerns lead to debate over the quality of the model created. As Meyer (1996) stated, the most difficult part of creating a high-quality indicator system is collecting all the data that is required. This missing data can lead to the value-added indicator being biased. Kuppermintz (2003) agreed that these validity and reliability concerns have created controversy when tied to teacher evaluation and teacher pay.

What Makes Teachers Effective?

Conceptual Frameworks for Effective Teachers

Although there are different opinions regarding how the teacher effectiveness data should be interpreted and used, there is agreement that effective teachers make a difference (Goldhaber, 2002; Harris, 2009; Hill, 2009; Milanowski, 2004; Odden, Borman & Fermanich, 2004; Sanders et. al, 2008; Wright et. al, 1997). Therefore, we need to "ensure that this greatest influence is optimized to have powerful and sensationally positive effects on the learner" (Hattie, 2003, p 3). While there are an endless number of characteristics and methods combinations teachers can use to achieve results, there are behaviors and techniques that emerge in the evaluation of effective teachers (Polk, 2006). In order to optimize this knowledge and to make the best use of the research, it is important to determine what behaviors and techniques make some teachers more effective than others.

Various researchers have created frameworks for effective teaching. While each is different in its scope, all support research-based characteristics and practices of effective teachers. The importance of having a framework was noted by Danielson (1996, 2007) when she made the analogy to a road map. Since teaching is complex,

having a road map through the terrain can help teachers better meet their goals

(Danielson 1996, 2007).

Davis & Thomas (1989)

Davis and Thomas (1989) wrote the book *Effective Schools and Effective*

Teachers for teachers, and used the available effective-schooling research as the basis for

the framework. The framework set forth in the book divides effective teaching into three

behaviors: behaviors that increase academic engagement, behaviors relating to the

organizing and structuring of learning, and behaviors that deal with interpersonal

relationships.

- Academic engagement behaviors include: instructional pacing and timing,

  teacher expectations for students and self, and classroom management.

- Organizing and Structuring Learning behaviors include: orienting students for

  new learning, increasing clarity, developing efficient routines, ensuring high

  success rates, wait time, and monitoring student progress.

- Building Interpersonal relationships includes: having empathy, respect, and

  genuineness; expressing interest and enthusiasm; and listening to students.

The three behaviors working together lead to effective teaching.

Ornstein & Lasley (2004)

Ornstein and Lasley (2004) authored a pre-service teacher textbook which divides

effective teaching into two parts: the art and the science of teaching. The framework that

they provide is a result of the extent research available on effective teaching strategies.

While the authors state that the art of teaching features are more difficult to measure due to the fact that it often involves attitudes and behaviors; which are not easily observable, it is important to include. Effective teachers are masters at both the art and science of teaching.

- *The Science of Teaching* includes developing instructional objectives, planning for instruction, grouping students for instruction, assessing and evaluating student work

- *The Art of Teaching* involves finding motivating factors for students, recognizing. students' individuality with their own set of needs, and looking at a student's self-esteem and the impact it has on learning.

Danielson (2007)

Currently, the Framework for Teaching (Danielson, 1996, 2007) is the basis on which several district-level teacher evaluation systems are being based (Gallagher, 2004; Holtzapple, 2001, 2002; Kimball, White, Milanowski, and Borman, 2004; Milanowski, 2004). Danielson (2007) describes the framework as "those aspects of a teacher's responsibilities that have been documented through empirical studies and theoretical research as promoting improved student learning" (p. 1). The Framework consists of 22 components clustered into the following 4 domains of teaching responsibility:

- *Planning and Preparing*, including components such as knowledge of content and pedagogy, knowledge of students, setting instructional outcomes,

demonstrating knowledge of resources, designing coherent instruction, and designing student assessments.

- *The Classroom Environment*, which emphasizes creating an environment of respect and rapport, by establishing a culture for learning, managing classroom procedures, managing student behavior, and organizing physical space.

- *Instruction*, including communicating with students, using questioning and discussion techniques, engaging students in learning, using assessment in instruction, and demonstrating flexibility and responsiveness.

- *Professional Responsibilities* contains aspects of being a professional by reflecting on teaching, maintaining accurate records, communicating with families, participating in a professional community, growing and developing professionally, showing professionalism.

Danielson's framework encompasses many of the qualities Hattie (2003; 2009) found to be impactful on student achievement.

Marzano (2007)

In the book *The Art and Science of Teaching: A Comprehensive Framework for Effective Instruction,* Marzano, proposes a framework around ten essential design questions. The questions are then unpacked and the research behind the strategies is given. This would be the "science" of teaching. However, research will never be able to identify the instructional strategies that work in every class and in every situation; the teacher must then be the artist and paint the picture of instruction for the students. As Marzano stated, "The best research can do is tell us which strategies have a good chance

(i.e. high probability) of working well with students. Individual classroom teachers must determine which strategies to employ with the right students at the right time" (p. 5). By correctly implementing the science and art of teaching there will be a positive effect on students. This can be difficult and the artist must understand much about their craft prior to implementation. This framework takes into consideration the research and ways to implement the instructional strategies in a classroom.

- *What will I do to establish and communicate learning goals, track student progress, and celebrate success?* Includes setting and communicating learning goals, tracking student progress and celebrating success, feedback and clear learning goals, formative assessment—more formative assessment higher effect size, reinforcing effort.

- *What will I do to help students effectively interact with new knowledge?* Includes creating critical-input experiences which help students to actively process content and using a comprehensive approach to teaching including: previewing, macro strategies, and various instructional strategies such as summarizing and note taking, nonlinguistic representations, questioning, reflection on the student's part, cooperative learning.

- *What will I do to help students practice and deepen their understanding of new knowledge?* Includes schema development, development of procedural knowledge, development of declarative knowledge, and homework.

- *What will I do to help students generate and test hypotheses about new knowledge?* Includes problem based learning and engaging students in their learning.

- *What will I do to engage students?* Includes pacing, teacher enthusiasm and intensity, physical activity, making information interesting and unusual, using questioning to apply mild pressure, having students become individually invested, creating mild controversy and competition.

- *What will I do to establish or maintain classroom rules and procedures?* Includes organizing classroom for effective teaching and learning and interacting with students about classroom rules and procedures.

- *What will I do to recognize and acknowledge adherence and lack of adherence to classroom rules and procedures?* Includes use of reinforcement, punishment, and no immediate consequence, using verbal and non-verbal acknowledgement, being proactive, and designing and overall discipline plan.

- *What will I do to establish and maintain effective relationships with students?* "Includes developing a relationship with students that shows concern and cooperation but also balancing it with the appropriate level of dominance which is defined as guidance and control" (p. 153).

- *What will I do to communicate high expectations for all students?* Includes teacher beliefs about student achievement and how beliefs impact actions and ultimately student success, discusses affective tone, and quality of interactions with students

- *What will I do to develop effective lessons organized into a cohesive unit?*
  Includes discussion of organizing a unit of instruction and various lessons,
  involves knowledge of the craft of teaching, using a variety of instructional
  strategies depending on goal/objective of the lesson.

Stronge (2007)

Numerous teacher evaluation systems in the United States and internationally are based on a framework developed by Stronge (2007). Stronge's (2007) framework on understanding teacher effectiveness is based on a meta-review of the existing literature on teacher effectiveness. The framework consists of six teacher qualities including:

- *Prerequisites for Effective Teaching*, including characteristics such as a teacher's educational coursework, verbal ability, certification, content knowledge, and teaching experience.
- *Teacher as a Person,* where the emphasis is on the teacher's non-academic characteristics such as caring, fairness & respect, interactions with students, enthusiasm & motivation, attitude toward teaching, and reflective practice.
- *Classroom Management and Organization,* with the purpose of establishing a classroom environment that is conducive to teaching and learning including organization and discipline.
- *Planning and Organizing for Instruction,* including the practices maximizing instructional time, understanding the importance of instruction, communicating expectations for student achievement, and planning for instructional purposes.

- *Implementing Instruction,* including the practices of using and adapting instructional strategies with regards to student need, understanding the complexities of teaching, using questioning techniques and supporting student engagement.

- *Monitoring Student Progress and Potential,* such as using homework and ongoing assessment to garner data regarding student progress, providing students with meaningful feedback, and using assessments as a means to inform instructional decisions.

Within Stronge's (2007) framework a very comprehensive picture of effective teaching is painted. In comparing Stronge's (2007) framework with the others, the framework is a good compilation of what other researchers have found on effective teachers.

Looking at Table 1 there are many attributes that play a role in defining a teacher as effective. Examining the attributes that overlap with four of the five models, a pattern begins to emerge. The attributes: *Classroom Management, Organization, Discipline of Students, Communicating Expectations, Questioning, Student Engagement, Monitoring Student Progress, and Using Assessments to Address Student Needs and Abilities* can all be planned before the teacher begins to implement instruction. As expected then, another attribute that four of the five models have in common is *Instructional Planning.* As a teacher plans for instruction and lessons, the other attributes must be taken into consideration, and can be addressed in the way a teacher plans. Even the *Teacher as a Person* qualities of: *Respect and Fairness, Interactions with Students, and Enthusiasm*

can be seen or impacted by the teacher's instructional planning. It is important to focus on Instructional Planning, then, in order to determine how teachers plan and how they should plan to be most effective.

Table 1

Comparison of Teacher Effectiveness Frameworks

Stronge	Davis & Thomas	Ornstein & Lasley	Danielson	Marzano
Prerequisites for Effective Teaching				
Verbal Ability...............................	●	●	●	
Knowledge of Teaching and Learning				●
Certification Status				
Content Knowledge		●	●	
Teaching Experience				
Teacher as a Person				
Caring.......................................	●			●
Fairness and Respect............................	●	●	●	●
Interactions with Students	●		●	●
Enthusiasm	●	●		●
Motivation				
Dedication to Teaching			●	
Reflective Practice..............................	●	●	●	
Classroom Management & Organization				
Classroom Management.........................	●	●	●	●
Organization..................................	●	●	●	●
Discipline of Students...........................		●	●	●
Planning & Organizing for Instruction				
Maximizing Instruction Time...................	●			●
Importance of Instruction.......................	●			●
Communicating expectations...................	●		●	●
Instructional Planning...........................		●	●	●
Implementing Instruction				
Instructional Strategies..........................		●		●
Complexity.....................................		●		●
Questioning.....................................	●		●	●
Student Engagement............................	●		●	●
Monitoring Student Progress & Potential				
Homework......................................	●			●
Monitoring Student Progress...................	●	●	●	●
Using assessments to address student needs and abilities..	●	●	●	

Effective Teachers: Lesson Planning

Formal lesson planning is a legitimate and necessary instructional activity

according to most educators and researchers (Ornstein & Lasley, 2004). It has been

studied extensively by those in education most likely due to the fact that it can be,

"prescribed, categorized, and classified" (Ornstein & Lasley, 2004, p.147). However, the

term lesson planning is one that often gets misinterpreted as it can be used in many ways.

Jalongo, Reig, & Helterbran (2007) define it as the cognitive process of thinking about

what will happen in the classroom during a lesson. Ornstein & Lasley (2004) divide

lesson planning into two parts: formal planning and mental planning. Formal planning is

"structured and task oriented" while mental planning is the "teacher's spontaneous

response to events in the classroom" (Ornstein & Lasley, 2004, p. 147). While mental

planning is necessary, it is very challenging to measure as it often goes unseen and

unmentioned when planning is discussed. However, formal planning is what is most

commonly associated when the term lesson planning is used. This involves the

consideration of multiple aspects of the classroom, ranging from methods to engage the

students in the material to the different ways students may react. Although there are

many different kinds of planning teachers do which serve many functions in the

classroom, daily lesson planning was identified as one of the most important types of

planning (Clark & Yinger, 1979). In the search for ways to improve classroom

instruction, researchers have not based their prototypes of effective planning behaviors on

effective practice, but instead have focused on the planning behaviors of effective

teachers, which is a logical conclusion (Jasper, 1986).

In order for an effective teacher to excel in planning and preparation, they must

"design instruction that reflects an understanding of the disciplines they teach—the

important concepts and principles within that content, and how the different elements

relate to one another and those in other disciplines" (Danielson, 2007, p. 27). The ability

to transition between the various related disciplines makes the task of designing a lesson

more coherent. Another quality of instructional effectiveness is the ability to design

coherent instruction and sound assessment in terms of the approach to topics which are

appropriate to the developmental range of students in the class (Danielson, 2007; Stronge,

2002, 2007). In addition Davis and Thomas (1989) make the claim that effective teachers

are able to increase clarity in their coherent instruction and assessment. Increasing the

clarity and having coherent instruction helps meet the needs of all students as it ensures

logical bonds between concepts, student understanding, and student focus for students at

any level. Stronge (2002, 2007) found that effective teachers plan enrichment and

remediation opportunities for students and that they use their familiarity of students' prior

knowledge as well as learning styles to provide "effective vehicles for instruction" (p.

38). Danielson (2007) also found that effective teachers understand their students'

backgrounds, interests, and skills, which helps to plan instruction effectively for all

learners.

Similar to the findings of Danielson (2007) and Stronge (2002, 2007) regarding

qualities of effective teachers in planning, McEwan (2002) stated:

[Highly effective teachers] are able to articulate the objective(s) of the

lesson, relate the current lesson to past and future lessons, and take into

account the needs of their students and the nature of what they want to teach. Skillful teachers include components in their lessons that will attract their students' interest and keep them engaged. They are able to mentally walk through their lesson presentations beforehand, anticipating where problems of understanding or organization might occur and making adjustments up until the last minute. (p. 87-88)

Effective teachers must be effective planners as the decisions made by the teacher directly impact each individual in the classroom on a daily basis.

Planning and Preparing for Instruction

In Stronge's book *Qualities of an Effective Teachers* (2007), Planning and Organizing for Instruction is one of the six qualities within the framework for effective teachers. Looking more closely at Planning and Organizing for Instruction, Stronge (2007) identifies 7 elements that are included during instructional planning by effective teachers: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies including use of organizers, Timing, Learning Differences, and developing age and content appropriate plans. In this section, each of these 7 elements will be examined independently; however, they often overlap and link together. Effective teachers should therefore use these elements together and constantly to ensure their lesson planning is addressing each of them not only independently but also cohesively.

Clear Lesson and Learning Objectives

Among the many decisions a teacher must make, research indicates that planning for effective teaching includes identifying clear lesson objectives (Stronge, 2002, 2007). A lesson plan therefore must have an objective to be effective. Objectives defined by Ornstein and Lasley (2004) are descriptions of what is to take place at the classroom level; they specify the content and sometimes the level of proficiency to be met. Using instructional objectives helps the teacher focus on what students should know at the end of the lesson plan and also benefits students by letting them know what is expected of them (Ornstein & Lasley, 2004). Instructional objectives serve as a road map for both teachers and students as they help teachers plan what they are going to teach and when they are going to teach it (Ornstein & Lasley, 2004). Therefore, it is imperative that the road map be as clear as possible and the instructional outcomes stated in terms of student learning rather than student activity (Danielson, 2007).

As teachers begin planning, more than half begin with the setting of goals or objectives (Koeller & Thompson, 1980). As the starting point, the objectives need to be clear to ensure the rest of the planning process has grounding. As Bain and Jacobs (1990) found in their study of 49 first grade teachers whose classes made the greatest gains from the Stanford Achievement Test at the end of kindergarten to the Stanford Primary Achievement Test at the end of 1st grade, the effective teachers shared certain characteristics including providing clear and focused instruction. This clear instruction resulted from having Clear lesson and learning objectives. The teacher must be clear in his or her mind about what the objective of the lesson is and must be able to clearly

articulate and present that objective to students. Rosenshine (1986) conducted a review of the available research on effective teaching and found that a pattern emerged which began with "a short statement of goals" (p.60). This short statement clarifies for the teacher as well as students what they should learn during the lesson. It helps to focus the subsequent behaviors and actions, so that everyone is working toward the same understood goal. Additionally, Jones, Jones, and Vermette (2011) found that a common pitfall in lesson planning for novice teachers is the learning objective is unclear. The study compiled three years of data on pre-service teachers from a secondary methods education course. Nearly 500 units of teaching were used to garner these results. The lack of a clear objective left teachers attempting to teach too much information and put them in a time crunch. As a result of not having a clear end in mind, the novice teachers spent most of the time lecturing students on useless facts. This left both the students and the teacher frustrated and confused. The study found that state standards provide a good place to start in determining what to teach, but it is important to have a focused learning objective that is clear to both the teacher and students. This clarity of the objective will help educators avoid this instructional trap. These results show the importance of taking the standards and breaking them down into smaller goals and objectives.

A study by Zahorik, Halback, Ehrle, and Molnar (2003) found what students miss out on when the teacher does not have clear lesson objectives. In the study of 26 elementary school teachers who taught in classrooms with a student-teacher ratio of 15:1 for at least 2 years, they found that effective teachers focus their goals on the basic knowledge and skills. This allows them plenty of time for individualized instruction.

The study found that effective teachers' students scored 21.8 points above the mean and ineffective teachers' students scored 11.0 points below the mean when compared with all students in the same program with the same class size. The difference was in the focus on instruction. Within the group of ineffective teachers, two prominent groups could be formed; the disinclined and the disarmed. The disinclined teachers rejected the teaching methods of the effective teachers creating a student-focused atmosphere; which led to little teaching of basic skills and little time for individual student attention. The disarmed teachers believed in the importance of basic skills, but their lack of management skills often caused them to lose focus and teach lessons with "overly long introductions, awkward transitions, laborious explanations, and unproductive lesson diversions" (p. 77). This lack of focus on the lesson and learning objective resulted in less time on instruction and limited individualized instruction. Creating focused lesson and learning objectives helps the teacher build a strong lesson by guiding what is to be taught, but also by ensuring both students and teacher arrive at the destination.

It is difficult to formulate answers to the rationale and purpose of the lesson without first clearly identifying objectives (Lambert, 1988); without a rationale or purpose, a teacher is lost in a sea of information, which leaves both the teacher and students frustrated and confused. Clarity can often be difficult to determine in the case of teacher effectiveness because teacher clarity is a function of student understanding (Polk, 2006). Therefore during the planning process it is necessary for teachers to produce Clear lesson and learning objectives. This will help them to focus the rest of their planning and help produce student understanding.

Some important findings from research on effective teaching in the area of Clear Lessons and Learning Objectives are:

- Effective teachers provided clear and focused instruction (Bain & Jacobs, 1990)

- Effective teachers begin with a short statement of goals (Rosenshine, 1986)

- One of the most common lesson planning pitfalls of novice (pre-service) teachers is the learning objective is unclear (Jones, Jones, & Vermette, 2011)

- Effective teachers have a clear focus on content to be taught and how it is taught (Zahorik et. al, 2003).

Creating Quality Assignments

While beginning lesson planning with clear learning objectives is a great start for effective teaching, it is only the first step. What is produced as a result of the clear and focused goals is equally important. Creating Quality Assignments is another characteristic of an effective teachers' lesson planning. Effective teachers recognize the assignment is just as important as the objective as it is the means to the end.

A qualitative study by Wharton-McDonald, Pressley, and Hampston (1998) which used observation, interviews, and artifacts to study 9 first grade literacy teachers, who were assigned the rating of high, middle, or low based on the reading achievement, writing achievement, and engagement of their students, found that high achieving teachers were able to integrate many goals into a single lesson. These teachers were able to integrate multiple goals because they planned for them. While this seems to be in contrast with the idea that effective teachers have clear goals and ineffective teachers try

to include too much information in a lesson, this ability to integrate multiple goals may come in the form of connecting across the curriculum. Therefore, if teachers have Clear lesson and learning objectives for various skills, they can meet many in a single lesson. As Pressley, Wharton-McDonald, Allington, Block, Morrow, Tracey, Baker, Brooks, Cronin, Nelson, and Woo (1998) found in their study of characteristics of effective teachers, the most effective teachers used strong connections across the curriculum. This study included 5 teams of researchers observing literacy instruction in 28 first-grade classrooms across 5 states. The 30 teachers were identified for observation from administrators who noted them as outstanding or typical. From this pool, the researchers selected the most and least effective teachers and further analyzed their instruction, finding that the most effective of the group had strong curricular connections. Using clear objectives and curricular connections the effective teachers were able to produce quality assignments for their classrooms. As both the afore mentioned studies found, effective teachers had classrooms with high quality reading and writing experiences as well as an intense involvement of students in literacy activities (Pressley et. al, 1998; Wharton-McDonald et. al, 1998). The well-developed objectives and quality assignments led to academic engagement for students (Pressley et. al, 1998), which in turn can produce student achievement.

The idea that clear objectives, followed by quality assignments, leads to student achievement, should make sense. Clare (2001) found a significant relationship between the quality of classroom assignments and the quality of student work. Therefore, the quality of the assignment impacts student achievement. The qualitative study which took

place over a 2 year time frame collected data from elementary and middle school teachers. In all, 24 participants completed the Language Arts focused study which examined using assignments and student work as indicators of classroom practice. Koh and Luke (2009) found similar results in their quantitative study of teachers in Singapore, finding a correlation between the quality of teachers' assignment tasks and student work. The findings were significant at both the 5th and 9th grade level. They found that the correlations were moderate to high indicating that the quality of the assignment impacted the quality of student work. However, when looking at most lessons developed for the classroom, Clare (2001) found that teachers' assignments were fairly basic in the areas of cognitive challenge and alignment of goals and assessment. This illuminates the need for teachers to create clear objectives followed by quality assignments, so that student achievement will follow. Care must be taken, however, when examining the results of Clare's (2001) study; while a statistically significant association between quality of classroom assignments and quality of student work was found, it is important to understand that the analysis did not "directly test for direction of influence, or a causal relation," between the two (p. 27).

Creating quality assignments and lessons can take time and be a challenge. Teachers attempting to create these types of lessons need to consider many factors in their decision making process. Clare (2001) found, after conducting an exploratory factor analyses to reduce the data and examine the underlying dimensions that two dimensions came forward from the observational data: constructivist practice and quality of lesson implementation. The first factor measured aspects of the data such as: the quality of

classroom discussions, level of student participation in classroom discussions, cognitive challenge of the lesson activities, and quality of instructional feedback. The second factor measured qualities such as: classroom management, the level of student engagement in the lesson, the clarity of the learning goals, and alignment of the goals and lesson activities. After further analysis Clare (2001) found that the first observation factor, constructivist practice was associated with the quality of classroom assignments (r=0.57, p<0.01) (p.27). In contrast, the quality of lesson implementation did not significantly associate with classroom assignments (r=0.03) (p. 27). This data suggests that while planning, teachers need to start with a clear objective and then, when planning the lesson activity and assignments, focus on the quality of the elements and not the implementation.

Koh and Luke (2009) collected 4,097 samples of teacher's assignments or assessment tasks for students from Grade 5 and Grade 9 lessons in English, social studies, mathematics, and science in 59 Singapore schools. The researchers used discriminant function analyses on the authentic intellectual quality criteria to examine the quality of teachers' assignment tasks between the four subject areas for both grade levels. The findings at Grade 5 were significant with two discriminant functions accounting for 67% and 24% of the variance, respectively. Function 1 consisted of: connections to the real world beyond the classroom, knowledge criticism, knowledge manipulation, depth of knowledge, and student control. Function 2 consisted of: supportive task framing explicit performance standards/marking criteria, and sustained writing. Based on these results, Koh and Luke (2009) found that the differences between social studies and the

other three subject areas were significant on "connections to the real world beyond the classroom, student control, and sustained writing" (p. 300). In Grade 9 it was found that English assessments demanded students to apply and generate knowledge that were related to the real world, social studies tasks required students to engage in more critique of knowledge and sustained writing as well as giving students control over the tasks. These results give educators at each grade level something to think about when creating assignments for students. Teachers need to ensure that the assignment aligns with the goal and outcome, and that it is appropriate for the developmental age of students in the class.

Research findings about Creating Quality Assignments include:

- In quality classrooms there were connections made across the curriculum and that on a daily basis there was an intense involvement of literacy activities with academic engagement Pressley et. al (1998).

- Highly qualified teachers integrate many goals into a single lesson and that highly qualified classrooms are filled with high quality reading and writing experiences. Wharton-McDonald et. al (1998).

- There is a relationship between quality of classroom assignments and student work (Clare 2001; Koh & Luke 2009).

- The qualities of the elements in the activity have more impact than the implementation (Clare, 2001).

- When planning activities, different subjects need different types of intellectual quality (Koh & Luke, 2009).

Logically Structured Lessons

Lambert (1988) stated, the best objectives of teachers and students are worthless if they are not properly implemented—therefore "the skillful orchestration of the objectives, strategies, materials, and equipment and the careful organization, development ,and sequencing of the lesson are absolutely crucial to successful teaching" (p. 4). Zahorik et al. (2003) agreed, finding that carefully planned activities had clear goals and a logical structure with a step-by-step content progression. Davis and Thomas (1989) emphasized logically structuring lessons because "organizing and structuring teaching activities to improve learning is not independent of maintaining high academic engagement" (p 132).

Sequence. Sequencing is an important aspect of logically structuring lessons. The teacher sets students up for success by identifying a sequence and ensuring the knowledge gained is based in grounded ideas and building from that point, which, in their review of extent research, Good and Brophy (2003), found effective teaching requires that teachers plan sequences of lessons and do not plan in isolation. Jones et al. (2011) found many novice teachers do not show evidence of idea development in their lesson planning. A lack of sequential planning then causes students to be taught concepts in isolation which leaves students to try and connect ideas and form understanding on their own. Students may then develop misconceptions and misunderstandings about how concepts relate.

In addition to examining the sequencing of lessons, effective teachers need to be flexible when the sequence must be altered. Wharton-McDonald et al. (1998) found that

high-achieving teachers were skilled at incorporating mini-lessons into on-going lessons as opportunities came around. This small adaptation of sequence made by the teacher can positively impact student achievement. Similarly, Pressley et al. (1998) found that the most effective teachers used "opportunistic teaching and re-teaching...with the teacher consistently monitoring students as they read and wrote and offering mini-lessons" (p. 15). Pressley et al. (1998) also found that, within teacher planning, the most effective classrooms had a balance of skill instruction thus sequencing skills can have consequences on student achievement.

In addition to ensuring that multiple lessons are sequenced appropriately, it is also important that components of individual lessons are sequenced appropriately. This gives order and familiarity to students as they know what to expect during the lesson. Having a sequential lesson also ensures that all aspects of the lesson are covered and in order. Ornstein and Lasley (2004) noted two different views for lesson sequencing depending on the lesson objective: the transmission view and the constructivist view. The transmission view can be used when the teacher's goal is to teach discrete processes; it follows a typical sequence of "explanations and lectures, demonstrations and experiments, questioning to check for understanding, and practice and drill" (p. 174). Within the first step, explanations and lectures, it is important for the teacher to follow a planned sequence which will minimize diversions or tangential discussions (Ornstein & Lasley, 2004). In addition, during a lecture explanations of concepts should be included in the proper place to maintain the sequence of knowledge building discussed previously.

Rosenshine (1986) stated that researchers have found that when effective teachers teach

concepts and skills explicitly they:

- Begin a lesson with a short statement of goals;

- Begin a lesson with a short review of previous, prerequisite learning;

- Present new material in small steps, with student practice after each step;

- Give clear and detailed instructions and explanations;

- Provide active practice for all students;

- Ask many questions, check for student understanding, and obtain responses from all students;

- Guide students during initial practice;

- Provide systematic feedback and corrections;

- Provide explicit instruction and practice for seatwork exercises and, where necessary, monitor students during seatwork; and

- Continue practice until students are independent and confident (p. 61-62).

Similarly, Zahorik et al. (2003) found that the "more effective teachers' primary

teaching method was explicit, step-by-step instruction" (p. 76). This allowed the teacher

to give clear directions, explain concepts in a logical manner, use modeling of the

concepts, provide feedback, and adapt the information as necessary.

The constructivist view is used when students are co-creating concepts with the

teacher (Ornstein & Lasley, 2004). The different nature of this type of lessons requires a

different sequence for the lesson presentation. The constructivist view according to

Ornstein and Lasley (2004), needs to follow a process of "present new information within the context of prior knowledge and previously learned material, allow students to repeat learning tasks to cement them in memory, use mnemonics that can significantly increase the memory of content, assign students active, hands-on tasks that require them to investigate, analyze, and solve problems using real world applications, allow students to use multiple ways to demonstrate learning, [and] provide ways for student to engage in metacognitive learning, to think about how they think. (p. 176). While the constructivist view differs from the transmission view in purpose and sequence, a quality they have in common is that the sequence of building knowledge from a base is consistent. Effective teachers know when to teach from a transmission view and when to teach from a constructivist view (Ornstein & Lasley, 2004).

Alignment. Alignment goes hand-in-hand with sequencing. It is important for lesson planning to be sequential, and within the sequence there must be alignment in all aspects—particularly the learning objective, activity, and evaluation. This alignment ensures that students are doing activities which support the learning objective and are being evaluated on the same learning objective. A study in 2005 by Panasuk and Todd examining 261 lesson plans from 39 teachers in urban low-performing middle schools in New England found that teachers show their "skillfulness in planning when they use varied approaches and lesson components focus on lesson coherency" (p. 230). Using factor analysis they found that lesson coherency in design was important in determining the effectiveness of planning (Panasuk & Todd, 2005). Looking at the final step in lesson planning, a written lesson plan, DiPaola and Hoy (2008) note that alignment can be seen

between standard/objective, activity, and evaluation. This alignment between lesson

segments is important for the overall coherency of the lesson. From the objectives to the

variety of activities compiled in the plan, a leader can infer a teacher's coherency in

lesson design and the variety of strategies being used in the classroom.

While alignment can be found within a written lesson plan, it does not speak to

the quality of the lesson or its component parts. Clare (2001) found in her study of lesson

planning that most planned lessons received a 2 rating on a 1-4 scale, especially with

regard to alignment of the teachers' goals with their grading criteria. This lack of

alignment may cause some evaluation issues with reliability and validity. To understand

the importance of alignment, Wang, Haertel, and Walberg (1993a) conducted a study

which found that Design and Delivery of Curriculum and Instruction, which includes,

alignment among goals, contents, instruction, assignments, and evaluation, yielded

moderate benefits to student learning. The study which encompassed the use of three

methods of analysis—content analyses, expert ratings, and meta-analyses—used data

collected from 61 research experts, 91 meta-analyses, and 179 handbook chapters and

narrative reviews and used the measure of academic achievement as student learning.

While moderate benefits may not be staggering proof of the importance of alignment, it

shows how a small change in lesson plan thinking can make an impact.

Findings for Logically Structured Lessons include:

- Lessons should be planned sequentially and not in isolation (Good & Brophy,

  2003).

- There should be a step-by-step process within lesson planning and there should be evidence of developing ideas for students (Zahorik, 2003; Wang et al., 1993a; Pressley et al. 1998; Jones et al., 2011).

- There should be a balance of skill instruction (Pressley et al., 1998).

- Most teacher lessons are weak in the area of alignment of teachers' goals and grading criteria (Clare, 2001).

- Alignment between goals and classroom activities yielded moderate benefits to learning (Wang et al., 1993a).

- Lesson coherency is important in determining the effectiveness of planning (Panasuk & Todd, 2005).

Instructional Strategies

Instructional strategies refer to the type of instruction used by the teacher teaching students a concept. The teaching activities are usually utilitarian, versatile, and finite in scope with respect to the intended outcome (Gareis, 2007). In addition, the activities prompt student engagement and learning and should be used within a teaching model (Gareis, 2007). Effective teachers use a variety of instructional strategies (Stronge, 2007; Tomlinson & McTighe, 2006) during instruction. When a teacher correctly and adeptly uses a variety of instructional strategies, lessons and tasks become more engaging to learners (Tomlinson & McTighe, 2006). Therefore, teachers must find a balance between practicing, drilling, lecturing, problem solving, and questioning, and match how they teach the intended learning outcome (Ornstein & Lasley, 2004; Pressley et. al, 1988). A study by Johnson (1997), which included 63 semi-structured interviews with school

board members, principals, and teachers, found that both principals (90%) and teachers (94%) believe that effective teachers must carefully plan instructional strategies. While this study was looking at what the groups believed to be traits/characteristics of effective teachers, the percentage of administrators and teachers that place an emphasis on planning instructional strategies is important to note.

Wang et al. (1993a) found that different modes of instruction produce different learning outcomes. Therefore it is important to ensure alignment between the learning outcome and the instructional strategy employed by the teacher. A meta-analysis by Marzano, Pickering, and Pollock (2001) had the goal of identifying instructional strategies that have a high probability of enhancing student achievement for all students in any grade level and across all subject areas. The nine categories of instructional strategies that affect student achievement were found to be identifying similarities and differences, summarizing and note taking, reinforcing effort and providing recognition, homework and practice, nonlinguistic representations, cooperative learning, setting objectives and providing feedback, generating and testing hypotheses, and questions, cues, and advance organizers (Marzano et al., 2001). The range for effect size for these instructional strategies is from 1.61 to 0.59. The authors remind us to look at these effect sizes carefully as they are an average effect size from the studies examined. In addition they call for more research on the effects of instructional strategies on specific types of students in specific situations and with specific content. While there is little research on such subjects, what is known is that the "unexamined use of instructional strategies might produce some unintended negative consequences" (Marzano et al., 2001, p. 9).

Written lesson plans can provide administrators a glimpse into how teachers use instructional strategies. In 1984, Frudden conducted a study of 529 participants including superintendents, principals, vice principals, supervisors, coordinators, and consultants from urban, suburban, and rural communities across the United States and Toronto participating in professional improvement programs. That study found that examining lesson plans provides a sense of the teacher's variety of instructional methods. This variety of instructional methods and use of instructional strategies is important to student achievement, because using only one instructional strategy for all lessons and subjects with all students is not best practice.

Teaching models can help to frame the use of instructional strategies. Teaching models are organized frameworks that contain a lesson or series of lessons and follow sequential steps, stages, or processes; they are inclusive of various instructional strategies (Gareis, 2007). In addition to the instructional strategy component, frameworks also work to organize intelligence-oriented education, which gives students the means to educate themselves (Joyce, Weil, & Calhoun, 2004). They are aimed at academic and meta-cognitive outcomes and may be student-, subject-, or grade-specific (Gareis, 2007). The instructional strategies provided by the teacher are of no use to the students unless situated in a teaching model which helps them make a connection between the strategy and how to utilize it for future problems. As Wharton-McDonald et al. (1998) found, high achievement teachers used a more integrated and well balanced instruction. Using teaching models and instructional strategies together helps teachers provide that integrated and balanced instruction.

Organizers. A particular instructional strategy that has gained a lot of attention of the years has been the use of organizers. Marzano et al. (2001) found that using advanced organizers is one instructional strategy which has a high probability of enhancing student achievement for all students in all grades and in all subjects. Specifically, they found that the use of questions, cues, and advance organizers had an average effect size of 0.59 which turns out to be a 22% gain in student achievement. In addition to the study by Marzano et al. (2001), Wang et al. (1993a) found that the use of advance organizers impact student learning by teaching students to be organized in their thoughts in a meaningful way. Therefore, the use of organizers is a way to enhance student connections and increase teacher effectiveness.

Findings about the use of Instructional Strategies are as follows:

- Johnson (1997) found that both principals and teachers believe effective teachers must carefully plan instructional strategies.

- Wang et al. (1993a) found different modes of instruction produce different learning outcomes.

- The nine categories of instructional strategies that affect student achievement were found to be: identifying similarities and differences, summarizing and note taking, reinforcing effort and providing recognition, homework and practice, nonlinguistic representations, cooperative learning, setting objectives and providing feedback, generating and testing hypotheses, and questions, cues and advance organizers (Marzano et al., 2001).

- Frudden (1984) found that examining lesson plans provides a sense of the teacher's variety of instructional methods.

- Wharton-McDonald et al. (1998) found that high achievement teachers used a more integrated and well balanced instruction.

- The use of advanced organizers positively impacts student achievement (Marzano et al., 2001; Wang et al. 1993a).

- Cameron, Connor, & Morrison (2005) found that the more time teachers spend on organization in the fall the more child-managed activities there will be in the spring.

Timing

In addition to planning for a variety of instructional strategies, the amount of time students spend engaged in the act of learning also impacts student achievement. The teacher needs to not only plan these strategies but plan the implementation so that the students' time with the material is maximized. Ornstein & Lasley (2004) state that when planning, enough time should be allocated to the lesson so that "demonstration can be complete, the students can discuss what they have observed, students can reach conclusions and apply principles they have learned, students can take notes or write about the demonstration, and materials can be collected and stored" (p. 173). Wharton-McDonald et al. (1998) found that in low quality classrooms more time is spent in transitions or waiting for directions, whereas in the high quality classrooms time is spent engaged in the learning process. Wang, Haertel, and Walberg (1993b) agreed, finding that the more time spent on instruction, the better for student achievement.

Additionally, teacher organization can lead to engaged learning time for students. A 3-year longitudinal study of 44 first grade classrooms from 5 schools in the same district on the urban fringe of a large Midwest City found that an increase in teacher organization is positively related to an increase in student achievement and leads to more time for individualized instruction (Cameron, Connor, Morrison, & Jewkes, 2008). The study defined organization as "the amount of time teachers spend providing their students information about classroom events and instructional activities, including explaining purposes of the activities, procedures for their successful completion, and how to transition between and plan subsequent tasks" (p. 173) and focused on vocabulary and word reading. The researchers found that in the fall an average student placed in a classroom with more minutes of organization (1SD or 4.34 min above the average) scored a 1.30-point increase above the average word reading score in the spring. This extra time for individualized instruction meets the individual needs of students and gives students time directly engaged in their work. An earlier study by Cameron, Connor, & Morrison (2005) found that the more teacher organization in the fall leads to more child-managed activities in the spring. This organization then allows for more time spent on-task as opposed to in transition and going through directions and procedures. Therefore, effective teachers must plan efficiently and set up their classrooms so that learning time can be maximized.

Another aspect of timing is using the right strategy at the right time or asking the right question at the right time (Marzano, 2007). As was stated previously, it is important that the teacher balance instruction and use the appropriate strategy to be in alignment

with all other elements of the lesson. Time is a factor which effective teachers must

consider at all times and tends to be a common strand among teachers' decision patters

(Jasper, 1986).

Research regarding Timing includes:

- Wharton-McDonald et al. (1998) & Wang et al. (1993b) found that in high quality

  classrooms time is spent engaged in the learning process.

- Timing also deals with using the right strategy at the right time or asking the right

  question at the right time (Marzano, 2007).

Learning Differences

Building off planning instructional strategies, effective teachers consider learning

differences in their planning. The variety of instructional strategies that a teacher plans

for should meet the needs of all students. Each person sitting in a classroom is an

individual. Each comes to the classroom with various experiences, knowledge, and

attitudes. It is then foolish to assume that each individual learns in the same manner.

The teacher must account for these differences in planning and ensure that each

individual gets the material in a way that is meaningful to him or her. This is not a trivial

task, and it requires teachers to have some understanding of personalities and how to

work with each type. As Polk (2006) notes, it is important for teachers to be aware of

their own personality traits and characteristics as well as those of the students in order to

adapt instruction appropriately. Brookhart and Loadman (1992) state that assessing a

teacher solely on their academic ability negates the professional orientation of teaching.

While this knowledge is important, teachers also need to be able to make connections between the academic concepts, build relationships with the students, and transform their knowledge to meet the instructional needs of their students (Brookhart & Loadman, 1992). This mimics what Bain and Jacobs (1990) found, which is that highly effective teachers adjust their teaching style to the needs of the class. Likewise, Rosenshine (1986) found that effective teachers change their instruction when working with different groups of students. It is clear that effective teachers must plan their instruction with the understanding that they need to meet the needs of a diverse group of learners.

One way that teachers can meet the needs of a diverse group of learners is to plan to teach students individually or in groups. As Wharton-McDonald et al. (1998) found in their study of effective teachers, high achievement teachers provided individualized instruction and review for those students in need. Likewise Bain and Jacobs (1990) noted that highly effective teachers retaught using alternative strategies when students did not learn material the first time. Additionally, Johnson (1997) noted that 67% of teachers saw individualizing instruction as one characteristic of an effective teacher. Davis & Thomas (1989) stated that effective teachers give additional examples or explanations when needed, use clear language, and bring attention to important ideas. These examples of effective teaching emphasize the importance of organization. As Cameron et al. (2008) found, teachers who are more organized were more likely to individualize instruction. This individualized instruction can be the difference in student achievement.

Another aspect of teacher organization that plays a role in learning differences is the organization of thought during planning. In their study pointing out the six biggest

lesson planning pitfalls of novice teachers, Jones et al. (2011) found that novice teachers did not create an assessment or one was done by students outside of class, and as a result the teachers were unable to differentiate learning. This important aspect of lesson planning echoes what was stated previously about the need for clear lesson and learning objectives as well as logically structured lessons which are appropriately aligned.

Findings regarding lesson planning for Learning Differences:

- Teachers need to adjust their instruction to meet the needs of their many different students (Bain & Jacobs, 1990; Rosenshine, 1986; Davis & Thomas, 1989).
- Teachers can adjust instruction by teaching small groups or individually (Wharton-McDonald et al., 1998; Bain & Jacobs, 1990).
- Planning for assessment impacts the teacher's ability to appropriately differentiate (Jones et al. 2011).

Developing Age and Content Appropriate Plans

Another aspect of effective lesson planning, which relates to planning for learning differences, is planning lessons that are developmentally appropriate for the students. As Marshall (2012) stated, "when teachers look at a child's abilities, they can plan ways to support him/her at an appropriate developmental level. They can also modify or adapt ideas to meet the developmental levels of all children in the group" (p. 25). While students may also vary in their abilities to complete and be a part of certain lessons, it is the responsibility of the teacher to ensure that the content and activities are age appropriate for the students. Students will not be engaged if the material is too young,

and if the material is too complex they will feel overwhelmed. The teacher must understand the age of the children, know cognitively and developmentally what is appropriate, and know what interests the age group. One way teachers can develop age and content appropriate plans, while also meeting learning differences and using varied instructional strategies, is through authentic activities. Wharton-McDonald et al. (1998) found that high achieving teachers provided many opportunities for the students to engage in authentic reading and writing activities. These authentic opportunities give students the ability to interact with material that is in their world and that they find interesting and familiar. Pressley et al. (1998) found that to help students and to motivate them, the teacher must present them with a small challenge which extended slightly beyond their competence. In order to do this, the teacher must know the students, the material, and the concepts well enough to challenge students appropriately. While students might struggle with the challenge, the most effective teachers are ready to support the students and help them progress but stop short of doing the assignment for them (Pressley et al., 1998). Teachers must also be able to scaffold effectively for their students. Both Wharton-McDonald et al. (1998) and Pressley et al. (1998) found that more effective teachers provided appropriately matched tasks and instructional scaffolding for their students. Ensuring each student is appropriately challenged—with age appropriate content and materials, add to the complexity of the modern teacher's lesson planning.

A review of the research on developing age and content appropriate plans

showed:

- One way highly effective teachers ensure lessons are age and content appropriate

  is by engaging students in authentic reading and writing activities (Wharton-

  McDonald et al., 1998).

- Students must be presented with small challenges which extend them beyond their

  competence (Pressley et al., 1998).

- The most effective teachers present a challenge and then support the students

  without doing the assignment for them (Pressley et al., 1998).

- The more effective teachers provided tasks that matched their instructional

  scaffolding for their students (Pressley et al., 1998; Wharton-McDonald et al.,

  1998).

Effective Planning Attributes

As the section *Planning for Instruction* showed, there are seven attributes of

effective teacher's lesson planning. Table 2 lists each of the seven attributes as well as

the research that supports its inclusion as an effective planning attribute. Each attribute is

unique in its own right, but they all work together to produce powerful lesson planning

for effective teachers.

Table 2

Key References for Effective Planning Attributes

	Clear Lesson & Learning Objectives	Creating Quality Assignments	Logically Structured Lessons	Instructional Strategies	Timing	Learning Differences	Developing Age Appropriate Plans
Bain & Jacobs (1990)	●					●	
Rosenshine (1986)	●		●	●		●	
Jones et. al (2011)	●					●	
Zahorik (2003)	●	●	●				
Pressley et al. (1998)		●		●			●
Wharton-McDonald (1998)		●	●	●	●	●	●
Clare (2001)		●	●				
Koh & Luke (2009)		●					
Wang et al. (1993a)			●	●			
Wang et al. (1993b)	●				●		
Marzano et al (2001)				●			
Johnson (1997)				●			
Cameron et. al (2005)					●		
Cameron (2008)					●	●	
Good & Brophy (1997)			●				
Panasuk & Todd (2005			●				
Marzano (2007)			●				
Jasper (1986)	●		●		●		

Written Lesson Plans

Written lesson plans are the result of the planning process and can be a "window through which we can see how teachers conceive the structure of lessons in relation to their concrete instructional activities" (Shimizu, 2008, p. 943). Ornstein & Lasley (2004) explained that a written lesson plan "sets forth the instructional activities for each day" and is sometimes referred to as a daily plan (p. 162). Ko (2012) conducted research into pre-service teachers' views on lesson planning and found that most participants (84%) found the process of designing a written lesson plan as helpful in preparing and organizing for teaching. Further, lesson plans can be characterized as conventional and alternative, each of which will be explored, in turn.

Conventional Plans

Conventional lesson plans came about as an adaptation of a rational model of planning from economics as well as national and city planning. They are developed by setting goals, formulating alternatives, predicting outcomes for each alternative, and then evaluating each alternative for its effectiveness in reaching and achieving desired outcomes (Yinger, 1980). Tyler (1949) was one of the first educational theorists to propose using this style of planning in education, and he recommended four questions for effective planning:

- what educational purposes should the school seek to attain,

- what educational experience can be provided that are likely to attain these purposes

- how can these educational experiences be effectively organized, and

- how can we determine whether these purposes are being attained (p. 1).

This linear model begins with the specifications of objectives and ends with a lesson evaluation (John, 2006; Yinger, 1980). While this approach to planning has been around since the 1950s, it gained prominence during the curriculum and pedagogical reforms of the 1960s and 1970s (John, 2006). Others have constructed variants on the model including Bloom (1956), who extended taxonomies of learning outcomes; and Taba (1962) and Popham and Baker (1970), who added more sophisticated constructs around instruction (John, 2006; Yinger, 1980). The result has been a model that recommends four steps for creating an effective plan: "specify objectives, select learning activities, organize learning activities, and specify evaluation procedures" (Yinger, 1980, p. 108). At its root, this conventional plan is based in a systems approach to planning. A study by Koeller & Thompson (1980), which used a questionnaire given to outstanding teachers, found that although most schools of education teach students to use the Tylerian method, half of the 56 participants did not follow this method. Teachers are choosing a different planning model and they are differed in their preference (Ko, 2012).

Many other lesson plan formats have found their basis in this conventional plan. As Jalongo, Rieg, and Helterbran (2007) state, "lesson plans operationally defined by most colleges of education consists of an introduction (behavior or not), materials, procedures, and evaluation" (p. 12). While this format adds other elements deemed necessary for pre-service teachers, the ends and means approach is still the underlying force. Additionally, the Four Stages of Lesson Planning (FSLP) strategy (Panasuk & Todd, 2005), which was developed to help coherency in planning, stems from the basic

Tylerian model. The FSLP strategy uses objectives, homework, developmental activities, and mental mathematics (Panasuk & Todd, 2005). While the order of the plan is different, the underlying ends/means relationship still exists.

While most teachers learn this method of planning in their schooling, most are choosing a different way to plan (Ko, 2012). The study, by Ko (2012), which conducted research into pre-service teachers' views on lesson planning included forty-five pre-service elementary teachers (K-6) in a practicum seminar course and consisted of collecting data via survey, lesson plans, and a follow-up interview. Ko (2012) found that twenty-two percent of the participants favored using the traditional lesson planning format as they felt creating a new template or format would be more work. It was also found that thirty- three percent of participants used bullet points or a list as a lesson plan (Ko, 2012), this finding mimics what Morine-Dershimer (1979) found.

A study by Sanchez and Valcarcel (1999) reported that only 15 percent of teachers, in their study, considered objectives to be important and a key element in their planning, but viewed the objectives as a minimum standard or key idea to be covered. While this study shows that although teachers learn lesson planning in a linear way, it is not always what is happening. Also, the study shows the lack of importance placed on objectives is in direct conflict with the research on elements of effective teaching, which found that clear lesson and learning objectives are necessary for effective planning (Bain & Jacobs, 1990; Rosenshine, 1986; Jones, Jones, & Vermette, 2011; Zahorik et. al, 2003). While the research shows that this is an important aspect of planning, in practice teachers are not using objectives as a focal point but looking at content knowledge,

sequencing, and activities (Brown, 1988; Kagan & Tippins, 1992; McCutcheon, 1980; Sanchez & Valcarcel, 1999; Yinger, 1980; Zahorik, 1975). There are a couple reasons this could be happening. Researchers have found that lesson plans required by administrators for evaluation purposes are usually only procedural in nature and therefore emphasize the procedural aspect of planning (Danielson & McNeal, 2000; Halverson, Kelly, & Kimball, 2004; McCutcheon, 1980; Morine-Dershimer, 1979). Additionally, most teachers form only brief outlines of lesson plans and have a mental image of their lesson plan (Morine-Dershimer, 1979), so most lesson planning occurs mentally as opposed to on paper. Finally, due to the dynamic nature of the classroom, teachers know that lesson plans will shift and are often not implemented as planned (Clark & Peterson, 1986) so the "importance of instructional objectives is diluted" (Ko, 2012, p. 90).

Alternative Plans

Despite the widespread use of and teaching of the conventional plan, there are alternatives. One of the most widely accepted has been the "naturalistic" or "organic" model based on the work of Egan (1992, 1997, 2005), who claims there is a mismatch between specific objectives and the complex nature of the classroom, and believes naturally-emerging planning structures to be more beneficial (John, 2006). Naturalistic planning involves beginning with the activities and allowing the objectives to flow from the activities (John, 2006). This requires a flow from means to ends as opposed to starting with the end in mind.

In developing lesson plans using this model, Egan (2005) states that the techniques and frameworks within the model are simply a way for teachers to achieve

their objective, and that the frameworks can be left behind after a teacher has become familiar with the principles. This differs from the conventional plan which has remained structurally similar even as teachers have become familiar with it. The naturalistic viewpoint is that the frameworks are not supposed to be a "straitjacket" for plans (Egan, 2005, p. 1).

Another approach to creating lesson plans is the 'interactional method' which stresses the interactive rather than the discrete character of objectives (John, 2006). In this approach the emphasis is on form, which is not based on the shape of a lesson but more on the principles which change during interactive teaching (John, 2006). The importance of form differs from the emphasis placed on the mechanics of planning in the conventional method. The interactional method has been compared to the structure of a musical performance wherein the score is analogous to the lesson plan, and the performance itself shifts according to interpretation and improvisation (Alexander, 2000). This viewpoint takes into consideration the complexity and dynamic nature of a classroom, which is often, found lacking in conventional plans.

In her research, Ko (2012) found that forty-four percent of the participants preferred to create a concept map to map out their lesson plans. This map allowed the pre-service teachers to visualize the lesson structure and connections to students, content, and community better than a conventional lesson plan (Ko, 2012). Ko (2012) argues that the nonlinear models of developing lesson plans appear to be more sophisticated than the conventional methods and based on her findings, Ko (2012), developed an instruction cycle (Figure 2) as an alternative planning model. The *instruction cycle* has nine stages,

all of which have double pointed arrows as to allow the opportunity to go back and forth

among the stages as needed. Ko (2012) argues that with a model like the *instruction*

cycle, pre-service teachers can design a more "solid and elaborate lesson plan that shows

consistency among objectives, instructional strategies, and assessment" (p. 96).
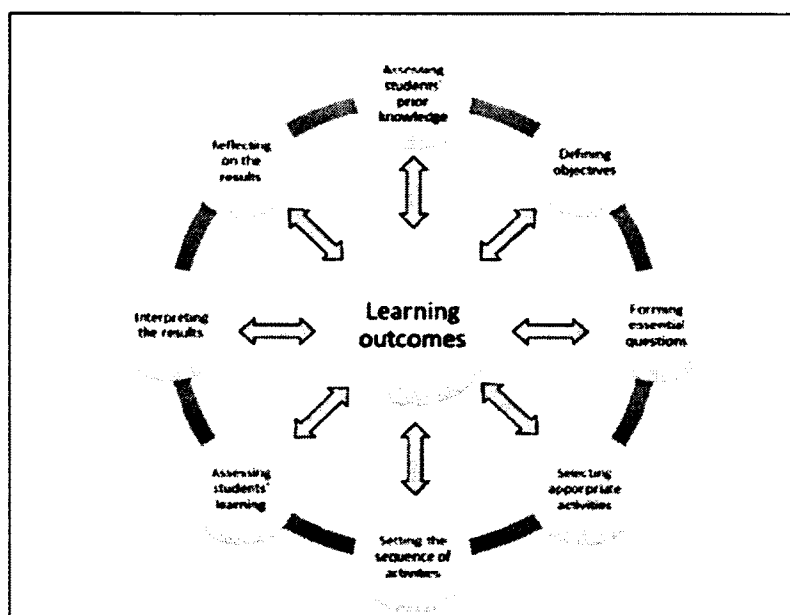
Figure 2-Instruction Cycle. Adapted from Ko 2012

Conventional plans constructed based on the rational model of planning look

good on paper, alternative methods take into account the dynamic nature of the classroom

when planning. Regardless of the format, all lesson plans share similar characteristics

such as objectives and activities, the fundamental question is if these plans can be used to

make an inference about instructional effectiveness as defined.

Summary

In a global economy it is important to have an educated workforce for several reasons. Education raises the productivity of the workforce and thus leads to economic growth (Goldin & Katz, 2008). Additionally, education contributes to the adoption and diffusion of new technologies as well as innovation and technological advance (Goldin & Katz, 2008). As society continues to push the envelope in terms of technology and the world becomes flatter, it is vital that the American workforce remain the most innovative and educated in the world. President Obama recognized this need for innovation and technological advance when he created the Race to the Top Fund, a competitive grant program designed to "encourage and reward States that are creating the conditions for education innovation and reform" (U.S. Department of Education, 2009, p. 2). In order to these goals, the quality of teachers must meet the demands of the system, because "the quality of an education system cannot exceed the quality of its teachers" (Barber & Mourshed, 2007, p. iii). Teacher effectiveness is a prime indicator of quality.

Many researchers have developed conceptual frameworks around the idea of teacher effectiveness, trying to paint a clear picture of what qualities and skills effective teachers exhibit. Davis & Thomas (1989), Ornstein & Lasley (2004), Danielson (2007), Stronge (2007), and Marzano (2007) all created frameworks around the idea of teacher effectiveness. Stronge's (2007) framework of *Qualities of Effective Teachers* includes six teacher qualities for effectiveness, and is a good compilation of what other researchers have found on effective teachers and paints a comprehensive picture of effective teaching.

Many attributes of effective teachers delineated in the above frameworks overlap: classroom management, organization, discipline of students, communicating expectations, questioning, student engagement, monitoring of student progress, and using assessments to address student needs and abilities were found in four of the five models examined. A common thread with all these attributes is they can be planned for and be prepared prior to the implementation of instruction. Further examining, the attribute of instructional planning, which is seen in four of the five models, might be the most vital to success in all areas of teacher effectiveness.

Stronge (2007) notes seven elements of effective teacher lesson planning: clear lesson and learning objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and develop age and content appropriate plans. Each of these qualities is unique in its own right, but together they work to create lesson planning that is comprehensive and effective.

Clear lesson and learning objectives are both needed for effective lesson planning as it gives the teacher a stable place from which to build. They help create a clear road map which should be stated in terms of student learning rather than student activity (Danielson, 2007). Having clear lesson and learning objectives enables effective teachers to provide clear and focused instruction (Bain & Jacobs, 1990). This is accomplished by setting goals at the beginning (Rosenshine, 1986) and having a clear focus on the content to be taught (Zahorik, et. al, 2003). While much research has shown the importance of having objectives (Koeller & Thompson, 1980; Rosenshine, 1986; Bain & Jacobs, 1990; Jones et. al, 2011) for cohesion and individualized instruction

(Zahorik et. al, 2003), Sanchez and Valcarcel (1999) reported that only 15 percent of teachers, in their study, considered objectives as important and a key element in their planning. This lack of focus on the objective might impact the teachers overall planning as this element of effective teachers planning impacts other elements directly and indirectly.

Being able to focus lesson planning around a clear lesson and learning objective allows teachers in creating quality assignments, which can enable student achievement. Clare (2001) found a relationship between the quality of classroom assignments and the quality of student work. One way to create a quality assignment is by connecting concepts across the curriculum and planning lessons that include a variety of clear lesson objectives that cross the curriculum (Pressley et. al, 1998). These clear objectives and quality assignments lead to student academic engagement (Pressley et. al, 1998) and student achievement.

Clear lesson and learning objectives and quality assignments only work if the lessons are logically structured. As Zahorik et al. (2003) found, carefully planned activities had clear goals and a logical structure with a step –by-step content progression. Lessons can be logically structured in two ways: sequencing and alignment. Both the sequence of a single lesson and the sequence of a set of lessons are important. Having sequence ensures that students will be able to connect ideas and learn concepts that are connected as opposed to in isolation. Alignment ensures that all the elements within the lesson planning sequence are working together toward the goal of student achievement, especially the objective, activity, and evaluation. This cohesiveness of lesson planning is

important in determining the effectiveness of planning (Panasuk & Todd, 2005). When all aspects of a logically sequenced lesson are in alignment, student achievement will follow.

Instructional strategies also play a role in creating quality assignments and logically sequencing lessons. Effective teachers use a variety of instructional strategies (Stronge, 2007; Tomlinson & McTighe, 2006) during instruction. When a teacher correctly and adeptly uses a variety of instructional strategies, lessons and tasks become more engaging to learners (Tomlinson & McTighe, 2006). Therefore, it is important that teachers balance the instructional strategies they employ. Using the appropriate instructional strategy is also important as different modes of instruction produce different learning outcomes (Wang et al., 1993a). Marzano et. al (2001) identified nine categories of instructional strategies that impact student achievement, and knowing when to use, how to properly apply, or time these techniques is vital to planning. One instructional strategy that has gotten a lot of attention in research is the use of organizers. Effective teachers use organizers with students. Knowing how and when to use an organizer and understanding its purpose will help teachers use them with students. Organizers have a high probability of enhancing student achievement for all students in all grades and in all subjects (Marzano et. al, 2001). In order to use this strategy with students, teachers must be organized in their understanding of the concept.

In addition, the timing, or pacing of instructional strategies is important. This aspect of lesson planning impacts the sequencing of the lesson and allows teachers to maximize students' time with the material. In effective teachers' classrooms more time is

spent on teaching and learning and less time on transitioning (Wharton-McDonald et. al,

1998; Wang et.al, 1993b). Effective planning must take into consideration the time spent

with students engaged with the material as well as to the timing of instructional

strategies.

To meet the needs of all learners in the classroom, effective teachers need to also

consider learning differences when lesson planning. Each child in the classroom is an

individual and the teacher must account for these differences in planning to make the

material meaningful for each student. Bain and Jacobs (1990) found that highly effective

teachers are able to do this and adjust their teaching style to the needs of the class.

Therefore, effective teachers must enter lesson planning understanding that they need to

meet the needs of a diverse group of learners. Teachers can accomplish this by planning

to teach in small groups or individually (Wharton-McDonald et al., 1998; Bain & Jacobs,

1990; Davis & Thomas, 1989).

Developing age and content appropriate lesson plans relates to planning for

learning differences. The teacher must understand the age of the children, know

cognitively and developmentally what is appropriate, and know what interests the age

group. One way effective teachers develop age and content appropriate plans, while

meeting learning difference, and using varied instructional strategies, is through the use

of authentic activities (Wharton-McDonald et al., 1998). Additionally, teachers need to

lesson plan to challenge students just outside their comfort zone and support them by

scaffolding (Pressley et al., 1998; Wharton-McDonald et al., 1998). Ensuring each

student is appropriately challenged with age appropriate content and materials add to the complexity of the modern teacher's lesson planning.

The seven lesson planning elements, identified by Stronge (2007), work independently and cohesively in the planning stages. As teachers begin to produce written lesson plans, much of the lesson planning process can be lost. While teachers are taught in Schools of Education to use linearly produced plans, in reality many teachers do not follow that system and do not write down the process they used during their lesson planning. Conventional plans imply that the lesson planning process is an ends/means relationship, which can leave out the complexity of thought that is undertaken in the lesson planning process. Alternative plans tend to be more organic in nature and are developed as a teacher tries to write down the lesson planning process they went through. Seeing the need for a more sophisticated written plan model, Ko (2012) developed the *instruction cycle*. Regardless of how teachers write their plans on paper, the lesson planning process they undergo is vital to student success. Teachers need to be effective not only in their teaching but also in their lesson planning in order to promote student achievement.

Chapter 3

Methodology

Effective teachers make a difference in the classroom. Teacher planning is an important part to being an effective teacher. Looking at Stronge's (2007) Framework for Effective Teachers, Planning and Organizing for Instruction is one of six qualities of effective teachers. Looking deeper into this particular quality, seven elements of teacher planning were identified as part of an effective teacher's lesson planning: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and developing age and content appropriate plans. The purpose of this study was to determine teachers' perceptions as to which of these seven elements has the greatest impact on student achievement, as well as to discern what teachers actually do during their lesson planning. In order to meet the purposes of the study and to gather the needed data, a survey was created based on the seven elements of effective teacher planning noted by Stronge (2007). Teachers were also asked to self-report how they plan for lessons.

Research Questions

1) Which of the following seven lesson planning elements do teachers perceive as having the greatest impact on student achievement: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, timing, Learning Differences, and Developing Age and Content Appropriate Lessons?

2) Which of the following seven lesson planning elements are reported by teachers as being used and with what level of relative importance: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?

3) What aspects of creating a quality assignment do teachers perceive as having the greatest impact on student achievement? What aspects of creating a quality assignment do teachers use when planning?

4) What aspects of lesson structure do teachers perceive as having the greatest impact on student achievement? What aspects of lesson structure do teachers use when planning?

5) Is there a difference in teachers' perceptions regarding which lesson planning elements have the greatest impact on student achievement when considering: (a) elementary school, middle school, or high school level; (b) content areas such as science, social studies, language arts, mathematics; (c) region of the United States; (d) rural, urban, or suburban areas; (e) years of experience; and (f) gender?

6) What method of lesson planning do teachers use most prominently? For teachers who use formal written lesson plans, how many times per day do they reference the written plans?

Sample

The target population for this study was K-12 teachers within the United States.

A stratified random sample was used to ensure that selected subgroups in the population,

specifically, elementary school, middle school, and high school teachers, were adequately

represented in the sample (Gall, Gall, & Borg, 2007).

The sample was obtained using the services of Market Data Retrieval (MDR), a

company that has been used for over 40 years in educational marketing. MDR maintains

a list of over three million K-12 teachers in the United States

(http://www.schooldata.com/pdfs/MDR_Ed_catalog.pdf). From this list MDR created a

customized list of over 5,000 randomly selected teachers in the United States. The list

was stratified so that elementary, middle, and high school teachers were equally

represented in the sample with each composing approximately one-third of the selected

sample in this equal-size stratified sampling approach.

Instrumentation

The instrument used was developed by the researcher based on the findings of

Stronge (2007) regarding Planning and Organizing for Instruction. The survey was

designed during preliminary planning along with a table of specification (see Table 3) to

account for the validity of the instrument. After the initial design, the survey was sent to

two colleagues who sent feedback regarding wording, structure, and readability. The

survey was then sent to a panel of practitioners who made suggestions and comments as

to the clarity of each individual item as well as each item's relevance (Appendix A). The

panel of practitioners was also asked if there were other changes that should be made to

the instrument. Feedback was given regarding wording, clarity, formatting, and adding items. After all feedback was received and reviewed, the survey was altered to account for problem areas identified by the panel. A third copy of the survey was then created based on all the feedback received, and was sent to a panel of experts in the field of teacher effectiveness, lesson planning and research. The panel of experts reviewed the survey for the clarity and relevance of each individual item and included changes that should be made to make the survey instrument more valid. Below are the changes made after review from the panel of practitioners and the panel of experts.

Panel of Practitioners

In order to ensure the validity of the survey instrument, the first step taken, was to have a panel of practitioners review the instrument. The survey instrument was emailed to seven possible practitioners for feedback. The practitioners were provided with the research questions and definitions of key terms. They were then asked to provide feedback about the instrument on each individual item to ensure the clarity of the item, if anything was missing from the instrument that should be included, if anything should be eliminated from the survey, and if there were any other changes that needed to be made to the overall instrument. Five practitioners responded to the request. In response to the feedback received the survey instrument was altered by:

- Adding a heading to Part 1, Elements of Lesson Planning to ensure it was congruent with the other items.

- The term "rank" was changed to "rank-order" to specify that the items should be ranked and ordered.

- Added the numeral of items to be rank-ordered to clarify the questions in part 1

- Changed the word "systematically" to "purposefully" in Part 1, Elements of Lesson Planning as the word systematically gave practitioners a difficult time. However, it is a necessary item so I used a more common word to describe what I wanted to know.

- In Part 1, Classroom Assignments, the first answer choice was split as curriculum and materials are different things. Teachers may think one makes more of an impact than the other.

- In Part 1, number 3, the title was changed from Classroom Assignments to Lesson Activities because the items asked to be ranked were seen as not congruent with assignments but more classroom activities that took place. Additionally, the definition of Assignments was added to my list of key definitions.

- In the Classroom Assignments section the item "Includes one goal for each lesson" was moved to Lesson Activities because it was felt that the item fit in better with the Lesson Activities more than Classroom Assignments.

- To the section Instructional Strategies, "Match the instructional strategy chosen to the content being taught" was added. This was done as a practitioner pointed out that often instructional strategies match better with different content, and it is important to choose an instructional strategy that matches with the content being taught.

- Also in the Instructional Strategies section the term "timing" was replaced with "pacing" as that more clearly defines what I was looking for with the question.

Additionally, the definition of timing was added as a key term to clarify what is meant by timing throughout the paper.

- The item "An overall lesson that is balanced in its use of instructional strategies (Use of a variety of instructional strategies throughout the day" was replaced by "Extensive use of scaffolding" as the former was confusing to panel members and when the research was reviewed it spoke mainly of one curriculum, what was meant with the question was extensive use of scaffolding, which was also in the research.

- The item "A smooth integration of instructional strategies into a lesson" was removed from instructional strategies because it was confusing to panel members, but also because what was meant by this item is covered with another item already listed, "Match the instructional strategy chosen to the learning outcome." If these are matched properly, there will be a smooth transition within the lesson to the instructional strategy chosen.

- In Appropriate Lessons, the item "Teacher supports students as they struggle, but does not do the activity for student" was removed as it was stated by the panel that this is more of an approach to teaching and not a lesson planning concept.

- The term "authentic activities" in Appropriate Lessons was changed to "real world application activities" as the panel members felt the term authentic was confusing.

- In Part 2, "I believe the more organizational work the teacher plans in the fall with students, leads to more child-centered activities in spring", and "I believe the amount of organization in the classroom leads to the amount of individual time

spent with students." were removed from the survey as they do not have anything to do with planning specifically and were not integral to my research questions.

Panel of Experts

After changes were made to the survey instrument based on the comments and suggestions of the panel of practitioners, the survey, in its new form, was sent to a panel of experts. The survey was sent to eight potential expert panel members. They were asked to evaluate the instrument question by question. They were asked if the question was clear, if the question was relevant, if they had any changes they would recommend and what the changes would be, and if they had any other comments about the question. Four panel members responded and from their responses the following changes were made.

- Altered the wording of prompts to make them clearer and less awkward as was noted by 1 of the 4 experts.

- Changed the answer responses choices to align them all and make them grammatically parallel as noted by 3 of the 4 experts.

- The section Elements of Lesson Planning was changed by creating a new item "For lesson planning to effectively impact student learning it must consider the amount of time students spend engaged in the act of learning." This was added due to the mention of timing in the conceptual framework and not addressing it in the survey. Additionally, "Uses graphic organizers in the planning process to enhance instructional delivery." Was deleted because use of organizers, of any kind, falls under the instructional strategies domain and is then covered by "For

lesson planning to effectively impact student learning it must contain a variety of instructional strategies." Finally, the item "Purposefully develops plans that align content to appropriate cognitive skills." was changed to "For lesson planning to effectively impact student learning it must align content to developmentally appropriate skills." This was done as the conceptual framework references developmentally appropriate, but the survey item was identifying a different concept.

- In the section Classroom Assignments, "Uses curriculum materials in classroom assignments" was changed to read, "Uses adopted curriculum materials in classroom assignments." The addition of the word adopted clarifies which curriculum materials are being discussed. Three of the four expert panelists suggested clarifying which curriculum materials were being discussed.

- Added definitions for "student control" and "depth of knowledge" to clarify the terms.

- The sections Lesson Activities, Instructional Strategies, Student Learning Styles, and Appropriate Lessons in Part 1 were removed as they were extra questions that did not directly address my research questions. Additionally, Part 2 was removed as it did not directly address any of my research questions.

- In the Demographics Section- Part 4, content area was added as my research questions ask if there are different perceptions between the groups. Additionally, I combined 11-15 and 16-20 in years of experience to give fewer answer choices but maintain blocks where effective teacher behavior may shift.

- Added questions regarding which items teachers have used in their planning in order to accommodate the research questions that ask which lesson planning elements teachers use.

The Survey

The survey contained three parts (see Appendices B and C). The first part asked participants to rank-order items. The items dealt with Elements of Lesson Planning, Classroom Assignments, and Lesson Structure. Rank items were chosen to avoid participants from scoring all elements the same and leading to little discrimination between survey items (Gall, Gall, & Borg, 2007). Part one also asked teachers to give a self-report on which items, if any, they used in the last week for each of the mentioned categories. A self-report allowed inferences to be made about how participants differ in their lesson planning thinking and processing (Gall, Gall, & Borg, 2007). The second section contained a question regarding the use of lesson plans by teachers. Participants could respond that they used written lesson plans, no formal lesson plans, or mental plans. If participants responded that they used written lesson plans, they were then asked how often they refer to those plans during the course of the day. If participants responded that they used no formal plans or that they used mental plans, the survey skipped them to section three. The third and final section contained six demographic questions related to the research. The questions pertained to *a.) the type of school where the participant works, b.) the content area where the participant works, c.) the gender the participant identifies with, d.) the number of years teaching experience, e.) the locale of the school, and, f.) the state where they work.* The State where the school is located was

then used to determine which region of the United States the participant works. This allowed examination of differences between regions of the United States with regards to planning. The States were in regions ahead of time according to the regions used by the U. S. Census Bureau (See Appendix D).

Two versions of the survey were sent out to participants (see Appendices B and C). The difference between the surveys was the order of the questions in Part 1. In Survey A, the rank-order items appeared before the multiple choice items. Survey B had the multiple choice items appear before the rank-order items. Using two versions of the survey accounted for any bias there might have been in the ordering of the questions. The Kruskal-Wallis statistical measure was then used to determine if the order of the questions impacted participants' responses. Additionally, the rank-order answer choices and the multiple choice answer choices were randomized for each participant to account for the bias in the ordering of the answer choices.

Table 3

Table of Specifications for Survey Items

Research Questions	Elements of Effective Teachers' Lesson Planning Survey Instrument
1.) Which of the following seven lesson planning elements do teachers perceive as having the greatest impact on student achievement: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?	Part 1: Elements of Lesson Planning
2.) Which of the following seven lesson planning elements are reported by teachers as being used and with what level of relative importance: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?	Part 1: Elements of Lesson Planning in Practice
3.) What aspects of creating a quality assignment do teachers perceive as having the greatest impact on student achievement? What aspects of creating a quality assignment do teachers use when planning? Are there other aspects of creating a quality assignment teachers use when planning?	Part 1: Classroom Assignments and Classroom Assignments in Practice
4.) What aspects of lesson structure do teachers perceive as having the greatest impact on student achievement? What aspects of lesson structure do teachers use when planning?	Part 1: Lesson Structure and Lesson Structure in Practice
5.) Is there a difference in teachers' perceptions regarding which lesson planning elements have the greatest impact on student achievement when considering: (a) elementary school, middle school, or high school level; (b) content areas such as science, social studies, language arts, mathematics; (c) region of the United States; (d) rural, urban, or suburban areas; (e) years of experience; and (f) gender?	Demographic Information and Part 1: Elements of Lesson Planning
6.) What method of lesson planning do teachers use most prominently? For teachers who use formal written lesson plans, how many times per day do they reference the written plans?	Part 2: Types of Lesson Plans and Written Lesson Plans

Procedures

Using a national database of teachers in the United States, an email was sent to potential participants informing them of their selection to participate in this study. The email contained a link to an on-line survey in which participants rank ordered aspects of lesson planning as they perceived them to impact student achievement. A follow up email was sent one week after the initial email to remind those who had not yet completed the survey that they still had the opportunity. A second email reminder was sent a week later, approximately 2 weeks after the initial email. This email reminded those who still had not participated that they still had a chance. Potential participants received a total of three emails asking for their participation in the study. Research indicates that 91% of data collected from on-line surveys is completed within the first 13 days (Mitra, Jain-Shukla, Robins, Champion, & Durant, 2008); therefore, email reminders were sent in the first two weeks to encourage an advantageous response rate from participants. In addition, the survey remained active on-line for one month from the date that participants first received the email notice.

Data Analysis

Results of this study were analyzed using descriptive statistics and analysis of variance (ANOVA), as applicable (see Table 4). Means and standard deviations were calculated and ranked for each survey item. For selected research questions, the means were subjected to an ANOVA for each demographic variable to determine significance within the groups. Using an ANOVA allowed the researcher the ability to distinguish between groups of teachers and to see if there were any differences in their perspectives

with regards to planning. An ANOVA compares the amount of between-groups variance in individuals' scores with the amount of within-groups variance (Gall, Gall, & Borg, 2007). The ANOVA was completed instead of a t-test to try to prevent a Type I error from occurring due to running multiple t-tests (Gravetter & Wallnau, 2008). A resulting significant F statistic meant that between-group variance was significantly greater than variance by chance (Kiess & Green, 2010). If a significant F-ratio was found then a post-hoc test was run to determine where the significant differences were found. The alpha level was set at 0.05 which will give a 5% risk of a Type I error. If there was no significant F-ratio found then a post-hoc test was not necessary.

Table 4

Data Analysis Table

Research Questions	Data Sources	Data Analysis Procedures
1.) Which of the following seven lesson planning elements do teachers perceive as having the greatest impact on student achievement: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?	Part 1: Elements of Lesson Planning	Descriptive statistics, ANOVA and post-hoc analysis
2.) Which of the following seven lesson planning elements are reported by teachers as being used and with what level of relative importance: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?	Part 1: Elements of Lesson Planning in Practice	Descriptive statistics, ANOVA and post-hoc analysis
3.) What aspects of creating a quality assignment do teachers perceive as having the greatest impact on student achievement? What aspects of creating a quality assignment do teachers use when planning?	Part 1: Classroom Assignments and Classroom Assignments in Practice	Descriptive statistics, ANOVA and post-hoc analysis
4.) What aspects of lesson structure do teachers perceive as having the greatest impact on student achievement? What aspects of lesson structure do teachers use when planning?	Part 1: Lesson Structure, Lesson Structure in Practice and open ended question	Descriptive statistics, ANOVA and post-hoc analysis
5.) Is there a difference in teachers' perceptions regarding which lesson planning elements have the greatest impact on student achievement when considering: (a) elementary school, middle school, or high school level; (b) content areas such as science, social studies, language arts, mathematics; (c) region of the United States; (d) rural, urban, or suburban areas; (e) years of experience; and (f) gender?	Demographic Information and Part 1: Elements of Lesson Planning	Descriptive statistics, ANOVA and post-hoc analysis
6.) What method of lesson planning do teachers use most prominently? For teachers who use formal written lesson plans, how many times per day do they reference the written plans?	Part 2: Written Lesson Plans	Descriptive Statistics, ANOVA and post-hoc to determine if there is a difference between veteran and novice teachers.

Ethical Considerations

Participants' privacy and psychological safety was protected throughout the duration of the study. An introductory email was sent to participants explaining the study and the ethical safeguards provided. Each participant had the choice to participate or not, as well as, the opportunity to drop out of the study at any given time. Additionally, the researcher received approval from the Human Subjects Review Committee at The College of William and Mary before any data were collected.

Chapter 4

Analysis of Results

This study investigated the perceptions that K-12 teachers have about various elements of lesson planning. Specifically, the researcher sought to determine which research-based Elements of Lesson Planning teachers perceived as having the greatest impact on student achievement and if certain demographic characteristics effected those perceptions. Data were collected with two surveys created by the researcher (see Appendices B and C) based on Stronge's (2007) Framework for Effective Teachers. Within this framework, Planning and Organizing for Instruction is one of six qualities of effective teachers. Breaking Planning and Organizing for Instruction down further seven elements of teacher planning were identified as part of an effective teacher's lesson planning: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and developing age and content appropriate plans. A national stratified random sample of 184 U.S. educators ranked seven elements of teacher planning in the order they believed that those qualities impact student achievement. Participants were also asked to rank aspects of Creating Quality Assignments and Logically Structured Lessons in the order they believed those aspects to impact student achievement. Finally, participants were asked to self-report what elements they have used in their classroom and how they plan lessons.

Research Questions

1) Which of the following seven lesson planning elements do teachers perceive as having the greatest impact on student achievement: Clear Lesson and Learning

Objectives, Creating Quality Assignments, Logically Structured Lessons,

Instructional Strategies, Timing, Learning Differences, and Developing Age and

Content Appropriate Lessons?

2) Which of the following seven lesson planning elements are reported by teachers

as being used and with what level of relative importance: Clear Lesson and

Learning Objectives, Creating Quality Assignments, Logically Structured

Lessons, Instructional Strategies, Timing, Learning Differences, and Developing

Age and Content Appropriate Lessons?

3) What aspects of creating a quality assignment do teachers perceive as having the

greatest impact on student achievement? What aspects of creating a quality

assignment do teachers use when planning?

4) What aspects of lesson structure do teachers perceive as having the greatest

impact on student achievement? What aspects of lesson structure do teachers use

when planning?

5) Is there a difference in teachers' perceptions regarding which lesson planning

elements have the greatest impact on student achievement when considering: (a)

elementary school, middle school, and high school level; (b) teaching different

content areas such as science, social studies, language arts, mathematics; (c) in

different regions of the United States; (d) in rural, urban, and suburban areas; (e)

with different years of experience; and (f) of a different gender?

6) What method of lesson planning do teachers use most prominently? For teachers

who use formal written lesson plans, how many times per day do they reference

the written plans?

Research question one was addressed using descriptive statistics; specifically, mean rankings were calculated using Statistical Package for Social Science (SPSS) software. Mean rankings were then rank ordered to determine which Elements of Lesson Planning teachers perceived as having the greatest impact on student achievement. Afterwards, a repeated measures analysis of variance (ANOVA) was run to determine if there was any significance between the rankings. To answer research question two, descriptive statistics were run to determine which Elements of Lesson Planning teachers reported using in their classrooms in the past week. The percentages of yes and no responses were then rank ordered to determine which Elements of Lesson Planning teachers used and how frequently they were used. A repeated measures ANOVA was then conducted to determine if there were significant differences in the teachers' use of the elements. Research questions three and four used the same statistical techniques as were used in questions one and two. The fifth research question used a repeated-measures ANOVA for each demographic quality. For each ANOVA, one of the demographic factors served as the independent variable. The sixth and final research question was addressed using descriptive statistics and mean rankings. Additionally, an ANOVA was run to determine if years of experience impacted teachers' response to this question.

The Study

Return Rate

Data for the study were collected in October and November, 2013. A total of three emails were sent to a stratified equal-size random sample of K-12 classroom and

core area teachers. The researcher created an online survey and imbedded a link to the survey in an email message to potential participants. Market Data Retrieval (MDR), an educational marketing company, was hired to create an email list of K-12 teachers which was evenly stratified by elementary, middle, and high school levels. In addition, MDR ensured that only classroom and core area (Language Arts, Mathematics, Science, and Social Studies) teachers were potential participants on the email list. Half of the potential sample was sent Survey A and the other half was sent Survey B. This was to ensure that the order of the questions did not impact participant responses. In determining which group received Survey A and which received Survey B, MDR used the zip code of participants in the database (F. Quaranta, personal communication, October 10, 2013). Survey A was sent to those with odd zip codes and Survey B was sent to those with even zip codes. Three emails were sent to potential participants informing them of the study and requesting their participation. Each email contained an introductory message (see Appendix E) and a link to the online survey. When participants clicked on the link to the survey they were immediately directed to a consent agreement (see Appendix F) where they were asked for their consent before continuing with the survey. The first email was sent on Tuesday October 15, 2013, the second was sent on Tuesday October 22, 2013, and the third was sent on Tuesday October 29, 2013. Within three hours of the first email, 22 people had completed Survey A and 18 had completed Survey B (56.4% and 52.9% of total responses respectively). Within twenty-four hours of the first message deployment an additional 13 participants had completed Survey A and 8 completed Survey B (33.3% and 23.5% of total responses respectively). After 4 days 3 additional copies of Survey A and 6 copies of Survey B had been

completed (7.7% and 17.6% of total responses respectively). After the fourth day, which

was a Friday, and before the deployment of the second email to participants, only one

copy of Survey A was completed and two copies of Survey B. The results for the second

and third email deployment followed a similar pattern with most responses arriving

within the first twenty-four hours after which the response rate declined. Very few

responses came after day 4, which was a Friday, in all three cases. Table 5 shows the

response rate per email deployment.

Table 5

Response Rates per Email Notification

Elapsed Time after Email Deployment	Email Sent October 15 Survey A Number of Completed Surveys	Email Sent October 15 Survey B Number of Completed Surveys	Email Sent October 22 Survey A Number of Completed Surveys	Email Sent October 22 Survey B Number of Completed Surveys	Email Sent October 29 Survey A Number of Completed Surveys	Email Sent October 29 Survey B Number of Completed Surveys
3 hours	22	18	12	15	19	16
24 hours	13	8	2	4	8	11
4 days	3	6	3	5	4	6
7 days	1	2	0	0	1	1
14 days	N/A	N/A	N/A	N/A	4	1

Consistent with research which indicates that 91% of data collected from on-line

surveys is completed within the first 13 days (see Mitra, Jain-Shukla, Robins, Champion,

& Durant, 2008), the rate of participation dropped as the amount of time after the email

notification about the study increased.

In addition to looking at the response rate per email deployment, Table 6

delineates the number of complete and incomplete surveys. After the first deployment of

the email message and what the researcher felt was an unusually high number of

incomplete survey responses, more detailed instructions were added to the emails sent out

for the second and third deployment. The on-line survey program which was used

(Survey Monkey) had participants drag and drop sentences in order they instead of

simply choosing a number for each sentence. The researcher thought this method might

be confusing to participants and therefore additional information was added to the

introductory letter (Appendix E) for deployments two and three stating:

> **"If you have already taken this survey, Thank you so much!**
>
> If you have not, there is still time! A tip for the rank order questions:
>
> ignore the number drop down menu and simply drag and drop the
>
> sentences into the order you wish. The number drop down menu works
>
> quickly and moves the sentences into the spot you choose, this happens
>
> quickly and often you won't realize what happened. The easiest fix is to
>
> just drag and drop the sentences in the order you want them."

These additional instructions do not seem to have impacted the number of

incomplete surveys, as the percentage of incomplete surveys was consistently high:

25.5%, 41.1%, and 26.5% for the three email deployments respectively.

Table 6

Number of Complete and Incomplete Surveys per Email Deployment

Survey	Complete	Incomplete	Totals
Survey A Deployed October 15	39	17	56
Survey B Deployed October 15	34	8	42
Total for October 15	73 (74.5%)	25 (25.5%)	98
Survey A Deployed October 22	17	14	31
Survey B Deployed October 22	23	14	37
Total for October 22	40 (58.8%)	28 (41.2%)	68
Survey A Deployed October 29	35	7	42
Survey B Deployed October 29	37	19	56
Total for October 29	72 (73.5%)	26 (26.5%)	98
Totals	185	79	264

Sampling Anomaly

A sampling anomaly occurred with the third email deployment MDR sent, the

third email was sent to a different stratified equal-size random sample of K-12 classroom

and core area teachers than the first two. This anomaly meant that half the sample received an email inviting them to participate two times and the other half received an email one time. This provides a reason that the number of responses for the October 29th deployment improved over the October 22nd deployment as seen in Table 6. Table 7 breaks down the full email list created and deployed for the study as well as the percentages for each.

Table 7

Total Number of Emails and Potential Participants

	Total Emails Sent	Elementary School	Middle School	High School
Received Survey A twice	2,543 (49.8%) (*24.4%)	853 (33.5%) (*8.2%)	843 (33.1%) (*8.1%)	847 (33.3%) (*8.1%)
Received Survey B twice	2,561 (50.2%) (*24.6%)	857 (33.4%) (*8.2%)	863 (33.6%) (*8.3%)	841 (32.8%) (*8.1%)
Total Receiving two emails	5,104 (*49.1%)			
Received Survey A once	2,756 (52.0%) (26.5%)	924 (33.5%) (*8.9%)	918 (33.3%) (*8.9%)	914 (33.1%) (*8.8%)
Received Survey B once	2,541 (48.0%) (24.4%)	856 (33.7%) (*8.2%)	847 (33.3%) (*8.1%)	838 (32.9%) (*8.1%)
Total Receiving one email	5,297 (*50.9%)			
Grand Total for all Potential Participants	10,401	3,490 (33.6%)	3,471 (33.4%)	3,440 (33.1%)

*This percentage reflects the percentage from the Grand Total of Potential Participants.

The table shows that the emails were distributed almost equally among the stratified groups of elementary, middle, and high school teachers in both the group that received two emails and the group that received one email. Additionally, an almost equal number of participants received Survey A and Survey B.

In order to account for any differences which may have occurred due to the sampling anomaly, the researcher used a chi-square test to determine if the frequency counts were distributed differently for the different samples (Gall, Gall, & Borg, 2007). Chi-square tests were run on all demographic information to ensure the two groups were evenly matched. Participants in the two groups showed no differences in the type of school where they taught, χ^2 (2, n = 184) = 1.096, p > 0.05. In addition the two groups showed no difference with respect to the gender of the participants, χ^2 (1, n = 184) = 0.195, p > 0.05. Looking at the number of years participants taught, there was no difference between the groups, χ^2 (4, n = 184) = 2.740, p > 0.05. With regards to the school setting begin rural, suburban, or urban, the two groups did not differ, χ^2 (2, n = 184) = 0.540, p > 0.05. Participants also did not differ between groups in which region of the U.S. where they teach, χ^2 (3, n = 181) = 0.450, p > 0.05. Finally, looking at the primary content area in which the teachers teach, there was no difference found between the groups, χ^2 (9, n = 184) = 6.507, p > 0.05. However, within this area five of the answer choices had only a few respondents. This is due to the fact that participants listed multiple content areas as they teach various subjects.

The results from the chi-square tests showed that there was no difference between the participants who received one email and those that received two on all the demographic information available. It can then be assumed that the results are based on participants' responses and not differences between the groups.

Knowing there is essentially no difference between the two groups, the researcher looked at the response rates from the sample. Of the completed surveys from those

participants receiving two emails, an equal percent responded to Survey A (2.2%) and

Survey B (2.2%). Additionally, when you look at the response rates for the stratified

groups, they are almost equal as well (see Table 8). The overall response rate of 2.2% for

both Survey A and Survey B is low and may indicate the perceptions given are those of

the sample only and not necessarily the population. Looking at the response rate from

participants who received only one email, the percentages follow the same pattern as

those receiving two emails. Survey A and Survey B received similar response rates

(1.3% and 1.5%, respectfully) and the stratified categories are similar as well (see Table

9). The overall response rate of 1.4% is lower than the participants who received two

emails, which is most likely due to the fact that potential participants were not sent a

follow up email to remind them of the opportunity to participate.

Table 8

Response Rate From Participants Receiving Two Emails

	Emails Delivered Survey A	Completed Survey A	Emails Delivered Survey B	Completed Survey B
Elementary School Teacher	853 (33.5% of total)	9 (1.1%)	857 (33.4% of total)	11 (1.3%)
Middle School Teachers	843 (33.1% of total)	18 (2.1%)	863 (33.6% of total)	19 (2.2%)
High School Teachers	847 (33.3% of total)	29 (3.4%)	841 (32.8% of total)	26 (3.1%)
Total Teachers	2,543	56 (2.2%)	2,561	56 (2.2%)

Table 9

Response Rate from Participants Receiving One Email

	Emails Delivered Survey A	Completed Survey A	Emails Delivered Survey B	Completed Survey B
Elementary School Teacher	924 (33.5% of total)	8 (0.9%)	856 (33.7% of total)	10 (1.2%)
Middle School Teachers	918 (33.3% of total)	14 (1.5%)	847 (33.3% of total)	17 (2.0%)
High School Teachers	914 (33.1% of total)	13 (1.42%)	838 (32.9% of total)	10 (1.2%)
Total Teachers	2,756	35 (1.3%)	2,541	37 (1.5%)

The results indicate that the total response rate from the 10,401 emails that were sent is 1.8%. This low response rate may impact the generalizability of the results.

In addition to comparing the two different groups, the researcher also compared the percentages of respondents in the sample with those in the possible sample pool to examine if the sample is an adequate representation. According to the National Center for Education Statistics Schools and Staffing Survey for the last year data is available, 2007-2008, there are 3,404,520 public school teachers (https://nces.ed.gov/surveys/sass/tables/sass0708_029_t12n.asp). MDR maintains email addresses for 3,373,713 public school teachers (http://www.schooldata.com/pdfs/MDR_Ed_catalog.pdf). This number includes teachers of all subjects, grades, and schools. These totals are close and using MDR gave the researcher the best possible sample pool in which to generalize to the total population of K-12 classroom and core area teachers.

The total number of teachers that could have been included in the sample was 1,381,364. This number is smaller than the number of email addresses MDR has on file for public school teachers due to the fact that only public school classroom teachers, Language Arts, Mathematics, Science, and Social Studies teachers were included in the email list developed. Table 10 breaks down the totals from the possible sample pool and the totals from those participating in the study. The numbers provided for all items were garnered via personal communications with Frank Quaranta, a MDR expert on November 27, 2013.

When looking at differences in the percentages between the population and the sample, if the percentage is greater than 5% it may impact the generalizability of the study if any significant differences are found between groups. Therefore, the percentages of teachers represented in the sample were different than those from the possible sample pool. The following variable sections will examine the representation of the group within the sample. The sample used was comprised of 184 teachers K-12 representing 41 different states.

Demographic information

The Elements of Effective Teachers' Lesson Planning survey contained six demographic items. Those items requested information on the participants' school level where they worked, (elementary, middle or high school), subject area taught, gender, years of experience, school setting in which they worked, and the state in which they worked.

Table 10

Comparison of Population and Study Sample

	Total	% of Total	Total Participating in the Study	% of Total Participating in the Study	Difference in %
Elementary School Teachers	690,959	50.0%	38	20.8%	-29.2
Middle School Teachers	236,471	17.1%	68	37.1%	+20
High School Teachers	453,934	32.8%	78	42.4%	+9.6
Male Teachers	170,950	17.2%	43	23.5%	+6.3
Female Teachers	824,446	82.8%	140	76.6%	-6.2
Rural Setting Teachers	355,683	34.7%	52	28.4%	-6.3
Suburban Setting Teachers	387,447	37.8%	100	54.3%	+16.5
Urban Setting Teachers	280,972	27.4%	32	17.4%	-10
1-5 Years' Experience	86,819	8.0%	22	12.0%	+4
5-10 Years' Experience	141,185	13.0%	38	20.8%	+7.8
10-20 Years' Experience	200,399	18.5%	65	35.3%	+16.8
20+Years' Experience	657,141	60.5%	59	32.2%	-28.3
Northeast Region	611,318*	17.9%*	23	12.7%	-5.2
Midwest Region	922,517*	27.0%*	41	22.7%	-4.3
South Region	1,278,376*	37.4%*	87	48.1%	+10.7
West Region	610,243*	17.8%*	30	16.6%	-2.2

*These numbers reflect all elementary, middle and high school teachers in the region and not only classroom and core area teachers. Numbers retrieved from http://www.schooldata.com/pdfs/MDR_Ed_catalog.pdf

Level of school and subject area. One hundred and eighty-five teachers completed the survey; however, one survey had to be removed from analysis because the participant's subject area was an instructional coach. Therefore, the information provided would not have been appropriate or helpful in finding out the lesson planning practices of teachers as an instructional coach works with the lesson plans of the classroom teacher. Six other participants had classroom subjects outside of the core subjects of Language Arts, Mathematics, Science, and Social Studies, but were kept as the classes required teachers to create lesson plans. Additionally, although there were one hundred eight-four usable surveys, one participant chose to answer all the questions but provide no demographics. The survey was deemed usable because the only research question that requires knowledge of the participants' demographics is question five. Table 11 shows the number of usable completed surveys by school level and subject area taught.

With regards to the number of teachers by school level, national data available on classroom teachers from the National Center for Education Statistics (NCES) for the most recent year available, 2007-2008 show that elementary school teachers comprised 63.1% of the workforce while secondary teachers, middle school and high school, accounted for 32.3%. Public school teachers that teach in a combined K-12 school covered the final 4.6% of teachers (https://nces.ed.gov/pubs2009/2009324/tables/sass0708_2009324_t12n_01.asp). Comparing these percentages with the study sample shows that elementary school teachers were underrepresented and secondary teachers were overrepresented.

The NCES data also show the breakdown of classroom teachers by subject area. For elementary school teachers, 86.8% were considered elementary teachers who taught all core subject areas, 8.2% were reported as teaching Language Arts, 2.7% taught Mathematics, 1.2% taught Science, and 1.1% taught Social Studies (https://nces.ed.gov/surveys/sass/tables/sass0708_033_t1n.asp). When comparing these numbers with the sample study of elementary teachers, the trend is similar though all areas are underrepresented. In addition, the study sample contains some groups which were not accounted for in the national survey. Looking at secondary teachers nationally, Language Arts teachers comprised 31.4%, Mathematics teachers 27.1%, Science teachers 20%, and Social Studies teachers 21.5% of the population (https://nces.ed.gov/surveys/sass/tables/sass0708_033_t1n.asp). In comparison to the study sample, secondary Language Arts teachers are adequately represented, but the others are underrepresented. Similar to elementary teachers, the sample contains two groups which were not taken into account on the national level.

Table 11

Teachers' School Level and Subject Area

	LA	Math	Sci	SS	All	Other	LA, MA, Sci	LA & MA	MA & Sci.	LA & SS	Total
Elem.	3 (1.6%)	3 (1.6%)	0	0	26 (14.2%)	1 (0.5%)	2 (1.1%)	2 (1.1%)	1 (0.5%)	0	38 (20.8%)
Middle	23 (12.6%)	11 (6.0%)	16 (8.7%)	13 (7.1%)	0	2 (1.1%)	0	0	2 (1.1%)	1 (0.5%)	68 (37.2%)
High	36 (19.7%)	17 (9.3%)	8 (4.4%)	12 (6.6%)	0	3 (1.6%)	0	0	0	1 (0.5%)	77 (42.1%)
Total	62 (33.9%)	31 (16.9%)	24 (13.1%)	25 (13.7%)	26 (14.2%)	6 (3.3%)	2 (1.1%)	2 (1.1%)	3 (1.6%)	2 (1.1%)	183

Gender. Out of the 184 completed surveys, 140 were completed by females

(76.5%) and 43 by males (23.5%). Again, one participant chose not to respond to this

demographic question. This split is representative of the target population of U.S. public

school teachers. NCES data from the most recent available year 2007-2008 indicated that

75% of U. S. teachers were female and 25% male

(https://nces.ed.gov/surveys/sass/tables/sass0708_029_t12n.asp). Table 12 shows the

breakdown of participants by gender.

Table 12

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	140	76.1	76.5	76.5
	male	43	23.4	23.5	100.0
	Total	183	99.5	100.0	
Missing	System	1	.5		
Total		184	100.0		

Teaching experience. Participants were asked to select a range of years that most

accurately reflected the total number of years of teaching experience they had in

education. The choices were: (a) less than 3 years, (b) 3-5 years, (c) 6-10 years, (d) 11-

20 years, and (e) 20+ years. The participants' responses are shown in Table 13; the

majority of participating teachers had eleven or more years' experience. A majority of

teachers in public elementary and secondary teaching positions nationally also have

eleven or more years' experience, according to 2007-2008 NCES data (53 % of teachers,

to include non-core secondary teachers). The smallest group on a nation-wide scale is

teachers with less than three years' experience (13.4%). Teachers with between three and

nine years' experience comprised 33.6% of the teaching population

(https://nces.ed.gov/programs/digest/d11/tables/dt11_072.asp). While these percentages

reflect the trend of study sample, teachers with less than three years' experience are

underrepresented, teachers with three to nine years' experience are slightly

underrepresented, and teachers with more than eleven years' experience are

overrepresented in the sample.

Table 13

Years' Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 3 years	9	4.9	4.9	4.9
	3-5 years	13	7.1	7.1	12.0
	6-10 years	38	20.7	20.8	32.8
	11-20 years	64	34.8	35.0	67.8
	20+ years	59	32.1	32.2	100.0
	Total	183	99.5	100.0	
Missing	System	1	.5		
Total		184	100.0		

School setting. Participants were asked to characterize the setting of the school in

which they worked as rural, suburban, or urban. Table 14 shows the breakdown of

participants' responses showing that over half of the participants were from the suburban

setting. The national data available on school setting from the NCES shows that

nationally, 38.8% of teachers teach in a rural area or a town. An additional 35.5% of

teachers are in suburban public schools. Finally, 25.9% are in the city or urban areas

(https://nces.ed.gov/pubs2009/2009324/tables/sass0708_2009324_t12n_01.asp).

Comparing these national numbers with the study sample from Table 14, rural and urban

teachers are underrepresented and suburban teachers are overrepresented in the study's

sample. Note that for the purposes of this study, rural area and town were combined.

Table 14

School Setting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rural	52	28.3	28.4	28.4
	Suburban	99	53.8	54.1	82.5
	Urban	32	17.4	17.5	100.0
	Total	183	99.5	100.0	
Missing	System	1	.5		
Total		184	100.0		

Region. The participants' region was determined by asking teachers in which

state they currently worked. States were then grouped into regions based on the regions

of the United States used by the U.S. Census Bureau (see Appendix D). Region 1 listed

as the "Northeast" encompasses nine states; Region 2 is identified as the "Midwest" and

includes twelve states; Region 3 referred to as the "South" is the largest region consisting

of sixteen states and the District of Columbia; and Region 4 called the "West" includes

thirteen states. Appendix D contains a complete listing of the states divided by region.

The results in Table 15 show that approximately half of the respondents worked in one of

the states comprising the South region. This makes sense as the South region included

the most states with high populations. Table 15 shows all the respondents' answers and

the percentages for each. Looking at the NCES data for region, the South comprised the

38.3%, the Midwest 22.7%, the Northeast 19.9%, and the West 19.0% of public school

teachers (https://nces.ed.gov/surveys/sass/tables/sass0708_2009324_t1s_02.asp). In

comparison with the study sample, teachers in the Midwest and West regions are adequately represented while those in the South are slightly overrepresented and teachers in the Northeast are slightly underrepresented.

Table 15

Region of the United States

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Northeast	23	12.5	12.8	12.8
	Midwest	40	21.7	22.2	35.0
	South	87	47.3	48.3	83.3
	West	30	16.3	16.7	100.0
	Total	180	97.8	100.0	
Missing		4	2.2		
Total		184	100.0		

Findings for Research Questions

Research Question One

Which of the following seven lesson planning elements do teachers perceive as having the greatest impact on student achievement: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?

Stronge's (2007) review of qualities of effective teachers and, more specifically, the general quality of Planning for Instruction detailed many Elements of Lesson Planning that may impact student achievement. The Elements of Lesson Planning identified in the research were: (a) *Clear Lesson and Learning Objectives,* (b) *Creating*

Quality Assignments, (c) *Logically Structured Lessons,* (d) *Timing,* (e) *Instructional Strategies,* (f) *Learning Differences,* and (g) *Developing Age and Content Appropriate Lessons.* K-12 classroom and core area teachers were asked to rank these lesson planning elements from 1-7 in the order in which they impact student achievement. A rank of 1 represented the least important quality and the rank of 7 represented the most important quality. Descriptive statistics were calculated for each quality, including mean and standard deviation. Mean rankings shown in Table 16 show that the teachers ranked Creating Quality Assignments as having the most impact on student achievement and Logically Structured Lessons has having the least impact.

While the term *assignment* seems ambiguous the operational definition for the purposes of this study is: Assignments are comprised of activities that students work on independently after teaching has taken place. Students complete assignments in the classroom (see Chapter 1). Teachers were not directly provided with this definition; however, the panel of practioners and experts were given this information as they reviewed the survey instrument. Not providing participants with the definition limits the generalizability of the study because the wording chosen may have affected participants' perceptions and rankings.

Interestingly, participants in the study were somewhat polarized on their views of Clear Lesson and Learning Objectives as this element was given the ranking of 1 and 7 more than any other element. The other elements received rankings that were fairly evenly spread. Creating Quality Assignments was boosted by the number of respondents marking it a 6 or 7, but as Table 16 shows, many participants also gave it a 2 ranking,

thus, bringing the mean down. Table 16 provides further descriptive statistics for the rankings of the Elements of Lesson Planning including the frequency that each element was ranked, the percentage of teachers giving the element that ranking, the median rank, the mean ranking, and the standard deviation.

After examining the means and standard deviations for the seven Elements of Lesson Planning shown in Table 16, a repeated-measures ANOVA was conducted on the mean Elements of Lesson Planning. The ANOVA indicated no significant differences in the teacher's perception of which element impacted students the most, $F(6, 1098) = 0.568, p = 0.76$. Table 17 shows the repeated-measures ANOVA results. On the whole, teachers seemed to rank all the Elements of Lesson Planning equally since no significant findings were present.

Table 16

Rankings of Lesson Planning Elements

	Frequency of Ordered Responses N =184	Percentage of Teachers N=184	Teacher Mean	Teacher Mean Rank	Standard Deviation
Creating Quality Assignments	#1 = 23 #2 = 31 #3 = 20 #4 = 20 #5 = 20 #6 = 37 #7 = 33	#1 = 12.5% #2 = 16.8% #3 = 10.9% #4 = 10.9% #5 = 10.9% #6 = 20.1% #7 = 17.9%	4.23	1	2.10
Instructional Strategies	#1 = 21 #2 = 23 #3 = 26 #4 = 36 #5 = 30 #6 = 26 #7 = 22	#1 = 11.4% #2 = 12.5% #3 = 14.1% #4 = 19.6% #5 = 16.3% #6 = 14.1% #7 = 12.0%	4.07	2	1.87
Timing	#1 = 25 #2 = 24 #3 = 33 #4 = 26 #5 = 24 #6 = 20 #7 = 32	#1 = 13.6% #2 = 13.0% #3 = 17.9% #4 = 14.1% #5 = 13.0% #6 = 10.9% #7 = 17.4%	4.02	3	2.02
Developing Age and Content Appropriate Lessons	#1 = 24 #2 = 23 #3 = 30 #4 = 31 #5 = 30 #6 = 27 #7 = 19	#1 = 13.0% #2 = 12.5% #3 = 16.3% #4 = 16.8% #5 = 16.3% #6 = 14.7% #7 = 10.3%	3.96	4	1.88
Learning Differences	#1 = 26 #2 = 27 #3 = 25 #4 = 24 #5 = 37 #6 = 29 #7 = 16	#1 = 14.1% #2 = 14.7% #3 = 13.6% #4 = 13.0% #5 = 20.1% #6 = 15.8% #7 = 8.7%	3.92	5	1.90
Clear Lesson and Learning Objectives	#1 = 44 #2 = 32 #3 = 15 #4 = 13 #5 = 12 #6 = 21 #7 = 47	#1 = 23.9% #2 = 17.4% #3 = 8.2% #4 = 7.1% #5 = 6.5% #6 = 11.4% #7 = 25.5%	3.91	6	2.40
Logically Structured Lessons	#1 = 21 #2 = 24 #3 = 35 #4 = 34 #5 = 31 #6 = 24 #7 = 15	#1 = 11.4% #2 = 13.0% #3 = 19.0% #4 = 18.5% #5 = 16.8% #6 = 13.0% #7 = 8.2%	3.88	7	1.78

Table 17

ANOVA for the Seven Elements of Lesson Planning

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
LessonPlanning					
Sphericity Assumed	15.946	6	2.658	.568	.756
Greenhouse-Geisser	15.946	5.297	3.011	.568	.734
Huynh-Feldt	15.946	5.473	2.913	.568	.740
Lower-bound	15.946	1.000	15.946	.568	.452
Error(LessonPlanning)					
Sphericity Assumed	5136.054	1098	4.678		
Greenhouse-Geisser	5136.054	969.291	5.299		
Huynh-Feldt	5136.054	1001.577	5.128		
Lower-bound	5136.054	183.000	28.066		

Research Question Two

Which of the following seven lesson planning elements are reported by teachers

as being used and with what level of relative importance: Clear Lesson and Learning

Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional

Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate

Lessons?

Stronge (2007) noted in his research of effective teacher's planning that effective

teachers were found to use Clear Lesson and Learning Objectives, Creating Quality

Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning

Differences, and Developing Age and Content Appropriate Lessons when creating lesson

plans. Teachers were asked in the survey to note which Elements of Lesson Planning

they had used in creating their lesson plans in the past week. Each teacher, through use

of a multiple choice question, had the opportunity to select as few or as many of the

seven elements as they needed to respond. By selecting the element in the survey they were responding, yes, they used the element. If the element was not selected they were responding that, no, they did not use the element in the past week. Table 18 shows Clear Lesson and Learning Objectives was used by the most teachers while lesson planning in the past week. Age and Content Appropriate Plans was used by the fewest number of teachers; however, the percentage of teachers still utilizing this element was 75.5%. Based on these results it seems that teachers find each of these elements important in lesson planning as more than 75% of the respondents used each during the week.

Table 18

Ranking of Elements of Lesson Planning Used

	Frequency of Ordered Responses N =184	Percentage of Teachers N=184	Teacher Mean	Teacher Mean Rank	Standard Deviation
Clear Lesson and Learning Objectives	Yes- 169 No- 15	Yes-91.8% No- 8.2%	1.08	1	.274
Logically Structured Lessons	Yes- 155 No- 29	Yes- 84.2% No- 15.8%	1.16	2	.365
Creating Quality Assignments	Yes- 153 No-31	Yes- 83.2% No- 16.8%	1.17	3	.375
Timing	Yes- 153 No- 31	Yes- 83.2% No- 16.8%	1.17	3	.375
Instructional Strategies	Yes- 151 No- 33	Yes- 82.1% No- 17.9%	1.18	5	.385
Learning Differences	Yes- 146 No- 38	Yes- 79.3% No- 20.7%	1.21	6	.406
Developing Age and Content Appropriate Lessons	Yes- 139 No- 45	Yes- 75.5% No- 24.5%	1.24	7	.431

Something interesting to note would be that the means for Clear Lesson and

Learning Objectives and Logically Structured Lessons were 6th and 7th, respectively,

when looking at the impact on student achievement, but when looking at the mean for the

same aspects being used in the past week, these elements had the two highest means.

After examining the means and standard deviations and frequencies for the seven

Elements of Lesson Planning shown in Table 18, a repeated-measures ANOVA indicated

a significant difference in the teachers' use of the elements during the past week, F (6,

1098) = 4.041, $p < 0.01$. Table 19 shows the repeated-measures ANOVA results.

Table 19

ANOVA for Elements of Lesson Planning Used in the Past Week

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
useslessplanelements					
Sphericity Assumed	2.747	6	.458	4.041	.001
Greenhouse-Geisser	2.747	5.428	.506	4.041	.001
Huynh-Feldt	2.747	5.613	.489	4.041	.001
Lower-bound	2.747	1.000	2.747	4.041	.046
Error(useslessplanelements)					
Sphericity Assumed	124.396	1098	.113		
Greenhouse-Geisser	124.396	993.280	.125		
Huynh-Feldt	124.396	1027.174	.121		
Lower-bound	124.396	183.000	.680		

In order to find where the differences were between the elements used in the

classroom, another repeated measures ANOVA was calculated, but this time with the

elements in order by mean (1) Clear Lesson and Learning Objectives; (2) Logically

Structured Lessons; (3) Creating Quality Assignments; (4) Timing; (5) Instructional

Strategies; (6) Learning Differences; (7) Developing Age and Content Appropriate

Lessons. The results showed significant differences between some of the elements; however, in order to determine where significant differences occurred, additional calculations were completed based on the means and standard deviations. An excel spreadsheet was created in order to compare the actual differences in the observed means. By calculating error variance based on the Games-Howell procedure (1976), and using the q-value, the critical difference was found. The critical difference was then compared with the difference in means between the two items being compared. If the difference was greater than the critical difference, there was a significant difference between the two items. By doing these calculations, the researcher was able to compare the means of all the elements individually as opposed to just the adjoining pairs that SPSS compared. Table 20 shows where significances occurred. Within Table 20 the Seven Elements of Lesson Planning are noted based on the mean (1) Clear Lesson and Learning Objectives (Objectives); (2) Logically Structured Lessons (Structure); (3) Creating Quality Assignments (Assignments); (4) Timing (Timing); (5) Instructional Strategies (Strategies); (6) Learning Differences (Differences); (7) Developing Age and Content Appropriate Lessons (Appropriate).

The table shows that teachers used the element Clear Lesson and Learning Objectives significantly more than Learning Differences and Developing Age and Content Appropriate Lessons. This is interesting as teachers did not perceive any difference in impacting student achievement, yet it is used significantly more than two of the other elements. These results might help explain why there was such a split in the frequency of rankings for Clear Lesson and Learning Objectives in research question one.

Table 20

Significant Findings for Elements of Lesson Planning Used

	Objectives	Structure	Assignments	Timing	Strategies	Differences	Appropriate
Objectives	NS	NS	NS	NS	NS	S	S
Structure	NS	NS	NS	NS	NS	NS	NS
Assignments	NS	NS	NS	NS	NS	NS	NS
Timing	NS	NS	NS	NS	NS	NS	NS
Strategies	NS	NS	NS	NS	NS	NS	NS
Differences	S	NS	NS	NS	NS	NS	NS
Appropriate	S	NS	NS	NS	NS	NS	NS

Research Question Three

What aspects of creating a quality assignment do teachers perceive as having the greatest impact on student achievement? What aspects of creating a quality assignment do teachers use when planning?

In Stronge's (2007) Framework for Effective Teachers, Creating Quality Assignments was an area within Instructional Planning that was found by research to make an impact on student achievement. After conducting further research in the area of Creating Quality Assignments, eight aspects were presented as being part of Creating Quality Assignments. K-12 classroom and core area public school teachers were asked to rank the following aspects: (a) *Using State Curriculum in classroom assignments*, (b) *Using the Adopted Curriculum Materials in classroom assignments*, (c) *Using Cross Curricular Assignments*, (d) *Using Real World Connections to Assignments*, (e) *Giving Students Control over Assignments*, (f) *Using Sustained Writing on assignments*, (g) *Using Depth of Knowledge in order for students to complete an assignment*, and (h) *Providing Students with a Scoring Guideline on assignments*. Teachers ranked these 8 items based on how they believed them to impact student achievement. A rank of 1 meant that teachers thought that aspect made the least impact, and a rank of 8 meant it made the most impact. Descriptive statistics were calculated for each item, including mean, median, and standard deviation. Mean rankings shown in Table 21 show that the teachers ranked using Real World Connections to Assignments as having the most impact on student achievement and Using Sustained Writing on Assignments as having the least impact. Table 21 also shows that the results from the study broken down by the number of teachers and the frequency and percentage that each item was ranked. One teacher did

not respond to this question so the total number of participants is 183. Looking across

the Aspects of Creating Quality Assignments the frequencies and percentages are fairly in

proportion to the mean rank and there is nothing that appears to be unusual in the

distribution of responses.

Table 21

Rankings of Aspects of Creating Quality Assignments

	Frequency of Ordered Responses N =183		Percentage of Ordered Responses N = 183		Teacher Mean	Teacher Mean Rank	Standard Deviation
Real World Connections to Assignments	#1 = 18 #2 = 14 #3 = 12 #4 = 19	#5 = 21 #6 = 27 #7 = 26 #8 = 46	#1 = 9.8% #2 = 7.7% #3 = 6.6% #4 = 10.4%	#5 = 11.5% #6 = 14.8% #7 = 14.2% #8 = 25.1%	5.33	1	2.35
Depth of Knowledge Necessary to Complete Assignments	#1 = 17 #2 = 16 #3 = 16 #4 = 18	#5 = 26 #6 = 31 #7 = 36 #8 = 23	#1 = 9.3% #2 = 8.7% #3 = 8.7% #4 = 9.8%	#5 = 14.2% #6 = 16.9% #7 = 19.7% #8 = 12.6%	5.03	2	2.20
Providing Students with Performance Standard and/or Scoring Guideline for Assignments	#1 = 13 #2 = 22 #3 = 25 #4 = 23	#5 = 24 #6 = 23 #7 = 32 #8 = 21	#1 = 7.1% #2 = 12.0% #3 = 13.7% #4 = 12.6%	#5 = 13.1% #6 = 12.6% #7 = 17.5% #8 = 11.5%	4.78	3	2.17
Student Control Over Assignments	#1 = 22 #2 = 20 #3 = 25 #4 = 26	#5 = 20 #6 = 25 #7 = 19 #8 = 26	#1 = 12.0% #2 = 10.9% #3 = 13.7% #4 = 14.2%	#5 = 10.9% #6 = 13.7% #7 = 10.4% #8 = 14.2%	4.55	4	2.29
Cross Curricular Assignments	#1 = 15 #2 = 38 #3 = 29 #4 = 21	#5 = 26 #6 = 20 #7 = 21 #8 = 13	#1 = 8.2% #2 = 20.8% #3 = 15.8% #4 = 11.5%	#5 = 14.2% #6 = 10.9% #7 = 11.5% #8 = 7.1%	4.17	5	2.11
Adopted Curriculum Materials in Classroom Assignments	#1 = 34 #2 = 32 #3 = 22 #4 = 15	#5 = 21 #6 = 14 #7 = 25 #8 = 20	#1 = 18.6% #2 = 17.5% #3 = 12.0% #4 = 8.2%	#5 = 11.5% #6 = 7.7% #7 = 13.7% #8 = 10.9%	4.09	6	2.43
State Curriculum in Classroom Assignments	#1 = 39 #2 = 25 #3 = 26 #4 = 15	#5 = 18 #6 = 21 #7 = 15 #8 = 24	#1 = 21.3% #2 = 13.7% #3 = 14.2% #4 = 8.2%	#5 = 9.8% #6 = 11.5% #7 = 8.2% #8 = 13.1%	4.04	7	2.45
Sustained Writing on Assignments	#1 = 25 #2 = 16 #3 = 28 #4 = 46	#5 = 26 #6 = 22 #7 = 9 #8 = 11	#1 = 13.7% #2 = 8.7% #3 = 15.3% #4 = 25.1%	#5 = 14.2% #6 = 12.0% #7 = 4.9% #8 = 6.0%	4.03	8	1.94

After examining the means and standard deviations for the Aspects of Creating

Quality Assignments shown in Table 21, a repeated-measures ANOVA was conducted to

determine if there were significant differences among the means. The repeated-measures

ANOVA indicated a significant difference (F (7, 1274) = 7.92, p < .001) among the

means. Table 22 shows the repeated-measures ANOVA results. These results required

some additional statistical follow up to determine where the differences between the

items occur.

Table 22

ANOVA for Creating Quality Assignments

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Creating Assignments	Sphericity Assumed	320.890	7	45.841	7.917	.000
	Greenhouse-Geisser	320.890	5.459	58.779	7.917	.000
	Huynh-Feldt	320.890	5.648	56.818	7.917	.000
	Lower-bound	320.890	1.000	320.890	7.917	.005
Error(Creating Assignments)	Sphericity Assumed	7376.485	1274	5.790		
	Greenhouse-Geisser	7376.485	993.593	7.424		
	Huynh-Feldt	7376.485	1027.885	7.176		
	Lower-bound	7376.485	182.000	40.530		

In order to determine where significant differences occurred, hand calculations

were completed based on the means and standard deviations. Similar to research

question two, an excel spreadsheet was created in order to compare the actual differences

in the observed means. The critical difference was calculated as well as the difference

between means, the two were then compared. If the difference was greater than the

critical difference, there was a significant difference between the two items. By

comparing the difference and critical difference, significant differences were found

between multiple Aspects of Creating a Quality Assignment. Table 23 shows where

significant differences occurred. The items in Table 23 are placed based on their means

from most impact on student achievement to least impact: (1) Real World Connections to

Assignments (Real); (2) Depth of Knowledge Necessary to Complete Assignments

(Depth); (3) Providing Students with Performance Standard and/or Guideline for

Assignments (Rubric); (4) Student Control Over Assignments (Student Control); (5)

Cross Curricular Assignments (Cross); (6) Using Adopted Curriculum Materials in

Classroom Assignments (Adopted); (7) Using State Curriculum in Classroom

Assignments (State); (8) Using Sustained Student Writing on Assignments (Writing).

Table 23

Significant Differences Among the Aspects of Creating a Quality Assignment

	Real	Depth	Rubric	Student Control	Cross	Adopted	State	Writing
Real	NS	NS	NS	NS	NS	S	S	S
Depth	NS	NS	NS	NS	NS	NS	S	S
Rubric	NS	NS	NS	NS	NS	NS	S	S
Student Control	NS	NS	NS	NS	NS	NS	S	S
Cross	NS	NS	NS	NS	NS	NS	NS	S
Adopted	S	NS	NS	NS	NS	NS	NS	NS
State	S	S	S	S	NS	NS	NS	NS
Writing	S	S	S	S	S	NS	NS	NS

Teacher responses to aspects of Creating a Quality Assignment can be grouped. Real World Connections to Assignments, Depth of Knowledge Necessary to Complete Assignments, Providing Students with Performance Standard and/or Guideline for Assignments, and Student Control Over Assignments tend to focus the heart of the activity and assignment on the student and his/her needs to successfully complete the task. Cross Curricular Assignments, Using Adopted Curriculum Materials in Classroom Assignments, Using State Curriculum in Classroom Assignments, and Using Sustained Student Writing on Assignments focus more on the needs of the institution when creating an assignment. The highest ranking items are very student-centric, focusing on the individual needs of students. The lower ranking items tend to be more institution-centric. Based on these results teachers feel that focusing on the student-centric aspects of Creating Quality Assignments makes more of an impact on student achievement than a top-down model.

The second part of question three looks at what Aspects of Creating Quality Assignments teachers are using in their classrooms. Teachers were asked to choose from the eight items which they had used in their classroom in the past week. The teachers could select as many or as few items as they needed to answer the question. If they selected an aspect, it meant that yes they had used that item and if they did not select it that meant "no" they had not used that aspect. Descriptive statistics were then run on the results to determine the frequency of responses, mean, and standard deviation. Table 24 shows the responses and is ordered based on which aspect was used the most and which was used the least. Looking at the Mean Ranking, congruent with what the teachers perceived as the most import aspect, Real World Connections and Depth of Knowledge

were the top two aspects used in the classroom. Using the State Curriculum in

Classrooms is the only aspect that seems to be different in use and perception as it was

used 3rd most, but the perception was that it was 7th when teachers rank-ordered the items.

This could be related to what districts and individual schools require from teachers with

respect to lesson plans.

Table 24

Ranking of Aspects of Creating Quality Assignments Used

	Frequency of Ordered Responses N =184	Percentage of Teachers N=184	Teacher Mean	Teacher Mean Rank	Standard Deviation
Real World Connections to Assignments	Yes- 164 No- 20	Yes- 89.1% No- 10.9%	1.11	1	.31
Depth of Knowledge Necessary to Complete Assignments	Yes- 140 No- 44	Yes- 76.1% No- 23.9%	1.24	2	.43
State Curriculum in Classroom Assignments	Yes- 132 No- 52	Yes-71.7% No- 28.3%	1.28	3	.45
Providing Students with Performance Standard and/or Scoring Guideline for Assignments	Yes- 117 No- 67	Yes- 63.6% No- 36.4%	1.36	4	.48
Adopted Curriculum Materials in Classroom Assignments	Yes- 110 No-74	Yes- 59.8% No- 40.2%	1.40	5	.49
Sustained Writing on Assignments	Yes- 104 No- 80	Yes- 56.5% No- 43.5%	1.43	6	.50
Student Control Over Assignments	Yes- 94 No- 90	Yes- 51.1% No- 48.9%	1.49	7	.50
Cross Curricular Assignments	Yes- 87 No- 97	Yes- 47.3% No- 52.7%	1.52	8	.50

Something interesting about these findings is the percentages of teachers that replied yes and no. The Elements of Lesson Planning were used by 75% or higher for each element, yet the Aspects of Creating Quality Assignments dips below 50% for the 8th item and is within the 50%-60% range for half of the items. This is curious and may be the result of teachers disagreeing with the Aspects of Creating Quality Assignments given and, thus, choosing other ways to plan assignments. The implication here is that due to many teachers not using a few of the provided Aspects of Creating Quality Assignments there are other aspects teachers prefer to use.

To determine if some of these aspects of Creating Quality Assignments were used significantly more than others hand calculations were completed based on the means and standard deviations. Similar to research questions two and three, an excel spreadsheet was created in order to compare the actual differences in the observed means. The critical difference and difference between means was calculated, the two were then compared. If the difference was greater than the critical difference, there was a significant difference between the two items. By comparing the difference and critical difference, it was found there were many significant differences in which aspects teachers used in the past week. Real World Connections to Assignments was used significantly more than any of the other seven aspects. Depth of Knowledge Necessary to Complete Assignments was used significantly more than half of the listed aspects of Creating Quality Assignments. Table 25 gives a complete picture of where significant differences occurred. The table is organized by the mean from Table 24 and is as follows: (1) Real World Connections to Assignments (Real); (2) Depth of Knowledge Necessary to Complete Assignments (Depth); (3) State Curriculum in Classroom Assignments (State);

(4) Providing Students with Performance Standard and/or Scoring Guideline for

Assignments (Rubric); (5) Adopted Curriculum Materials in Classroom Assignments

(Adopted); (6) Sustained Writing on Assignments (Writing); (7) Student Control Over

Assignments (Student Control); (8) Cross Curricular Assignments (Cross).

Table 25

Significant Findings for Aspects of Creating Quality Assignments Used

	Real	Depth	State	Rubric	Adopted	Writing	Student Control	Cross
Real	NS	S	S	S	S	S	S	S
Depth	S	NS	NS	NS	S	S	S	S
State	S	NS	NS	NS	NS	S	S	S
Rubric	S	NS	NS	NS	NS	NS	NS	S
Adopted	S	S	NS	NS	NS	NS	NS	NS
Writing	S	S	S	NS	NS	NS	NS	NS
Student Control	S	S	S	NS	NS	NS	NS	NS
Cross	S	S	S	S	NS	NS	NS	NS

The results seem to indicate that teachers think Real World Connections to

Assignments are more important in impacting student achievement and, as a result, use

this aspect in their planning significantly more than any of the other listed aspects. With

so many significant differences there is an indication that teachers prefer to use student-

centric assignments as opposed to institution-centric assignments which is consistent with

their perception on the impact on student achievement. Another indication is there may

be other ways of Creating a Quality Assignments that teachers use more frequently, but were not listed in the survey.

Research Question Four

What aspects of lesson structure do teachers perceive as having the greatest impact on student achievement? What aspects of lesson structure do teachers use when planning?

Stronge's (2007) research in Framework for Effective Teachers found Instructional Planning to be important for effective teachers; further research found that Lesson Structure was an important aspect of Instructional Planning and it was determined that there were five items that impact student achievement when structuring lessons. K-12 public school teachers were asked to rank the five items (a) *Focusing Attention on the Sequence of a Single Lesson,* (b) *Focusing Attention on the Sequence of Multiple Lessons,* (c) *Giving Step-by-Step Instructions,* (d) *Focusing Attention on the Sequence of Questions to be Asked by the Teacher,* and (e) *Aligning the Learning Objective, Activity, and Assessment.* Teachers ranked these 5 items on their impact on student achievement. A rank of 1 meant that teachers thought that aspect of creating a quality assignment made the least impact and a rank of 5 meant it made the most impact. Descriptive statistics were calculated for each item, including mean, median, and standard deviation. Mean rankings shown in Table 26 show that the teachers ranked Aligning Learning Objective, Activity, and Assessment as having the greatest impact on student achievement and Sequencing of Questions to be Asked by the Teacher as having the least impact. Table 26

also shows the mean, median, standard deviation and the results broken down by the

number of teachers and the frequency and percentage that each item was ranked.

Table 26

Rankings of Aspects of Lesson Structure

	Frequency of Ordered Responses N =184	Percentage of Ordered Responses N = 184	Teacher Median Rank	Teacher Mean	Teacher Mean Rank	Standard Deviation
Alignment of the Learning Objective, Activity, and Assessment	#1 = 35 #2 = 24 #3 = 15 #4 = 16 #5 = 94	#1 = 19.0% #2 = 13.0% #3 = 8.2% #4 = 8.7% #5 = 51.1%	5.0	3.60	1	1.64
Sequencing of Multiple Lessons in a Unit	#1 = 25 #2 = 40 #3 = 39 #4 = 58 #5 = 22	#1 = 13.6% #2 = 21.7% #3 = 21.2% #4 = 31.5% #5 = 12.0%	3.0	3.07	2	1.25
Sequencing of a Single Lesson	#1 = 24 #2 = 46 #3 = 58 #4 = 40 #5 = 16	#1 = 13.0% #2 = 25.0% #3 = 31.5% #4 = 21.7% #5 = 8.7%	3.0	2.88	3	1.15
Step-by-step Instructions	#1 = 51 #2 = 34 #3 = 30 #4 = 41 #5 = 28	#1 = 27.7% #2 = 18.5% #3 = 16.3% #4 = 22.3% #5 = 15.2%	3.0	2.79	4	1.45
Sequencing of Questions to be Asked by the Teacher	#1 = 49 #2 = 40 #3 = 42 #4 = 29 #5 = 24	#1 = 26.6% #2 = 21.7% #3 = 22.8% #4 = 15.8% #5 = 13.0%	3.0	2.67	5	1.36

Looking across the descriptive statistics the difference in median value sticks out. For Aligning Lesson Objective, Activity, and Assessment the median is 5 whereas the median for the other items is 3. This could mean that this item, in particular, is different than the others as more than 50% of teachers ranked it as the most important aspect of lesson structure in impacting student achievement. None of the other percentages appear out of line with the mean and ranking. Step-by-Step Instructions and Sequencing of Questions to be Asked by the Teacher both have the highest percentage of participants assigning it a ranking of 1 or 2, meaning they are the least important aspects when it comes to impacting student achievement as perceived by the teachers in the study.

After examining the means and standard deviations for the Aspects of Logically Structured Lessons shown in Table 26, a repeated-measures ANOVA was conducted on the Aspects of Logically Structured Lessons means. The repeated-measures ANOVA indicated a significant difference $(F(4, 732) = 10.26, p < 0.001)$ among the means. Table 27 shows the repeated-measures ANOVA results. These results require some additional statistical follow up to determine where the differences between the items occur.

Table 27

ANOVA for Aspects of Logically Structured Lessons

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
LogicallyStructured					
Sphericity Assumed	97.663	4	24.416	10.258	.000
Greenhouse-Geisser	97.663	3.579	27.289	10.258	.000
Huynh-Feldt	97.663	3.659	26.691	10.258	.000
Lower-bound	97.663	1.000	97.663	10.258	.002
Error(LogicallyStructured)					
Sphericity Assumed	1742.337	732	2.380		
Greenhouse-Geisser	1742.337	654.930	2.660		
Huynh-Feldt	1742.337	669.604	2.602		
Lower-bound	1742.337	183.000	9.521		

In order to determine where significant differences occurred, additional

calculations needed to be completed based on the means and standard deviations. An

excel spreadsheet was created in order to compare the actual differences in the observed

means. Similar to the procedure used to find the differences in research questions two

and three, the error variance and the q-value were calculated in order to determine the

critical difference. The critical difference was then compared with the difference in

means between the two items being compared. If the difference was greater than the

critical difference, there was a significant difference between the two items (Games &

Howell, 1976). By doing these calculations, the researcher was able to compare the

means of all the aspects individually. By comparing the difference and critical

difference, significant differences were found between multiple Aspects of Logically

Structured Lessons. Table 28 shows where significant differences occurred. The items

in Table 28 are in rows based on their means from most impact on student achievement to

least impact: (1) Alignment of the Learning Objective, Activity, and Assessment (Align);

(2) Sequencing of Multiple Lessons in a Unit (Sequence Multiple); (3) Sequencing of a

Single Lesson (Sequence Single); (4) Step-by-step Instructions (Instructions); and (5)

Sequencing of Questions to be Asked by the Teacher (Questions).

Table 28

Significant Differences for Aspects of Logically Structured Lessons

	Align	Sequence Multiple	Sequence Single	Instructions	Questions
Align	NS	NS	NS	S	S
Sequence Multiple	NS	NS	NS	NS	S
Sequence Single	NS	NS	NS	NS	S
Instructions	S	NS	NS	NS	S
Questions	S	S	S	S	NS

These results show that teachers believe that all aspects of Logically Structured

Lessons are significantly more important than Sequencing of Questions to be Asked by

the Teacher.

To answer the second part of research question 4, teachers were asked to choose

from the five items given as Aspects of Logically Structured Lessons and state which, if

any, they had used in their classroom in the past week. The teachers could select as many

or as few items as they needed to answer the question. If they selected an aspect, it meant

that yes they had used that item and if they did not select it that meant "no" they had not

used that aspect. Descriptive statistics were run on the results to determine the frequency

of responses, mean, and standard deviation. Table 29 shows the responses and is ordered

based on which aspect was used the most and which was used the least. Congruent with

what the teachers perceived as the most import aspect and least important aspect,

Alignment of the Learning Objective, Activity, and Assessment and Sequencing of

Questions to be Asked by the Teacher were used most frequently and least frequently.

Table 29

Ranking of Aspects of Logically Structured Lessons Used

	Frequency of Ordered Responses N =184	Percentage of Teachers N=184	Teacher Mean	Teacher Mean Rank	Standard Deviation
Alignment of the Learning Objective, Activity, and Assessment	Yes- 161 No- 23	Yes- 87.5% No- 12.5%	1.12	1	.331
Step-by-step Instructions	Yes- 156 No- 28	Yes- 84.8% No- 15.2%	1.15	2	.360
Sequencing of Multiple Lessons in a Unit	Yes- 138 No-46	Yes- 75.0% No- 25.0%	1.25	3	.434
Sequencing of a Single Lesson	Yes- 130 No- 54	Yes-70.7% No- 29.3%	1.29	4	.457
Sequencing of Questions to be Asked by the Teacher	Yes- 97 No- 87	Yes- 52.7% No- 47.3%	1.47	5	.501

After looking at the frequencies and other descriptive statistics for the aspects of

Logically Structured Lessons teachers reported using in the past week a repeated

measures ANOVA was calculated to see if teachers' use of the aspects was significant.

The ANOVA showed that teachers used some aspects of Logically Structured Lessons more than others. Table 30 shows which items were significant. The table lists items in order by mean (1) Alignment of the Learning Objective, Activity, and Assessment (Align); (2) Step-by-step Instructions (Instructions); (3) Sequencing of Multiple Lessons in a Unit (Sequence Multiple); (4) Sequencing of a Single Lesson (Sequence Single); and (5) Sequencing of Questions to be Asked by the Teacher (Questions). The table shows that similar to teachers' ranking of impact, Sequencing of Questions to be Asked by the Teacher was used significantly less by the teachers than the other four aspects. Additionally, it shows that Aligning the Learning Objective, Activity, and Assessment was used significantly more than three of the other items listed. This makes sense since the teachers ranked it as the most important aspect of Lesson Structure that impacts student achievement, the teachers also use it significantly more often.

Table 30

Significant Findings for Aspects of Logically Structured Lessons Used

	Align	Instructions	Sequence Multiple	Sequence Single	Questions
Align	NS	NS	S	S	S
Instructions	NS	NS	NS	S	S
Sequence Multiple	S	NS	NS	NS	S
Sequence Single	S	S	NS	NS	S
Questions	S	S	S	S	NS

An interesting result is that there was no significant difference in impact on student achievement between Sequencing of a Single Lesson and Step-by-Step

Instructions, but a significant difference was found in teachers' usage of these elements. Step-by-Step Instructions was used significantly more often than Sequencing of a Single Lesson, which may indicate that teachers find it important to use step-by step instructions in the classroom but do not see the impact on student achievement.

Research Question Five

Is there a difference in teachers' perceptions regarding which lesson planning elements have the greatest impact on student achievement when considering: (a) elementary school, middle school, or high school level; (b) content areas such as science, social studies, language arts, mathematics; (c) region of the United States; (d) rural, urban, or suburban areas; (e) years of experience; and (f) gender?

Teachers in the study ranked the seven general Elements of Lesson Planning in the order in which they perceived those elements to impact student achievement. Each ranking was then tested for statistical significance using a repeated-measures ANOVA. For each ANOVA one of the following demographic factors served as the independent variable; (a) school level where they worked (elementary, middle or high school); (b) subject area taught; (c) gender; (d) years of experience; (e) school setting in which they worked (rural, suburban, urban); and (f) region of the United States. It was found that none of these factors significantly impacted how teachers rank-ordered the Elements of Lesson Planning. These results help to support the idea that the seven researched Elements of Lesson Planning are seen as equally important across these demographic areas. Table 31 shows the demographics used as independent variables and the ANOVA results.

Table 31

ANOVA Results for Demographic Factors and Ranking of Elements of Lesson Planning

Demographic	ANOVA Results	Significance
School level	$F\,(2, 180) = 1.748, p > 0.05$	Not significant
Subject Area	$F\,(9, 173) = 1.082, p > 0.05$.	Not significant
Gender	$F\,(1, 181) = 1.749, p > 0.05$.	Not significant
Years of Experience	$F\,(4, 178) = 0.876, p > 0.05$.	Not significant
School Setting	$F\,(2, 180) = 0.133, p > 0.05$.	Not significant
Region	$F\,(3, 176) = 0.900, p > 0.05$.	Not significant

Research Question Six

What method of lesson planning do teachers use most prominently? For teachers who use formal written lesson plans, how many times per day do they reference the written plans?

After teachers were asked to rank-order items and disclose which lesson planning elements they used in their classroom, they were asked questions about the lesson plans they use in the classroom. Teachers were asked what type of lesson plans they used and were given the choice of (a) I use written lesson plans, (b) I use no formal lesson plans, or (c) I use a mental model for lesson plans. One-hundred eighty three teachers responded to this question and one did not. Table 32 shows the frequency and percentage of teachers' responses. Table 32 shows that over 60% of the teachers use written lesson plans and a little more than a quarter of teachers use a mental model.

Table 32

Type of Lesson Plans Used by Teachers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I use written lesson plans	116	63.0	63.4	63.4
	I use no formal lesson plans	14	7.6	7.7	71.0
	I use a mental model for lesson plans	53	28.8	29.0	100.0
	Total	183	99.5	100.0	
Missing	System	1	.5		
Total		184	100.0		

In addition to giving information on what type of lesson plans teachers use in their classroom, teachers were also asked how many times per day they reference their written lesson plans. For teachers who responded that they use no formal lesson plans or use a mental model, they automatically skipped this question. Therefore, 67 (36.6%) teachers automatically skipped this question in the survey. One hundred sixteen teachers were then asked, *"Based on your experience using a written lesson plan, how often do you refer to your written lesson plan during the course of a day?"* The teachers were then given an open response box to type their answers. Due to the open response box, a variety of answers were received. Therefore, a code was developed for responses in order to insert the data into SPSS. After looking over all the answers both numerically and reading what teachers responded the following code was developed (See Table 33). The code was developed to categorize all the responses to ensure the most accurate picture of what teachers' responses were.

Table 33

Coded Responses for Lesson Plan Review

Code	What It Means
0	zero, never, none
1	1 time per day, in the morning, once, rarely, very little, seldom
2	2, 2-3, sometimes, a couple
3	3 or 4 times, 3-4, a few times
4	5-7 times per day, often, quite a bit, several
5	A lot
6	Before every class period
7	Less than once per day, every few days, almost everyday
8	Did not answer

After inputting the data into SPSS for how often teachers refer to their written

lesson plans in a day descriptive statistics were calculated. One hundred sixteen teachers

responded and 68 were missing. The sixty-eighth person missing skipped both questions

about lesson plans. Table 34 shows the mean, median, and mode of the data as well as

the standard deviation. The mode reveals that more teachers refer to their lesson plans

once per day than any other category. One respondent remarked, "I glance at them in the

morning, but I know what is in them."

Table 34

Descriptive Statistics for Those who Use Written Lesson Plans

N	Valid	116
	Missing	68
Mean		3.4828
Median		3.0000
Mode		1.00
Std. Deviation		2.18088

After examining the descriptive statistics, the frequency of the possible responses was examined. The result showed that 14.7% of respondents refer to their lesson plans approximately once per day. Interestingly, the frequencies for the next three codes (2, 3, and 4) were equal and used by 8.7% of teachers. This seems to indicate that aside from the 14% of teachers who refer to their lesson plans about once a day, there is no standard practice. Table 35 shows the frequencies for how teachers responded to how often they refer to their written lesson plans during the course of a day.

Table 35

How Often Lesson Plans are Referred to During the Course of a Day

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	O, zero, never, none	3	1.6	2.6	2.6
	1 time, in the morning, once, rarely, very little, seldom	27	14.7	23.3	25.9
	2, 2-3, sometimes, a couple	16	8.7	13.8	39.7
	3 or 4, 3-4, a few	16	8.7	13.8	53.4
	5-7 Times, quite a bit, often, several	16	8.7	13.8	67.2
	7+ times, a lot	11	6.0	9.5	76.7
	Before every class	15	8.2	12.9	89.7
	Less than once per day, every few days, almost everyday	8	4.3	6.9	96.6
	did not answer	4	2.2	3.4	100.0
	Total	116	63.0	100.0	
Missing System		68	37.0		
Total		184	100.0		

In addition to looking at the frequencies of teacher responses, a one-way ANOVA was run to compare the mean difference between teachers' years of experience and the type of lesson plans they use. This was done as the perception is that as teachers advance

in their careers they use written plans less often. The following Table 36 shows the result

that there was no significant difference between the number of years taught and the type

of lesson plan used by the teacher F (2, 180) = 0.913, $p > 0.05$.

Table 36

ANOVA Comparing Number of Years Taught and Type of Lesson Plan Used

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.253	2	1.127	.913	.403
Within Groups	222.151	180	1.234		
Total	224.404	182			

Chapter 5

Summary and Discussion of Findings

The need for teachers to be effective in their chosen profession is vital to the success of students, schools, and the economy in the United States. As Secretary of Education Arne Duncan said in a 2009 speech,

> ...the quality of our education system says as much about the long-term
>
> health of our economy as the stock market, the unemployment rate and the
>
> size of the gross domestic product. That's because the quality of our work
>
> force and the intellectual breadth and depth of our future leaders is directly
>
> related to the quality of education we provide today. (para. 2-3)

There is an abundance of research focused on the importance of effective teachers (see Porter & Brophy, 1988; Ding & Sherman, 2006; Kuppermintz, 2003; Newton, Darling-Hammond, Haertel, & Thomas, 2010), with much of that research focusing on the impact of an effective teacher on student achievement. One of the most notable studies was of the Tennessee Value Added Assessment System (TVAAS), which Sanders et. al, (2008) reported finding that highly effective teachers can produce nearly three times the student achievement gains of low-performing teachers. Other studies looking at the impact of effective teachers have found similar results (Wright et. al, 1997; Hanushek et. al, 2005). Although there is some difference in opinion on how teacher effectiveness data should be used, there is agreement that effective teachers make a difference (Goldhaber, 2002; Harris, 2009; Hill, 2009; Milanowski, 2004; Odden, Borman & Fermanich, 2004; Sanders et. al, 2008; Wright et. al, 1997).

As the importance of effective teachers became better understood, research became more focused on attempting to determine particular characteristics of teachers who effectively promote student achievement and learning (see Darling-Hammond, 2000; Hattie, 2003, 2009; Stronge et. al, 2007). Looking across frameworks for effective teachers, meta-analysis by Stronge (2007) identified several general qualities that impact student achievement and painted a comprehensive picture of effective teaching. One of the qualities Stronge (2007) identified was *Planning & Organizing for Instruction*. Within this quality, Instructional Planning of the teacher was identified as an indicator of effectiveness. Looking more deeply at Instructional Planning, Stronge (2007) identified seven elements that are included during Instructional Planning by effective teachers: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies including the use of organizers, timing, Learning Differences, and developing age and content appropriate plans. This study sought to determine teachers' perceptions as to which of these seven elements has the greatest impact on student achievement and discern which elements teachers actually utilize during their lesson planning. Furthermore, the study attempted to determine which aspects of Creating Quality Assignments and Logically Structured Lessons teachers perceived as having the most impact on student and achievement and which aspects teachers utilize in planning.

Data were collected via a national stratified random sample of 184 teachers who completed an online survey in October and November of 2013. Specifically, the teachers were asked to rank the seven Elements of Lesson Planning by effective teachers. They

were also asked to identify which of the elements they used in their planning in the past week. Additionally, teachers were asked to rank aspects of Creating Quality Assignments and Logically Structured Lessons and identify which items they used in the recent planning. These aspects were drawn from further research which identified aspects of these lesson planning elements that were effective (see Clare, 2001; Good & Brophy, 2003; Jones et al., 2011; Koh & Luke, 2009; Pressley et. al, 1998; Wang et al., 1993a; Wharton-McDonald et. al, 1998; Zahorik, 2003). Finally, teachers were asked administrative questions about their lesson plans as well as six demographic questions.

Results revealed that among the seven elements of effective lesson planning there was no significant difference in teachers' rankings of the elements' impact on student achievement. There were significant differences in teachers' perceptions of which aspects of Creating Quality Assignments and Logically Structured Lessons most impact student achievement. Additionally, significant differences were found among the elements of planning, aspects of creating assignments, and aspects of Logically Structured Lessons that teachers used in their planning in the past week. When examining results based on the demographic criteria, no significant differences were found. Finally, it was found that most teachers use written lesson plans and the number of times they refer to them varies as well as the variety of reasons for referring to them.

Summary of Findings

Research Question One

Which of the following seven lesson planning elements do teachers perceive as having the greatest impact on student achievement: Clear Lesson and Learning

Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?

Teachers participating in the study ranked seven Elements of Lesson Planning in the order which they perceived those qualities to impact student achievement. The Elements of Lesson Planning were based on Stronge's (2007) review of qualities of effective teachers and more specifically the general quality of Planning for Instruction, which identified Elements of Lesson Planning that impact student achievement including: (a) *Clear Lesson and Learning Objectives*, (b) *Creating Quality Assignments*, (c) *Logically Structured Lessons*, (d) *Timing*, (e) *Instructional Strategies*, (f) *Learning Differences*, and (g) *Developing Age and Content Appropriate Lessons*. Of the given elements, teachers ranked Creating Quality Assignments as having the most impact on student achievement (M = 4.23, SD = 2.10). Teachers ranked Logically Structured Lessons has having the least impact (M = 3.88, SD = 1.78). There was no significant difference among the elements in the teachers' rankings of which element impacted students the most $F(1, 183) = 0.100, p > 0.05$. In general, teachers ranked all the Elements of Lesson Planning equally since no significant finding was present. This finding may indicate that the Elements of Lesson Planning put forth by Stronge (2007) are deemed equally important and useful in student achievement by teachers.

Interestingly, participants in the study were somewhat polarized on their views of Clear Lesson and Learning Objectives. Teachers gave this element a number 1 ranking (least impact) or a number 7 ranking (most impact) almost twice as much as any other

element with 23.9% and 25.5% of the responses respectively. All the other elements received an average of 12.6% of participants giving a number 1 ranking and 12.4% giving a number 7 ranking. This polarization may come from the development of standards and objectives by districts, states, and the common core are taking the importance of creating the objectives away from teachers. By creating these standards and giving them to teachers it might be causing teachers to over-focus on the activity as the objectives have already been provided to them. Giving teachers prescribed standards and objectives may change how teachers plan. Some teachers might still begin with the objective and clarify its meaning and purpose before moving to the activity, while others may assume that the standards and objectives given to them are clear and start with the activity. Since the standards did not originate with the teacher, potential exists for a lack of clarity. This lack of clarity might also lead to a lack of alignment between objective and assignment. If teachers use the standards and objectives given to them as a guide to then create their own objectives to work toward the given standards then perhaps they will feel more ownership over these objectives and ensure the objectives are an equal focal point to that of the activity or assignment. As Jones et. al (2003) noted, "state standards provide a good place to start in determining what to teach, but it is important to have a focused learning objective that is clear to the teacher and students." If teachers just use what is given, it might not be fully clear to them and that lack of clarity will likely be passed onto students through the activities and assignments.

In a small way, the standards movement mimics the failed attempts at "teacher proofing" the curriculum. Previous attempts at "teacher proofing" the curriculum led to

the discovery that in order to achieve true gains in education, the system would need to work through teachers instead of trying to work around them (Porter & Brophy, 1988). The standards movement might be seen as a middle ground in that teachers are told what standards to teach, but are then left to decide how to teach it.

Although teachers were limited in their choices of which Elements of Lesson Planning they could rank, the seven provided by Stronge (2007) seem to be a good representation based on the fact that teachers did not think that one element was significantly more important than the others. Though potential still exists that there may be other elements not identified by Stronge (2007) which might be viewed as impacting student achievement more significantly.

Research Question Two

Which of the following seven lesson planning elements are reported by teachers as being used and with what level of relative importance: Clear Lesson and Learning Objectives, Creating Quality Assignments, Logically Structured Lessons, Instructional Strategies, Timing, Learning Differences, and Developing Age and Content Appropriate Lessons?

In the survey teachers were asked to mark the Elements of Lesson Planning that they had used in the past week during their preparations to teach. The teachers were given a multiple choice format and were able to select as few or as many elements as they desired. By selecting the element, it signified that the teacher had used the element in the past week during planning.

Clear Lesson and Learning Objectives was the element of lesson planning that participants reported using the most in the previous week of planning (91.8%) (M = 1.08, SD = 0.274). This result shows that teachers appear to be implementing a key tenant of research on effective teaching, that increasing clarity and developing instructional objectives impact students in a variety of ways (Danielson, 2007; Davis and Thomas, 1989; Marzano, 2007; Ornstein & Lasley, 2004: Stronge, 2007). By setting these objectives it helps the teacher establish and communicate with students (Marzano, 2007) which, in turn, helps with classroom management and organization (Stronge, 2007). While it is encouraging to see that teachers are reported using this element at a high frequency, it is interesting that teachers are using the element but do not perceive the impact as there was no significant difference found between it and the other elements in research question one. Additionally, this finding should be taken with caution as teachers are reporting that they use Clear Lesson and Learning Objectives, it is possible that the objectives being used are not what those in research would deem clear. As stated previously, teachers might assume by using state or national standards that they are clear when this might not be the case.

The reason this element might be used by so many is due to the requirements for lesson planning set by the school, district, or state. Many schools and districts require teachers to have written lesson plans and within those plans a stated objective is mandatory (Hoy & Miskel, 2008).

After examining the mean result values a repeated-measures ANOVA indicated a significant difference in teachers' use of the elements during the past week $F(1, 183) =$

22.763, $p < 0.05$. Once statistics were completed to determine the mean difference and critical difference by calculating error variance based on the Games-Howell procedure (1976), it was found that significant differences occurred between the means for Clear Lesson and Learning Objectives (M = 1.08, SD = 0.274) and Learning Differences (M = 1.21, SD = 0.406) and Clear Lesson and Learning Objectives (M = 1.08, 0.274) and Developing Age and Content Appropriate Lessons (M = 1.24, SD = 0.431). Looking at the percentage of teachers that used each of these seven elements in the past week, the percentage is quite high. The significant difference probably comes from the fact that many districts require written lesson plans which require objectives to be stated; therefore, more teachers use this element than the others as it is required.

While there was a significant difference between a few elements, it is important to note that each of the seven elements was used by at least 75% of teachers in the previous week. This high percentage gives further evidence that the seven elements researched in Stronge (2007) represent what teachers should be doing in the classroom. While many other Elements of Lesson Planning exist, it seems that teachers are aware of these seven and many report using them although the degree of fidelity might be in question.

Research Question Three

What aspects of Creating a Quality Assignment do teachers perceive as having the greatest impact on student achievement? What aspects of Creating a Quality Assignment do teachers use when planning?

Clark & Yinger, 1979; Kagan & Tippins, 1992; Sanchez & Valcarcel, 1999; Yinger, 1980; and Zahorick, 1975, found that teachers are looking more at content knowledge, sequencing, and activities when lesson planning as opposed to objectives. Therefore taking a deeper look into what aspects of Creating Quality Assignments teachers believe make a difference in student achievement was important.

After conducting further research in the area of Creating Quality Assignments (see Clare 2001; Koh & Luke 2009; Pressley et. al 1998; Wharton-McDonald et. al 1998), eight aspects were presented as being part of Creating Quality Assignments. K-12 classroom and core area public school teachers were asked to rank the following aspects: (a) *Using State Curriculum in classroom assignments,* (b) *Using the Adopted Curriculum Materials in Classroom Assignments,* (c) *Using Cross Curricular Assignments,* (d) *Using Real World Connections to Assignments,* (e) *Giving Students Control over Assignments,* (f) *Using Sustained Writing on Assignments,* (g) *Using Depth of Knowledge in Order for Students to Complete an Assignment,* and (h) *Providing Students with a Scoring Guideline on Assignments.* Teachers ranked these 8 items based on how they believed them to impact student achievement. A rank of 1 meant that teachers thought that aspect made the least impact, and a rank of 8 meant it made the most impact.

Real World Connections to Assignments (M = 5.33, SD = 2.35) and Depth of Knowledge Necessary to Complete Assignments (M = 5.03, SD = 2.20) were ranked as the top two aspects of Creating Quality Assignments that teachers believe impact student achievement. Using State Curriculum in Classroom Assignments (M = 4.04, SD = 2.45) and Sustained Writing on Assignments (M = 4.03, SD = 1.94) were ranked lowest. A

repeated-measures ANOVA confirmed there were significant differences, and after additional analysis, it was found that five aspects were ranked significantly higher than Using Sustained Writing on Assignments: Real World Connections to Assignments, Depth of Knowledge Necessary to Complete Assignments, Providing Students with Performance Standard and/or Guideline for Assignments, Student Control Over Assignments, and Using State Curriculum. Other significant differences were found and are displayed in Table 37. The items are listed based on their means from most impact on student achievement to least impact: (1) Real World Connections to Assignments (Real); (2) Depth of Knowledge Necessary to Complete Assignments (Depth); (3) Providing Students with Performance Standard and/or Guideline for Assignments (Rubric); (4) Student Control Over Assignments (Student Control); (5) Cross Curricular Assignments (Cross); (6) Using Adopted Curriculum Materials in Classroom Assignments (Adopted); (7) Using State Curriculum in Classroom Assignments (State); (8) Using Sustained Student Writing on Assignments (Writing).

Table 37

Significant Differences Among Aspects of Creating a Quality Assignment

	Real	Depth	Rubric	Student Control	Cross	Adopted	State	Writing
Real	NS	NS	NS	NS	NS	S	S	S
Depth	NS	NS	NS	NS	NS	NS	S	S
Rubric	NS	NS	NS	NS	NS	NS	S	S
Student Control	NS	NS	NS	NS	NS	NS	S	S
Cross	NS	NS	NS	NS	NS	NS	NS	S
Adopted	S	NS	NS	NS	NS	NS	NS	NS
State	S	S	S	S	NS	NS	NS	NS
Writing	S	S	S	S	S	NS	NS	NS

The table shows that both Using State Curriculum and Using Sustained Writing on Assignments were ranked significantly lower than half of the other aspects. Additionally, Using Adopted Curriculum Materials in Classroom Assignments was ranked significantly lower than Real World Connections to Assignments. These results mimic what Koh and Luke (2009) found - that lessons which consisted of connections to the real world beyond the classroom, knowledge criticism, knowledge manipulation, depth of knowledge, and student control were used to determine the quality of teachers' assignments. Teacher responses to aspects of Creating a Quality Assignment can be grouped. Real World Connections to Assignments, Depth of Knowledge Necessary to Complete Assignments, Providing Students with Performance Standard and/or Guideline

for Assignments, and Student Control Over tend to focus the heart of the activity and assignment on the student and his/her needs to successfully complete the task. Cross Curricular Assignments, Using Adopted Curriculum Materials in Classroom Assignments, Using State Curriculum in Classroom Assignments, and Using Sustained Student Writing on Assignments focus more on the needs of the institution when creating an assignment. The curriculum choices are out of the students' hands which also impacts cross curricular activities. Using Sustained Student Writing could be seen as both student-centric and institution-centric depending on the individual and the topic. It is grouped with the institution-centric group as often students are given sustained writing activities and assignments to prepare them for standardized writing exams based on the curriculum, which would be an institution-centric focus for an assignment. Looking at these two groups, the top ranked items (1-4) are very student-centric, focusing on the individual needs of students. The bottom items are more institution-centric. Based on these results teachers feel that focusing on the student-centric aspects of Creating Quality Assignments makes more of an impact on student achievement than a top-down model.

In addition to giving their perceptions as to the most and least useful aspects in developing quality assignments for impacting student achievement, teachers were asked which of the given eight aspects they used in their classroom planning in the past week. Descriptive statistics showed that Real World Connections (89.1%)(M = 1.11, SD = 0.31) and Depth of Knowledge (76.1%) (M = 1.24, SD = 0.43) were the two most used aspects of Creating Quality Assignments. This is in congruence with what teachers perceived as having the biggest impact on student achievement. Student Control Over Assignments

(51.1%)(M = 1.49, SD = 0.50) and Cross Curricular Assignments (47.3%)(M = 1.52, SD = 0.50) were the two aspects used the least. While these two differ from what was found in the first part of the question, their placement does not differ greatly. Looking across the items, using State Curriculum in Classroom Assignments was the only element whose impact ranking did not align with what they did in the classroom. This difference most likely comes from teachers being required to use state standards in their written lesson plans in order to show coverage of the standards in the classroom. After examining the descriptive statistics it was found that all the aspects were used significantly less than the first, Real World Connections in Assignments. Aspects were ordered based on their mean use by teachers: (1) Real World Connections to Assignments (Real); (2) Depth of Knowledge Necessary to Complete Assignments (Depth); (3) State Curriculum in Classroom Assignments (State); (4) Providing Students with Performance Standard and/or Scoring Guideline for Assignments (Rubric); (5) Adopted Curriculum Materials in Classroom Assignments (Adopted); (6) Sustained Writing on Assignments (Writing); (7) Student Control Over Assignments (Student Control); (8) Cross Curricular Assignments (Cross). Table 38 shows where significant differences appeared in teachers' use of these eight items.

Table 38

Significant Findings for Aspects of Creating Quality Assignments Used

	Real	Depth	State	Rubric	Adopted	Writing	Student Control	Cross
Real	NS	S	S	S	S	S	S	S
Depth	S	NS	NS	NS	S	S	S	S
State	S	NS	NS	NS	NS	S	S	S
Rubric	S	NS	NS	NS	NS	NS	NS	S
Adopted	S	S	NS	NS	NS	NS	NS	NS
Writing	S	S	S	NS	NS	NS	NS	NS
Student Control	S	S	S	NS	NS	NS	NS	NS
Cross	S	S	S	S	NS	NS	NS	NS

The fact that many teachers are using Real World Connections in their assignments shows that teachers understand that education is not separate from the real world and that students need to be taught wholly and not in isolation. In addition, these findings reflect that teachers understand the need for assignments to be challenging, due to the high placement of Depth of Knowledge Necessary to Complete Assignments in ranking and usage, but is in conflict with what Clare (2001) found, that teachers' assignments were fairly basic in the area of cognitive challenge and alignment of goals and assessment. The fact that teachers understand the impact of the cognitive challenge of the assignment is important, but perhaps teachers are having a difficult time formulating such assignments. This could be due to teachers misunderstanding what

constitutes a quality assignment. As Clare (2001) noted constructivist practice consisting of quality of classroom discussions, level of student participation in classroom discussions, cognitive challenge of the lesson activities, and quality of instructional feedback are associated with the quality of classroom assignments ($r = 0.57$, $p < .01$)(p. 27). Clare (2001) also found that the quality of lesson implementation, which includes the level of student engagement in the lesson, clarity of learning goals, and alignment of the goals and lesson activities, did not significantly associate with classroom assignments ($r = 0.03$). The confusion might be between the level of student engagement and the cognitive level. Teachers might confuse busy and engaged students with those using higher level thinking skills to complete an assignment.

Furthermore, Cross Curricular Assignments was seen as the fifth most important aspect in student achievement and significantly more important than Sustained Student Writing, yet only 47.3% of teachers noted using this in their plans in the past week and it was used significantly less than Real World Connections, Depth of Knowledge, Using State Curriculum, and Providing Students with a Performance Standard. Perhaps this is showing the clash between what teachers think is best and the constraints placed on the classroom by standards, the district, and other testing related pressures. However, it could also be a function of teachers having trouble with time and preparing lessons that are cross curricular as it requires more time to plan and research, especially at the high school and middle school level. At these levels, particularly, having cross curricular assignments might include working with other content area teachers to create cross curricular lessons.

Finally, it is interesting to note from research question two that 83% of teachers reported using Creating Quality Assignments in their classrooms in the past week. However, when looking at the aspects of Creating Quality Assignments given, less that 60% of teachers reported using Adopted Curriculum Materials in Classroom Assignments, Sustained Writing on Assignments, Student Control Over Assignments, and Cross Curricular Assignments. This fact raises questions as to what teachers are doing to create quality assignments. One possibility is that teachers are using other aspects of Creating Quality Assignments in their lesson planning. If this is the case, knowing what these aspects are and if they are effective is important. Another possibility is that teachers are using certain aspects during lesson planning for quality assignments, but they are not truly creating quality assignments, and they do not realize the difference. Recall that Clare (2001) found teachers' assignments were fairly basic in the area of cognitive challenge; this finding could be an indication of that trend.

Research Question Four

What aspects of lesson structure do teachers perceive as having the greatest impact on student achievement? What aspects of lesson structure do teachers use when planning?

Lambert (1988) noted that the "skillful orchestration of objectives, strategies, materials, and equipment and the careful organization, development, and sequencing of the lesson are absolutely crucial to successful teaching" (p. 4). With this idea in mind and knowing that teachers are looking more at content knowledge, sequencing, and activities when lesson planning and writing lesson plans ahead of objectives (see Clark &

Yinger, 1979; Kagan & Tippins, 1992; Sanchez & Valcarcel, 1999; Yinger, 1980;

Zahorick, 1975); an examination of teachers' perceptions of Lesson Structure was vital.

After investigating, research came forth (see Clare, 2001; Good & Brophy, 2004; Jones et

al., 2011; Panasuk & Todd, 2005; Pressley et al., 1998; Wang et al., 1993a; Zahorick,

2003) that gave five aspects of Lesson Structure that impact student achievement

including: (a) *Focusing Attention on the Sequence of a Single Lesson,* (b) *Focusing*

Attention on the Sequence of Multiple Lessons, (c) *Giving Step-by-Step Instructions,* (d)

Focusing Attention on the Sequence of Questions to be Asked by the Teacher, and (e)

Aligning the Learning Objective, Activity, and Assessment. Teachers were asked to rank

these five items based on how they believed them to impact student achievement. A rank

of 1 meant that teachers thought that aspect made the least impact, and a rank of 5 meant

it made the most impact.

Alignment of the Learning Objective, Activity, and Assessment (M = 3.60, SD =

1.64) was ranked as having the biggest impact on student achievement. Sequencing of

Questions to be Asked by the Teacher (M = 2.67, SD = 1.36) was ranked lowest based on

the teachers' responses. A repeated-measures ANOVA confirmed there were significant

differences and after additional statistical follow up to determine where the significant

differences occurred, it was found that Sequencing of Questions to be Asked by the

Teacher was ranked significantly lower than all the other aspects of Logically Structured

Lessons. This means that teachers perceived this aspect to be significantly less important

than the others on impacting student achievement. It is possible this result is a function

of teachers believing that questions come naturally during the course of teaching and they

want the freedom to respond authentically to students' answers. While this point of view

is valid, teachers are losing sight of an important teaching tool. Aside from extracting

knowledge from students; teachers scaffold questioning when asking questions. This

scaffolding can help students learn to ask questions. While it might not be necessary for

teachers to plan all questions to be asked, it is important to plan key questions in a

sequence in order to guide reflective discussions that enhance students' thinking,

comprehension, and learning (Willen, 1990). Additionally, planning questions helps

teachers not to fall into a routine of asking only one type of question such as memory or

fact questions, which have been found to be predominate in the classroom (Korkmaz,

2009). The only other significant difference found was that Alignment of the Learning

Objective, Activity, and Assessment was ranked significantly higher when compared

with Step-by-Step Instructions. A possible conclusion for this finding is teachers may

use instruction-giving as a means of maintaining classroom order and pace and do not

view it as part of lesson planning.

In addition to giving their perceptions as to the most and least useful aspects in

Lesson Structure, teachers were asked which of the given five aspects they used in their

classroom planning in the past week. Descriptive statistics showed that Alignment of the

Learning Objective, Activity, and Assessment (87.5%)(M = 1.12, SD = 0.331) and Step-

by-Step Instructions (84.8%) (M = 1.15, SD = 0.360) were the two aspects reported as

being used the most when structuring a lesson. Alignment of the Learning Objective,

Activity, and Assessment being most used is congruent with what teachers believe is the

most important aspect in impacting student achievement; however, Clare (2001) found

that most teachers are weak in this area of planning. Therefore, while teachers are reporting using this aspect of planning Lesson Structure, the quality of the alignment is unknown.

The use of Step-by-Step Instructions differs greatly from what teachers noted as the aspects having the most impact on student achievement. Alignment of the Learning Objective, Activity, and Assessment was ranked significantly higher than Step-by-Step Instructions in the first part of research question four, but was then reported as being the second most used aspect by a high percentage of teachers—significantly more than Sequencing a Single Lesson and Sequencing of Questions to be Asked by the Teacher. A reason for this result could be that while teachers do not see the impact of Step-by-Step Instructions when it comes to student achievement, using Step-by-Step Instructions in the classroom helps with the dynamic nature of teaching. Step-by-Step Instructions are a practical way for teachers to ensure all students understand what is being asked of them. While teachers may not see this as particularly beneficial when it comes to student achievement, it does help with classroom management and organization, which are also important in ensuring student achievement (Danielson, 2007; Davis & Thomas, 1998; Marzano, 2007; Stronge, 2007).

Sequencing of Questions to be Asked by the Teacher (52.7%)(M = 1.47, SD = 0.501) was the aspect of Lesson Structure used the least, which aligns with what teachers ranked as the aspect having the least impact on student achievement. After examining the descriptive statistics it was found that Sequencing of Questions to be Asked by the Teacher was used significantly less than all other aspects. Again, this could possibly be

attributed to teachers wanting to respond authentically to students in the classroom and seeing the planning of questions as a hindrance to this dynamic flow.

Sequencing of a Single Lesson (70.7%)(M = 1.29, 0.457) was found to be used significantly less than Alignment of the Learning Objective, Activity, and Assessment. A possible conclusion for this finding could be that teachers believe the alignment of the objective, activity and assessment is sequencing a single lesson. By ensuring that there is Alignment of the Learning Objective, Activity, and Assessment, teachers are building a lesson which is coherent for students. Step-by-Step Instructions was also found to be used significantly more than Sequencing of a Single Lesson. Again, this result is probably the function of practicality in the classroom as many teachers reported using Step-by-Step Instructions, which helps with classroom management.

Research Question Five

Is there a difference in teachers' perceptions regarding which lesson planning elements have the greatest impact on student achievement when considering: (a) elementary school, middle school, or high school level; (b) content areas such as science, social studies, language arts, mathematics; (c) region of the United States; (d) rural, urban, or suburban areas; (e) years of experience; and (f) gender?

Teachers were asked to provide information on the six demographic areas indicated in the question. Results from research question one, where teachers ranked the seven general Elements of Lesson Planning identified by Stronge (2007) in the order in which they perceived the elements to impact student achievement were also used. A

repeated-measures ANOVA was conducted and each of the demographic factors served as the independent variable. It was determined that none of the demographic areas significantly impacted how teachers ranked the Elements of Lesson Planning at the p < 0.05 significance level. Table 39 shows the demographics and ANOVA results. Since none of the demographic areas had a significant finding, the results for research question one are strengthened as it seems to represent all teachers equally.

Table 39

ANOVA Results for Demographic Factors and Ranking of Elements of Lesson Planning

Demographic	ANOVA Results	Significance
School level	$F(2, 180) = 1.748, p > 0.05$	Not significant
Subject Area	$F(9, 173) = 1.082, p > 0.05.$	Not significant
Gender	$F(1, 181) = 1.749, p > 0.05.$	Not significant
Years of Experience	$F(4, 178) = 0.876, p > 0.05.$	Not significant
School Setting	$F(2, 180) = 0.133, p > 0.05.$	Not significant
Region	$F(3, 176) = 0.900, p > 0.05.$	Not significant

These results speak to the universality of practice among teachers across all demographic categories that were analyzed in the study. Additionally, their perceptions of what are important Elements of Lesson Planning for student achievement are quite consistently among all teacher groups. It should be noted, however, that while no significant results were found, it is possible that with a sample which more closely resembles the population, results might differ.

Research Question Six

What method of lesson planning do teachers use most prominently? For teachers who use formal written lesson plans, how many times per day do they reference the written plans?

Teachers were asked in the survey to disclose how they lesson plan. Table 40 shows that over 60% of teachers use written lesson plans. Almost half as many teachers (28.8%) reported using a mental model for planning. Only a small percentage used no formal lesson plans.

Table 40

Type of Lesson Plans Used by Teachers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I use written lesson plans	116	63.0	63.4	63.4
	I use no formal lesson plans	14	7.6	7.7	71.0
	I use a mental model for lesson plans	53	28.8	29.0	100.0
	Total	183	99.5	100.0	
Missing	System	1	.5		
Total		184	100.0		

These results mimic Ko's (2012) findings that most participants in her study of pre-service teachers (84%) found the process of designing a written lesson plan helpful in preparing and organizing for teaching. While teachers did not specify if their plans were conventional or alternative in nature, it is assumed that a large percentage of written plans

are conventional based on research which indicates that written lesson plans required by

administrators for evaluation purposes tend to be procedural in nature (Daniels &

McNeal, 2000; Halverson et. al, 2004; McCutcheon, 1980; Morine-Dershimer, 1979).

The mental model and no formal plan options might have been an outlet for teachers who

prefer to use alternative plans.

Teachers who reported using written lesson plans were then asked how many

times during the day they refer to their lesson plans. The researcher developed a code in

order to categorize the various answers given (see Table 41). The code was developed as

teachers had varied responses to this question and the researcher needed to be able to

disaggregate the data.

Table 41

Coded Responses for Lesson Plan Review

Code	What It Means
0	zero, never, none
1	1 time per day, in the morning, once, rarely, very little, seldom
2	2, 2-3, sometimes, a couple
3	3 or 4 times, 3-4, a few times
4	5-7 times per day, often, quite a bit, several
5	A lot
6	Before every class period
7	Less than once per day, every few days, almost everyday
8	Did not answer

Based on the variety of responses, when the data were run, it was obvious that lesson plan utilization is a very personal choice. While most teachers view their lesson plans at least once daily, there were a variety of responses. Table 42 shows the distribution of responses for how many times teachers refer to their lesson plans during the day. It can be seen that for the most part, teachers use their written lesson plans on a daily basis, but what was interesting is that all of the responses, save those coded as 1, were quite even. This speaks to the "art" of teaching that Marzano (2007) refers to in his book, *The Art and Science of Teaching: A Comprehensive Framework for Effective Instruction*. Teachers can use research to identify what has a high probability of working in the classroom (Marzano, 2007), but the teachers must determine how the science of teaching works best for their classroom, including how written lesson plans play a role in lesson delivery.

Table 42

How Often Lesson Plans are Referred to During the Course of a Day

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	O, zero, never, none	3	1.6	2.6	2.6
	1 time, in the morning, once, rarely, very little, seldom	27	14.7	23.3	25.9
	2, 2-3, sometimes, a couple	16	8.7	13.8	39.7
	3 or 4, 3-4, a few	16	8.7	13.8	53.4
	5-7 Times, quite a bit, often, several	16	8.7	13.8	67.2
	7+ times, a lot	11	6.0	9.5	76.7
	Before every class	15	8.2	12.9	89.7
	Less than once per day, every few days, almost everyday	8	4.3	6.9	96.6
	did not answer	4	2.2	3.4	100.0
	Total	116	63.0	100.0	
Missing	System	68	37.0		
Total		184	100.0		

Most teachers gave a more detailed response in addition to providing a number or adverb to describe how often they refer to their lesson plans. For those teachers who refer to their plans once a day the general attitude can be summed up in this teacher's response, "I glance at them in the morning, but I know what is in them." Likewise, teachers who reported viewing their plans less than once a day responded similarly to another teacher who said, "[I refer to my plans] almost never. I know what I need to accomplish in each class without looking. The written plan is present for those who may come to observe. These plans should, of course, be updated as circumstances change; however, there is seldom time to do that." This statement might give insight as to the reason some teachers may or may not refer back to their plans. Teachers may have them available for visitors but not have them written for any other purpose. These teachers

might have responded that they used no formal plans or a mental model if not for the requirement of having written plans. Also as the teacher states, there is little time in the day to make changes, though perhaps some teachers make these changes mentally. While it is possible that teachers mentally make changes to their plans based on the dynamic of the classroom, others stated they use their plans to write down changes. One teacher stated that the written plans were referred to "every class period. I preview it before school. I review it after school and make adjustments to the next day's lesson. During my prep period I consider long-term changes that might be needed." Other teachers echoed this sentiment responding, "my written lesson plans are more of a living document. I am constantly revising and updating them "real time" depending on what happens through the course of the day/lessons." This view also shows how organic and personal lesson plans can be and how each teacher can create their "art" in different ways based on the needs of the day and class. Another teacher mentioned that "I use written lesson plans as an organizer for myself and I reference them as needed. They serve as a place to record learning targets and also to note what was done by students/teacher during the course of the lesson. My teaching is responsive, so I often redesign activities on the fly and note these in my plans. I mentally know what I'm going to do, so I don't 'rely' on the plans, but use them as a planning document and record for what I've done." From this teacher's response, it is possible to see that some teachers use a combination of written and mental plans. It also shows that teachers respond to the dynamic nature of the classroom. Many teachers wrote about how their plans might evolve based on the interaction with students.

In addition to being required to have written lesson plans as many teachers stated, some are also required to post agendas or objectives on the board. These teachers referenced this mandate when discussing written plans. Many said something similar to what this teacher expressed: "My written lesson plan is in a teacher plan book; it, the agenda, content and language objectives are then written on the board. I refer to my teacher plan book daily or weekly, but the students and I refer to the agenda every hour." This statement gives a way teachers are reminded of the process they went through in lesson planning and can refer to it themselves or with the class. Many teachers reported using their plans in this manner.

Regardless of how teachers used their lesson plans after writing them, what can be seen from the responses is the art of teaching. Each teacher, as a unique individual, wrote in a manner that showed they understood the need for a lesson plan, but each also had a reasonable answer for how they used the written plan in the classroom. Asking teachers a questions such as this is eye-opening and gives a deeper understanding for what goes on in the teachers' classrooms and why.

In addition to examining how often teachers referred to their written lesson plans during the day, a one-way ANOVA was completed to compare the mean difference between teachers' years of experience and the type of lesson plans they use, and it was found that there was no significant difference between the number of years taught and the type of lesson plan used by teachers F (2, 180) = 0.913, p > 0.05. In their written comments, teachers did allude to their years of teaching as impacting how often they refer to their lesson plans during the day with one teacher stating, "I have been teaching

for almost 20 years and though I do write out lesson plans in greater or less detail for my

own benefit (possibly teaching [a] unit again in a following year or to another class) and

sometimes for administrators, I do not frequently refer to these plans except for the

beginning of each day/each class and at the end of the day in preparing for the following

day." Another teacher with six to ten years' experience viewed her written lesson plans

differently, writing, "my lesson plans are basically posted on the board each day in the

form of the agenda, objective, and essential questions. I refer to these regularly

throughout the class, as I teach too many different classes to remember the order of

lessons without referencing my written plans. I have become more dependent on written

lesson plans as I have advanced through my career. When I was a younger teacher I could

do this mentally, but those days are gone." Similarly another teacher with more than

twenty years' experience stated, "[I use my written lesson plan] all the time; I use it as

my memory as I would forget to do what was planned." These perspectives show how

individual the craft of teaching can be and how teachers think about their craft. As

teachers advance in their teaching profession, the question remains if they need the

written lesson plan more, or less. These statements give an argument to both sides.

While these statements came from more veteran teachers, a teacher with less than three

years' experience noted, "I refer to it several times during the first time I present the

lesson. Afterwards, I rely on memory." Another teacher with less than three years'

experience stated, "[I refer to my written lesson plans] at least three times—Beginning-

Middle-End for each class. It is posted and we as a class use it as the guideline to class."

Again these statements show the individual nature of teaching and how each teacher

believes he/she is most effective. These sentiments are in line with the variety of other teacher responses.

Discussion

The following discussion section will examine the major areas for consideration from the findings of this study. While many significant findings were discovered these six items stood out as the most important from the study. The sections will examine Support for the Elements of Lesson Planning, Debating Creating Clear Lesson and Learning Objectives, How to Create Quality Assignments, The Impact of Alignment, and Teacher Questioning, and Making Sense of a Research Sample. Each section will contain a more in-depth look into the area as well as relating the findings back to research available on the topic when applicable.

Support for the Elements of Lesson Planning

This study provides evidence that K-12 classroom and core area teachers across the United States hold similar perspectives when it comes to the impact of and usage of the Elements of Lesson Planning described within the study and based on research found in Stronge's (2007) book *Elements of Effective Teachers*. The study also shows that teachers' perceptions of those elements are not affected by level of school (elementary, middle, high), content area (language arts, mathematics, social studies, science), years of experience, gender, region of the United States, or school setting (rural, suburban, urban). This inter-rater agreement adds support for the validation of the Elements of Lesson Planning examined in the study. This suggests that a standard for effective lesson

planning exists. Such a standard may be reflected in the research backed elements included in this study which originated in Stronge's (2007) framework.

Teachers' ranking of the elements with no significant difference shows the relatively equal importance teachers perceive each element to have on student achievement. Additional support for this finding is that each of the Elements of Lesson Planning was reported as being used by at least 75% of the teachers. This suggests that teachers are aware of what works as supported by the extant research and are attempting to implement these elements in their classroom. The question as to the teachers' understanding of the elements and the fidelity of implementation is unknown. Finally, this suggests that a standard for effective lesson planning, indeed, exists. Such a standard may be reflected in the research backed elements included in this study which originated in Stronge's (2007) framework.

Debating Creating Clear Lesson and Learning Objectives

Teachers did not rate Creating Clear Lesson and Learning Objectives as significantly different than any other of the seven Elements of Lesson Planning when it comes to impacting student achievement; however, when looking at the modes for this particular element (see Table 43), the rating chosen more often than the others was seven (greatest impact on student achievement on a scale of 1-7). This mode was followed closely by a rating of one (least impact on student achievement). Thus, teachers were polarized in how they ranked this particular item.

Table 43

Results for the Impact of Objectives on Student Achievement

	Frequency of Ordered Responses N =184	Percentage of Teachers N=184	Teacher Mean	Teacher Mean Rank	Standard Deviation
Clear Lesson and Learning Objectives	#1 = 44 #2 = 32 #3 = 15 #4 = 13 #5 = 12 #6 = 21 #7 = 47	#1 = 23.9% #2 = 17.4% #3 = 8.2% #4 = 7.1% #5 = 6.5% #6 = 11.4% #7 = 25.5%	3.91	6	2.40

When analyses were run, it was found there was no significant difference between

the Elements of Lesson Planning, but the striking difference between the teachers'

response to this particular element is worth noting and possibly studying more in-depth.

It is possible that the standards movement has helped to create this discrepancy in

teachers' perceptions. Myers (2007) believes the standards movement has led to less

individualized instruction and less control for teachers over what goes on in the

classroom. This same belief may be held by teachers who see the lesson and learning

objectives as government mandated but possibly having little impact on the individuals in

the classroom setting. Other teachers may view these objectives as having a large impact

on student achievement as they are a guide to what students will be required to know for

standardized tests. Further still, some teachers may use the standards given to them and

create objectives from them to fit the needs of their classroom and to individualize

instruction. Follow-up interviews with teachers regarding this particular element would

yield more information as to how teachers view Clear Lesson and Learning Objectives. In addition, the terminology and teachers' views on what constitutes a clear learning and lesson objective might vary significantly. The research (see Bain & Jacobs, 1990; Jones et. al, 2011; Rosenshine, 1986; Zahorik et. al, 2003) shows that having Clear Lesson and Learning Objectives leads to student achievement.

How to Create Quality Assignments

Eighty-three percent of teachers reported using Creating Quality Assignments in the past week. Therefore, it can be concluded that teachers feel this is a very important element in lesson planning. This study also suggests that there are aspects of Creating a Quality Assignment which were not included in the survey. Of the eight given aspects of Creating a Quality Assignment, half of them were used by less than half of the teachers in the study. This result leads to the implication that teachers are using other aspects to create quality assignments than the ones provided or that some of the aspects included in this study are not really quality based on teachers' perceptions. In order to have a more clear picture of how teachers Create Quality Assignments during planning it might be necessary to ask this question in a more open-ended format and then correlate the responses with research. The study does show this is an element of lesson planning that almost all teachers report using; however, a more in-depth examination is needed to know more decisively how teachers create quality assignments and if the assignments they create actually meet quality metrics. Clare (2001) found that teachers' assignments were fairly basic in cognitive challenge and alignment which suggests they may not.

The Impact of Alignment

Teachers ranked Alignment of the Learning Objective, Activity, and Assessment as significantly important when it comes to student achievement. They also reported using this aspect of Lesson Structure more than any other. The findings for this aspect of Lesson Structure demonstrate that teachers believe it makes a difference in student achievement. This belief is substantiated by research which found alignment between lesson segments is important in lesson coherency for students (Wang et al., 1993a). Teachers can show skillful planning by the use of varied approaches to teaching and lesson components that focus on lesson coherency (Panasuk & Todd, 2005). Looking closely at how lessons are aligned is a small change that can make an impact on student achievement. The results of this study show that teachers understand this benefit and report using it during their planning. While it is clear that teachers understand that alignment is important in lesson planning; a question remains as to how effective teachers are at implementing alignment between lesson items. Clare (2001) found that most teachers are weak in the area of alignment of teachers' goals and grading criteria. Therefore, caution must be taken when looking at the result as there was no finding to state if teachers use Alignment of the Learning Objective, Activity, and Assessment when they plan aside from self-report.

The relationship between Alignment of the Learning Objective, Activity, and Assessment and Clear Lesson and Learning Objectives also merits a closer look, especially based on the discrepancies in the mode of the latter in research question one. Based on the results from research question one, teachers seem divided over the

importance of Clear Lesson and Learning Objectives, but from research question four, they are united in their belief that Alignment of the Learning Objective, Activity, and Assessment highly impacts student achievement. This is interesting as part of Alignment of the Learning Objective, Activity, and Assessment is the learning objective which was controversial. Some concerns are then raised as to the fidelity of alignment between the objective, activity, and assessment. The relationship between these two findings may be the result of the standards movement and teachers being given standards and not creating their own, or not ensuring they create clear objectives from the given standards. Confusion arises when teachers teach a standard and not an objective. Teachers who use the standard and do not create objectives run the risk of not fully understanding the intent of the standard and not being clear on the intent when developing lesson plans. If the objective or standard is not clear then aligning the assessment and grading criteria will be unclear as well.

Teacher Questioning

Strong (2002) stated that "Questions should be considered carefully and prepared in advance of a lesson to ensure that they support the goals and emphasize the key points, along with maintaining appropriate levels of difficulty and complexity." However, the reality of what this study found is that teachers have definitively different points of view about questioning and, specifically, planning for the sequence of questions to be asked. Sequencing the Questions to be Asked by the Teacher was ranked as the least important aspect of Lesson Structure, and was found to be significantly less important in regard to student achievement than all the other given aspects. In addition, Sequencing the

Questions to be Asked by the Teacher was reported as being used less than any other aspect and significantly less than all the other aspects. Perhaps this is a result of teachers trying to ensure the classroom does not become a place where everything is prescribed. The standards movement has ushered in an era where teachers are told what to teach and students are assessed using tests given to them by the state, not the teacher. In some cases curriculum materials from the state or the district, which are aligned to the standards, include questions the teacher can ask and direct them on when to ask those specific questions. This might feel like another way teachers are told how and what to teach - by being given a script of what to ask students. Teachers are, then, left with only the lesson activity and/or assignment to showcase their teaching art. This may lead to teachers wanting to respond authentically in the classroom and, thus, questioning is a natural skill for teachers (Wilen, 2001). However, the idea of questioning as a natural teaching behavior that does not require planning is a myth and teachers need to utilize questions effectively (Wilen, 2001). Although it is easy to picture a teacher leading students through a review of previously read materials or material presented by asking questions, these types of questions are usually lower level. However, teachers need to use a variety of questions to ensure the cognitive level of the assignment is met. Therefore, teachers must plan for key questions and not rely on their natural teaching behavior or the questions given to them by the curriculum.

This study found that teachers are not including questioning sequences during their lesson planning and do not feel planning for the sequence of questions to be asked impacts student achievement; however, the research and literature disagree. Questioning

is an important skill for teachers to plan for three reasons. First, it ensures that teachers are asking high quality questions and not simply asking to ask, which is one of the greatest barriers to effective use of questions (Miller, 2007). High quality questions should have certain characteristics including (1) clarity, (2) purposefulness, (3) usefulness, (4) level customization, (5) sequence, (6) orientation to thinking, (7) flexibility, and (8) well-constructedness (Good & Brophy, 2004; Kauchack & Eggen, 1998; Korkmaz & Yesil, 2010). Not only are these high quality questions important, but also the placement of these questions within the lesson can add to a student's depth of knowledge about the topic. Ensuring that quality questions are asked and preparing them ahead of time is not simple and takes time. Creating questions that contain the listed characteristics is detailed work and time consuming. Based on some teachers' responses to research question six, teachers feel their time is limited. This fact may deter teachers from creating and sequencing their questions during lesson planning. This is an area where administrators and schools of education can work with teachers as they prepare them for the classroom. A second reason is that teachers should plan some of their questions in advance to ensure that a variety of question types are asked. According to Kagan (1999) there are three categories of questions: fat and skinny questions, high-consensus and low-consensus questions, and review and true questions. These question types use a variety of Bloom's Taxonomy to get students to think (Kracl, 2012). Using different types of questions and considering their placement within a lesson allows teachers to help students think creatively, critically, and analytically (Korkmaz, 2009). By using a variety of questions students have to use a wide array of knowledge to answer, which improves student achievement. Finally, questioning is a lifelong skill that is

critical for students to be successful in the 21st century (Korkmaz, 2009). Effective

problem solvers use questions to fill in the gaps in their knowledge (Costa, 2001). In

addition, by asking the right questions students can improve their communication skills

and gather better information, learn more, build stronger relationships, manage people

more effectively, and help others (Korkmaz, 2009). Therefore, teachers need to

effectively utilize questions and question placement as students learn how to ask quality

questions from the example set. Students will discover that the question is a valuable

learning tool if they have good scaffolding. Through hearing a variety of quality

questions, students will learn that asking questions will help them organize their thinking

to achieve certain objectives (Korkmaz, 2009) and begin to develop this skill.

Making Sense of a Research Sample

Due to the sampling anomaly experienced, the sample for this study was looked at

in depth and decisions had to be made on how to move forward. The original plan for the

study was to send an email to approximately 5,000 potential participants from a sample

pool created by a third party. The same 5,000 potential participants would then receive a

follow up email a week later and then two weeks later. Each potential participant would

then receive a total of three emails. This would have allowed for the sample

demographics to be viewed as one sample. When the sampling anomaly was detected

after the third email was sent, decisions had to be made and the sample had to be treated

differently. After working with the company who created the email lists trying to figure

out where the anomaly took place it was determined from looking at the email address

sent that the anomaly took place with the final email deployment. The first and second

emails were sent to the same potential participants (approximately 5,000). The third email was sent to an entirely new pool of potential participants (approximately 5,000). This alteration from the original intent of the study changed the sample pool. The researcher had some choices as far as how to deal with the sample anomaly: 1) The initial results could be tossed out and the study could begin again with a new sample pool of approximately 5,000 participants receiving an email and two reminder emails. This choice was bypassed due to the timing that the emails would have been sent, right before the Thanksgiving and Winter Holiday breaks. The research felt as if the response rate would have been lower due to timing. Additionally, it would have been possible for participants from the first round of emails to be included in the second round. This would have complicated the sample further. 2) Send the participants who received the third email, a follow up email. This choice would have allowed for all the participants to receive two emails. This choice was not made as the researcher would still have had the same issue of having two different samples. In addition, due to the anomaly the researcher wanted to maintain control over the sample and not introduce any new possible problems. 3) Use the results garnered from the three emails that were sent. This option was chosen; however, due to the two different sample sets the researcher needed to ensure that the two groups were comparable in all demographic areas in order to ascertain that the results of the study were due to participants' responses and not because of a difference between the two sample groups. Therefore, chi-square tests were calculated on all the demographics of the two sample groups and it was found that the groups were equal on all measures. These results allowed the study to move forward viewing the two sample groups as one big sample.

Implications for Improving Teacher Practice

The support shown for the Elements of Lesson Planning provides a launching point for improving teacher practice when it comes to properly implementing lesson planning. If effective teachers are effective planners, then it is necessary for all teachers to improve their planning processes in order to become more effective in their craft. The fact that teachers in the study did not differentiate between the Elements of Lesson Planning shows that they find them equally important, which is congruent with the literature. In addition, the high number of teachers reporting using the elements in the past week adds to the idea that these research-based elements are important in practice as well. Both of these findings support the idea that in order to improve teacher practice, administrators can focus on these elements when discussing planning with teachers. Giving planning discussions focus will help administrators and teachers alike to pinpoint areas where teachers can become more effective. These planning discussions and information gleamed from examining teacher lesson plans can help administrators and districts determine the types of teacher education to offer to their teachers. Additionally, this information can help in the assessment and evaluation of teachers on a more individualized basis as the administrator can determine where planning weaknesses exist. Finally, understanding these elements and how they should work in a classroom can help in the hiring process as administrators can focus their questions with prospective teachers and garner valuable information from them as to their planning and understanding of the important Elements of Lesson Planning.

In addition to giving helpful information with regards to the Elements of Lesson Planning, the study can also help schools of education and administrators focus on creating quality assignments. The study found that teachers understand that student-centric assignments are beneficial in promoting student achievement; however, the planning of these activities and assignments can be time consuming and overwhelming. Schools of education and administrators can work with teachers on aspects of how to create quality assignments for the classroom to ensure students are getting the biggest benefit from their engaged learning time. Discussions can also include how to ensure the activities and assignments are in alignment with the objective and assessment.

Finally these findings can impact teacher practice by helping to create a culture of teaching in schools that develops individual teachers' lesson planning skills. By giving administrators and teachers a focal point to begin discussions, each individual teacher will be given the ability develop their planning skills in a manner that is useful to them with their respective class and their self-efficacy with each of the Elements of Lesson Planning.

Conclusion

Effective teachers make a significant impact on student achievement and conversely ineffective teachers can negatively impact students. Therefore, understanding what makes teachers effective is important. Lesson planning is a vital part of being an effective teacher and should be used by teachers to prepare themselves for what will take place in the classroom. This preparation and how it is carried out can be effective or ineffective depending on the teachers' thinking and organization. Educators' perceptions

about what research based Elements of Lesson Planning provides valuable insight what teachers perceive as important when lesson planning. Teacher reported classroom practices also provide insight into what tools teachers are choosing to use in the classroom. The combination gives a glimpse into the complexity of the lesson planning process. Understanding teachers' thinking and organization of thought during planning can be a powerful tool for administrators or schools of education in helping prepare teachers for the classroom.

A central finding of this study was that there was congruence among teachers when it came to the Elements of Effective Lesson Planning. There was no significant difference found among the elements as to their ranking of impact on student achievement. This result was consistent when looking at the demographics of (a) school level, (b) content area taught, (c) years' experience, (d) school setting, (e) region of the country, and (f) gender. This finding is important because people's experiences can shape their perceptions and actions when lesson planning; however, when it comes to the Elements of Effective Lesson Planning, teachers were in agreement. An interesting result which likely merits further study was how teachers perceived Clear Lesson and Learning Objectives. While this element was not significantly different than the others, it did polarize teachers in their responses when looking at the mode of response. There is a possibility this finding could be attributed to an unintended consequence of the standards era. Further support was given to this idea by the fact that teachers reported using Clear Lesson and Learning Objectives significantly more than some of the other elements.

Other important findings surrounded the research on Creating Quality Assignments and Lesson Structure. Teachers have significantly different perceptions as to which aspects of both these elements were effective in impacting student achievement. More specifically, teachers perceive more student-centric classroom assignments are most effective including: (1) *Real World Connections to Assignments*; (2) *Depth of Knowledge Necessary to Complete Assignments*; (3) *Providing Students with Performance Standard and/or Guideline for Assignments*; and (4) *Student Control Over Assignments*. Additionally, teachers reported using mainly student-centric assignments in their classrooms. The one deviation from this was teachers' use of State Curriculum in Assignments. This finding may be a result of building-based requirements for lesson planning which often mandate that the state standard and curriculum be included and used. Concerning Lesson Structure, Sequencing Questions to be Asked by the Teacher impacted student achievement significantly less than all other Lesson Structure aspects. This finding was corroborated when teachers reported using all other aspects of Lesson Structure significantly more than Sequencing Questions to be Asked by the Teacher. This finding is not surprising, but needs to be further investigated as planning for questioning has many benefits for teachers and students alike.

Lesson Planning has been a subject of interest for many years since the findings of Coleman (1966) and Jencks (1972) which led to efforts to "teacher proof" curriculums (Porter & Brophy, 1988, p. 74). As a result, many studies can be found on lesson planning when searched in an educational database. Few studies, however, exist which look at teachers' perceptions of planning and how that differs from what teachers report

using. The current study adds to the literature by garnering teachers' perspectives on lesson planning.

Limitations

Generalizability of the study's results was affected by a few factors. First, the study relied on a survey which used rank ordering for data collection. Rank ordering is preferable to rating scales for several reasons, including the fact that rankings provide greater variability in results; however, participants were forced to choose among competing variables and were not permitted to find the variables equally valuable. Caution needs to be used when interpreting the results of rank ordered responses as there cannot be an assumption of equal intervals between the ranks (Gall, Gall, & Borg, 2007) as would be expected between intervals on a rating scale. Additionally, the choice to use rank ordering in the survey required participants to rank all items even if the participants did not think the item should be included. This fact then allowed for all items to be ranked and included in the results regardless of whether participants thought they should be or not. Findings can then be skewed by including items that participants did not find worthy because they were required to rank them. In addition, the wording chosen to describe the Elements of Lesson Planning and aspects of Creating Quality Assignments and Logically Structured Lessons in the survey may have affected participants' perceptions and rankings. Also, the ranking system given to participants may have seemed counter intuitive with the value of 1 being given to the element or aspect that had the least impact. The low response rate (n = 183, 1.8%) impacts generalizability by reducing the power of the findings from the statistical analysis. A larger sample would

have decreased the possible error in analysis and would have been more representative of the population (Gall, Gall, & Borg, 2007). Finally, the use of self-report by the researcher could have impacted the findings as it is not clear if teachers were actually using the elements and aspects they reported using; therefore, the results of study focus on what teachers *stated* they do and not for certain what teachers actually do in their classrooms.

Recommendations for Future Research

Additional research may add to the understanding of effective teachers' lesson planning. The following are recommended:

- The current study provided participants with Elements of Lesson Planning to rank in the order in which they perceived them to impact student achievement. By withholding the research-based framework from participants and simply asking them to identify Elements of Lesson Planning that effective teachers use may have allowed for them to identify elements outside those given. This could give researchers an idea of what teachers are thinking and correlate that with the research-based elements. These responses could be solicited through an open-ended questionnaire or by individual or group interviews.

- In the current study, participants were provided by research-based Aspects of Creating Quality Assignments. Giving participants the option to identify aspects on their own without the given research-based aspects might yield results that help administrators understand what teachers use to create quality assignments. This information can be garnered through an open-ended questionnaire or by

individual or group interviews. Teacher responses could then be compared with research-based strategies to determine if they correlate. In addition, teachers could explain more in depth why they think those aspects are important in Creating a Quality Assignment.

- Within the current study, it was found that there was a huge discrepancy in how teachers viewed the impact of Creating Clear Lesson and Learning Objectives. A large number of teachers thought it was the most important element and an almost equal group found it to be the least effective element in impacting student achievement. Asking teachers follow up questions to this particular element would yield important results in determining if the standards movement has impacted teachers creating Clear Lesson and Learning Objectives or their perspective on the role objectives play in lesson planning. This could be done by asking teachers open-ended questions either in questionnaire or interview format regarding lesson objectives.

Appendix A

Original Survey Instrument

Survey

Elements of Effective Teachers' Lesson Planning

Based on your knowledge and experience, please rank the following aspects of lesson planning from 1-7 in the order you believe them to impact student achievement. 1=least impact and 7=greatest impact

_____ Identifies clear learning objectives

_____ Plans quality assignments that enhance student mastery of content

_____ Plans logically structured lessons

_____ Plans a variety of instructional strategies

_____ Uses organizers in the planning process to enhance instructional delivery

_____ Lesson plans account for learning differences among students

_____ Systematically develops plans that align content to appropriate cognitive skills.

Are there any other important aspects of lesson planning you can add that impact student achievement?

_____

CLASSROOM ASSIGNMENTS

Based on your knowledge and experience, please rank the following considerations about creating classroom assignments from 1-7 in the order you believe them to impact student achievement. 1=least impact and 7=greatest impact

_____ Uses of state curriculum and materials in classroom assignments

_____ Includes cross curricular assignments

_____ Includes real world connections to assignments

_____ Includes student control over assignments

_____ Uses sustained writing on assignments

_____ Includes depth of knowledge necessary to complete assignments

_____ Providing students with a performance standard and scoring guideline for assignments

_____ Includes one goal for each lesson

CONSTRUCTIVIST CLASSROOM ASSIGNMENTS

Based on your knowledge and experience, please rank the following considerations about creating classroom assignments from 1-4 in the order you believe them to impact student achievement. 1=least impact and 4=greatest impact.

_____ Quality of classroom discussions

_____ Level of student participation in the classroom discussions

_____ Cognitive challenge of lesson activities

_____ Quality of instructional feedback

Are there any other important aspects of creating assignments you can add that impact student achievement?

LESSON STRUCTURE

Based on your knowledge and experience, please rank the following items about lesson structure from 1-5 in the order you believe them to impact student achievement. 1=least impact and 5=greatest impact

_____ Focusing attention on the sequence of a single lesson

_____ Focusing attention on the sequence of multiple lessons in a unit.

_____ Giving step-by step instructions

_____ Focusing attention on the sequence of questions to be asked by the teacher

_____ Aligning the learning objective, activity, and assessment

Are there any other important aspects of lesson structure you can add that impact student achievement?

_____

INSTRUCTIONAL STRATEGIES

Based on your knowledge and experience, please rank the following uses of instructional strategies in lesson planning from 1-5 in the order you believe them to impact student achievement. 1=least impact and 5=greatest impact

_____ Use of a variety of instructional strategies to teach the same concept

_____ Matching the instructional strategy chosen to the learning outcome

_____ The timing of implementation of the instructional strategy

_____ An overall lesson that is balanced in its use of instructional strategies (Use of a variety of instructional strategies throughout the day)

_____ A smooth integration of instructional strategies into a lesson

Are there any other important aspects of using instructional strategies you can add that impact student achievement?

_____

ORGANIZATION

Based on your knowledge and experience, please rank the following items about organization from 1-4 in the order you believe them to impact student achievement. 1=least impact and 4=greatest impact

_____ Teacher uses an organizer when planning.

_____ Teacher uses graphic organizers with students to help organize knowledge during lessons.

_____ The more organizational work the teacher does in fall with students leads to more child-centered activities in spring.

_____ The amount of organization in the classroom leads to the amount of individual time spent with students.

Are there any other organizational items you can add?

STUDENT LEARNING STYLES

Based on your knowledge and experience, please rank the following aspects of meeting the needs of different learners from 1-4 in the order you believe them to impact student achievement. 1=least impact and 4=greatest impact

_____ Adapting teaching strategies to fit students' learning styles

_____ Individualized instruction

_____ Reteaching

_____ Planning for assessment

Are there any other important aspects of meeting the needs of different learners you can add that impact student achievement?

APPROPRIATE LESSONS

Based on your knowledge and experience, please rank the following ways to develop age and content appropriate lessons from 1-4 in the order you believe them to impact student achievement. 1=least impact and 4=greatest impact

_____ Teacher gives students small challenges just beyond their abilities

_____ Teacher matches the student task and the instructional scaffolding

_____ Teacher supports students as they struggle, but does not do the activity for student

_____ Teacher uses authentic activities in the classroom

Are there any other important aspects of developing age and content appropriate lessons you can add that impact student achievement?

_____

Based on your knowledge and experience, and using lesson plans please give your perspective on how often teachers refer to their written lesson plans during the course of a lesson.

_____ Teachers refer to their written lesson plans 0 times during a lesson

_____ Teachers refer to their written lesson plans 1-3 times during a lesson

_____ Teachers refer to their written lesson plans 3-5 times during a lesson

_____ Teachers refer to their written lesson plans 5-10 times during a lesson

_____ Teachers refer to their written lesson plans + 10 times during a lesson

DEMOGRAPHIC INFORMATION

Which of the following best describes the school in which you currently work?

_____ Elementary School

_____ Middle School

_____ High School

_____ Other _____

Please indicate your gender.

_____ Female

_____ Male

_____ Other _____

Please indicate the total number of years that you have worked in education.

_____ 1-5 years

_____ 6-10 years

_____ 11-15 years

_____ 16-20 years

_____ +20 years

Which of the following best describes the setting of the school where you currently work?

_____ Rural

_____ Suburban

_____ Urban

Please list the state where you currently work.

Appendix B

Final Survey A

Elements of Effective Teachers' Lesson Planning

Part 1

DIRECTIONS: **Based on your knowledge and experience, please respond to the following questions regarding Lesson Planning by rank ordering.**

ELEMENTS OF LESSON PLANNING

Based on your knowledge and experience, please rank-order the following seven elements of lesson planning from 1-7 in the order you believe them to impact student achievement. 1=least impact and 7=greatest impact

_____ For lesson planning to effectively impact student learning it must identify clear learning objectives

_____ For lesson planning to effectively impact student learning it must create quality assignments that enhance student mastery of content.

_____ For lesson planning to effectively impact student learning it must create logically structured lessons.

_____ For lesson planning to effectively impact student learning it must contain a variety of instructional strategies.

_____ For lesson planning to effectively impact student learning it must consider the amount of time students spend engaged in the act of learning.

_____ For lesson planning to effectively impact student learning it must account for learning differences among students.

_____ For lesson planning to effectively impact student learning it must align content to developmentally appropriate skills.

ELEMENTS OF LESSON PLANNING IN PRACTICE

Which of the following lesson planning elements have you used in the past week during lesson planning? Select as many or as few as apply.

_____ Identifying clear learning objectives

_____ Planning quality assignments that enhance student mastery of content

_____ Planning logically structured lessons

_____ Planning a variety of instructional strategies

_____ Ensuring the amount of time students spend engaged in the act of learning is maximized.

_____ Accounting for learning differences among students

_____ Developing plans that align content to developmentally appropriate skills.

CLASSROOM ASSIGNMENTS

Based on your knowledge and experience, please rank-order the following eight items that can be considered when creating classroom assignments that you believe impact student achievement. Please use the following scale in rank ordering the items: 1=least impact and 8=greatest impact.

_____ Uses state curriculum in classroom assignments

_____ Uses adopted curriculum materials in classroom assignments

_____ Includes cross curricular assignments

_____ Includes real world connections to assignments

_____ Includes student control over assignments

_____ Uses sustained writing on assignments

_____ Includes depth of knowledge necessary to complete assignments

_____ Provides students with a performance standard and/or scoring guideline for assignments

CLASSROOM ASSIGNMENTS IN PRACTICE

Which of the following lesson planning elements have you used in the past week during lesson planning? Select as many as needed.

_____ Uses state curriculum in classroom assignments

_____ Uses adopted curriculum materials in classroom assignments

_____ Includes cross curricular assignments

_____ Includes real world connections to assignments

_____ Includes student control over assignments

_____ Uses sustained writing on assignments

_____ Includes depth of knowledge necessary to complete assignments

_____ Provides students with a performance standard and/or scoring guideline for assignments

LESSON STRUCTURE

Based on your knowledge and experience, please rank-order the following five items about lesson structure in the order you believe them to impact student achievement. Please use the following scale in rank ordering the items: 1=least impact and 5=greatest impact.

_____ Focusing attention on the sequence of a single lesson

_____ Focusing attention on the sequence of multiple lessons in a unit.

_____ Giving step-by step instructions

_____ Focusing attention on the sequence of questions to be asked by the teacher

_____ Aligning the learning objective, activity, and assessment

LESSON STRUCTURE IN PRACTICE

Which of the following lesson structure elements have you used in the past week during lesson planning? Select as many as needed.

_____ Focusing attention on the sequence of a single lesson

_____ Focusing attention on the sequence of multiple lessons in a unit.

_____ Giving step-by step instructions

_____ Focusing attention on the sequence of questions to be asked by the teacher

_____ Aligning the learning objective, activity, and assessment

Are there any other important aspects of lesson structure you use to impact student achievement?

Part 2

TYPE OF LESSON PLANS

For the following question, please choose the single most appropriate response.

Based on your experience which type of lesson planning do you use most prominently?

_____ I use written lesson plans

_____ I use no formal lesson plans

_____ I use a mental model for lesson plans

WRITTEN LESSON PLANS

Based on your experience using a written lesson plan, how often do you refer to your written lesson plan during the course of a day?

I refer to my written lesson plans _____ times per day.

_____

Part 3

DEMOGRAPHIC INFORMATION

Which of the following best describes the school in which you currently work?

_____ Elementary School

_____ Middle School

_____ High School

_____ Other _____

Please indicate the primary content area(s) in which you teach.

_____ Language Arts

_____ Mathematics

_____ Science

_____ Social Studies

_____ Other _____

Please indicate your gender.

_____ Female

_____ Male

_____ Other _____

Please indicate the total number of years that you have taught.

_____ less than 3 years

_____ 3-5 years

_____ 6-10 years

_____ 11-20 years

_____ 20 + years

Which of the following best describes the setting of the school where you currently work?

_____ Rural

_____ Suburban

_____ Urban

Please list the state where you currently work.

Appendix C

Final Survey B

Elements of Effective Teachers' Lesson Planning

Part 1

DIRECTIONS: Based on your knowledge and experience, please respond to the following questions regarding Lesson Planning by rank ordering.

ELEMENTS OF LESSON PLANNING IN PRACTICE

Which of the following lesson planning elements have you used in the past week during lesson planning? Select as many or as few as apply.

_____ Identifying clear learning objectives

_____ Planning quality assignments that enhance student mastery of content

_____ Planning logically structured lessons

_____ Planning a variety of instructional strategies

_____ Ensuring the amount of time students spend engaged in the act of learning is maximized.

_____ Accounting for learning differences among students

_____ Developing plans that align content to developmentally appropriate skills.

ELEMENTS OF LESSON PLANNING

Based on your knowledge and experience, please rank-order the following seven elements of lesson planning from 1-7 in the order you believe them to impact student achievement. 1=least impact and 7=greatest impact

_____ For lesson planning to effectively impact student learning it must identify clear learning objectives

_____ For lesson planning to effectively impact student learning it must create quality assignments that enhance student mastery of content.

_____ For lesson planning to effectively impact student learning it must create logically structured lessons.

_____ For lesson planning to effectively impact student learning it must contain a variety of instructional strategies.

_____ For lesson planning to effectively impact student learning it must consider the amount of time students spend engaged in the act of learning.

_____ For lesson planning to effectively impact student learning it must account for learning differences among students.

_____ For lesson planning to effectively impact student learning it must align content to developmentally appropriate skills.

CLASSROOM ASSIGNMENTS IN PRACTICE

Which of the following lesson planning elements have you used in the past week during lesson planning? Select as many as needed.

_____ Uses state curriculum in classroom assignments

_____ Uses adopted curriculum materials in classroom assignments

_____ Includes cross curricular assignments

_____ Includes real world connections to assignments

_____ Includes student control over assignments

_____ Uses sustained writing on assignments

_____ Includes depth of knowledge necessary to complete assignments

_____ Provides students with a performance standard and/or scoring guideline for assignments

CLASSROOM ASSIGNMENTS

Based on your knowledge and experience, please rank-order the following eight items that can be considered when creating classroom assignments that you believe impact student achievement. Please use the following scale in rank ordering the items: 1=least impact and 8=greatest impact.

_____ Uses state curriculum in classroom assignments

_____ Uses adopted curriculum materials in classroom assignments

_____ Includes cross curricular assignments

_____ Includes real world connections to assignments

_____ Includes student control over assignments

_____ Uses sustained writing on assignments

_____ Includes depth of knowledge necessary to complete assignments

_____ Provides students with a performance standard and/or scoring guideline for assignments

LESSON STRUCTURE IN PRACTICE

Which of the following lesson structure elements have you used in the past week during lesson planning? Select as many as needed.

_____ Focusing attention on the sequence of a single lesson

_____ Focusing attention on the sequence of multiple lessons in a unit.

_____ Giving step-by step instructions

_____ Focusing attention on the sequence of questions to be asked by the teacher

_____ Aligning the learning objective, activity, and assessment

LESSON STRUCTURE

Based on your knowledge and experience, please rank-order the following five items about lesson structure in the order you believe them to impact student achievement. Please use the following scale in rank ordering the items: 1=least impact and 5=greatest impact.

_____ Focusing attention on the sequence of a single lesson

_____ Focusing attention on the sequence of multiple lessons in a unit.

_____ Giving step-by step instructions

_____ Focusing attention on the sequence of questions to be asked by the teacher

_____ Aligning the learning objective, activity, and assessment

Part 2

TYPE OF LESSON PLANS

For the following question, please choose the single most appropriate response.

Based on your experience which type of lesson planning do you use most prominently?

_____ I use written lesson plans

_____ I use no formal lesson plans

_____ I use a mental model for lesson plans

WRITTEN LESSON PLANS

Based on your experience using a written lesson plan, how often do you refer to your written lesson plan during the course of a day?

I refer to my written lesson plans _____ times per day.

Part 3

DEMOGRAPHIC INFORMATION

Which of the following best describes the school in which you currently work?

_____ Elementary School

_____ Middle School

_____ High School

_____ Other _____

Please indicate the primary content area(s) in which you teach.

_____ Language Arts

_____ Mathematics

_____ Science

_____ Social Studies

_____ Other _____

Please indicate your gender.

_____ Female

_____ Male

_____ Other _____

Please indicate the total number of years that you have taught.

_____ less than 3 years

_____ 3-5 years

_____ 6-10 years

_____ 11-20 years

_____ 20 + years

Which of the following best describes the setting of the school where you currently work?

_____ Rural

_____ Suburban

_____ Urban

Please list the state where you currently work.

Appendix D

Regions of the United States

Four Regions of the United States

REGION I: NORTHEAST

Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont
New Jersey
New York
Pennsylvania

REGION 2: MIDWEST

Illinois
Indiana
Michigan
Ohio
Wisconsin
Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

REGION 3: SOUTH

Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia
Alabama
Kentucky
Mississippi
Tennessee
Arkansas
Louisiana
Oklahoma
Texas

REGION 4: WEST

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming
Alaska
California
Hawaii
Oregon
Washington

College of William and Mary Dissertation Study: Thank you for reading this email!

My name is Jessica Straessle and I am a former teacher, Navy spouse, and a doctoral student in the Education Policy, Planning, and Leadership program at the College of William and Mary in Virginia.

To collect data for my dissertation, I have created a short on-line survey entitled, "Elements of Effective Teachers' Lesson Planning." This survey asks participants to rank elements of lesson planning against one another in terms of their impact on student achievement. Additionally, as a participant, you will be asked for information regarding your own lesson planning techniques.

Click the link at the top of the page to begin the survey

The survey will take approximately 10-15 minutes to complete. Once you click on the link to begin the survey, the first page you will see is the Consent Agreement that describes the study and its ethical safeguards.

If you would like a copy of the results from this study, send an email to jmstra@email.wm.edu with "survey results" in the subject line. Once I have compiled all of the information, I will gladly send you a summary.

Why were you selected to participate in this study?

I have employed the services of a school internet company that assists with online surveys. From the list of teachers throughout the U.S., you were randomly selected you as a participant.

As an educator, spouse, and student, I know how valuable time can be. That is why I have designed the survey to be brief, and I sincerely hope you will take just a couple minutes to complete the survey. In advance, let me thank you so much for taking the time to help me by taking my dissertation survey!

Appendix F

Participant Consent

<u>Consent for Participation</u>

Please read the following Consent Agreement and then click the "I consent" option to give your consent to participate. Then press the Next button to take you to the survey.

I agree to participate in a dissertation study investigating the perceptions of K-12 teachers regarding the elements of effective lesson planning. The purpose of this study is to determine which elements of lesson planning participants believe have the greatest impact on student achievement. I understand that my selection to participate in the study is the result of a random selection process conducted by a third party whose involvement is limited solely to selecting and distributing information to potential participants. I understand that the researcher is conducting this study to fulfill the requirements of a doctoral program in Educational Policy, Planning, and Leadership at the College of William and Mary in Williamsburg, VA.

As a participant, I understand that my involvement in the study is limited exclusively to taking an on-line survey. I understand that the survey requires the ranking of qualities against one another that are identified in the literature as those that are effective elements of lesson planning. I understand that the other questions asked are multiple choice and pertain to what happens during my own lesson planning. As a participant in the study, I will provide relevant demographic information used in the study to answer research questions. I understand that none of the information collected will be used to reveal my identity as a participant or to link my responses with my identity.

The survey is comprised of 3 rank-order items, 4 multiple choice items, and one open-ended item. It should take you approximately 10-15 minutes to complete. I further understand that I may request a copy of the study's results from the research by sending an email to jmstra@email.wm.edu.

I understand that there may be minimal psychological discomfort directly involved with this research. Further, I understand that I do not have to answer every question asked of me, and I am free to withdraw my consent and discontinue participation in this study at any time by simply discontinuing the survey. If I have any questions or problems that arise in connection with my participation in this study, you should contact Dr. James Stronge, the project chair at 757-221-2339 or jhstro@wm.edu. If I have any ethical concerns with the conduct of the study, you should contact Dr. Ray McCoy, the chair of the Protection of Human Subjects Committee at the College of William and Mary at 757-221-2783 or rwmcco@wm.edu.

By taking the survey, I verify that I am at least 18 years of age, that I have received a copy of this consent form, and that I consent to participate in this study and the tasks outlined above

References

Aaronson, D., Barrow, L., & Sander, W. (2007). Teachers and student achievement in the

Chicago public high schools. *Journal of Labor Economics, 25*(1), 95-135.

Alexander, R. (2000). *Culture and Pedagogy: International Comparisons in Primary*

Education. Oxford: Blackwell.

Allington, R. L., & Johnston, P. H. (2000). *What do we know about effective fourth-grade*

teachers and their classrooms? Albany, NY: The National Research Center on

English Leaning & Achievement, State University of New York.

Ascher, C., & Frucher, N. (2001). Teacher quality and student performance in New York

City's Low performing schools. *Journal of Education for Students Placed at Risk,*

6, 199–214.

Bain, H. P. & Jacobs, R. (1990). The case for smaller classes and better teachers.

Streamlined Seminar—National Association of Elementary School Principals,

9(1).

Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems*

come out on top. London: McKinsey & Company. Retrieved February 10, 2012,

from http://www.mckinsey.com/locations/ukireland/publications/pdf/

Education_report.pdf.

Berliner, D. C. (1986). In pursuit of the expert pedagogue. *Educational Researcher,*

15(7), 5-13.

Berliner, D. C. (2004). Describing the behavior and documenting the accomplishments of

expert teacher. *Bulletin of Science, Technology and Society, 24,* 200-212.

207

Borko, H., &Livingston, C. (1989). Cognition and improvisation: Differences in mathematics instruction by expert and novice teachers. *American Educational Research Journal, 26*(4), 473-498.

Borman, G. D., & Kimbal, S. M. (2005). Teacher quality and educational equality: Do teachers with higher standards-based evaluation ratings close student achievement gaps? *Elementary School Journal, 106*(1), 3-20.

Brookhard, S. M., & Loadman, W. E. (1992). Teacher assessment and validity: What do we want to know? *Journal of Personnel Evaluation in Education, 5,* 347-357.

Brophy, J. E. (1979). Advances in teacher effectiveness research. *Journal of Classroom Interaction,* 15(1), 17-24.

Brophy, J., & Good, T. L. (1986). Teacher behavior and student achievement. In M. Wittrock (Ed.), *Handbook of Research on Teaching* (3rd ed.) (pp. 328-375). New York: Macmillan.

Brown, D. S. (1988). Twelve middle-school teachers' planning. *The Elementary School Journal,* 89(1), 69-87. Retrieved from the JSTOR database.

Bruner, J. (2000). Reading for possible worlds. *National Reading Conference Yearbook,* 49, 31-40.

Burden, P., & Byrd, D. (2003). *Methods of effective teaching* (3rd ed.). Boston: Allyn and Bacon.

Cameron, C. E., Connor, C. M., & Morrison, F. J. (2005). Effects of variation in teacher organization on classroom functioning. *Journal of School Psychology, 43,* 61-85. doi:10.1016/j.jsp.2004.12.002

Cameron, C. E., Connor, C. M., & Morrison, F. J., & Jewkes, A. M. (2008). Effects of

classroom organization on letter-word reading in first grade. *Journal of School

Psychology, 46*, 173-192. doi:10.1016/j.jsp.2007.03.002

CCSSO (2013, April). *InTASC model core teaching standards and learning

progressions for teachers 1.0*. Retrieved from

http://www.ccsso.org/Resources/Publications/InTASC_Model_Core_Teaching_St

andards_and_Learning_Progressions_for_Teachers_10.html

Chard, D. J. (2004). Toward a science of professional development in early reading

instruction. *Exceptionality*, 12, 175–191.

Clare, L. (2001). Exploring the technical quality of using assignments and student work

as indicators of classroom practice. *Educational Assessment*, 7(1), 39-59.

Clark, C. M. & Peterson, P. M. (1986). Teachers' thought processes. In M. Wittrock

(Ed.) *Handbook of Research on Teaching* (3rd ed.) (pp. 255-296). New York:

Macmillan.

Clark, C. M., & Yinger, R. J. (1987). Teacher planning. In J. Calderhead (Ed.),

Exploring teachers' thinking (p. 84-103). London: Cassell.

Clark, C. M, & Yinger, R. J. (1979). *Three studies of teacher planning* (Research Series

No. 55). East Lansing: Michigan State University, Institute for Research on

Teaching.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfield,

F. D., et al. (1966). *Equality of educational opportunity*. Washington, DC: U. S.

Government Printing Office.

Costa, A. L. (2001). Habits of mind. In A. L. Costa (Ed.), *Developing Minds: A Resource Book for Teaching Thinking (pp.80-86)*. Alexandria, VA: Association for Supervision and Curriculum Development.

Danielson, C. (2007). *Enhancing professional practice: A framework for teaching (2nd edition)*. Alexandria, VA: Association for Supervision and Curriculum Development.

Danielson, C., & McGreal, T. L. (2000). *Teacher evaluation to enhance professional practice*. Alexandria, VA: Association for the Supervision and Curriculum Development.

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*, 8(1).

Darling-Hammond, L. & Youngs, P. (2002). Defining "highly qualified teachers": What does "scientifically-based research" actually tell us? *Educational Researcher*, 31(9), 13-25. Retrieved October 25, 2010 from the JSTOR database.

Davis, G. A. & Thomas, M. A. (1989). *Effective schools and effective teachers*. Boston, MA: Allyn & Bacon.

Ding, C., & Sherman, H. (2006). Teaching effectiveness and student achievement: Examining the relationship. *Educational Research Quarterly*, 29(4), 40-51. Retrieved October 25, 2010 from the Education Research Complete database.

DiPaola, M. F., & Hoy, W. K. (2008). *Principals improving instruction: Supervision, evaluation, and professional development*. Boston: Pearson Education, Inc.

Egan, K. (1997). *The educated mind: How cognitive tools shape our understanding.* Chicago: University of Chicago Press.

Egan, K. (2005). *An imaginative approach to teaching.* San Francisco: Jossey-Bass.

Emmer, E. T., Evertson, C. M., & Anderson, L. M. (1980). Effective classroom management at the beginning of the school year. *The Elementary School Journal,* 80(5), 219-231.

Feldon, D. F. (2007). Cognitive load and classroom teaching: The double-edged sword of automaticity. *Educational Psychologist,* 42(3), 123-137.

Frudden, S. J. (1984). Lesson plans can make a difference in evaluating teachers. *Education, 104*(4), 351-353. Retrieved November 15, 2010 from the Education Research Complete database.

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research: An introduction (8th ed.).* Boston, MA: Pearson.

Games, P. A., & Howell, J. F. (1976). Pairwise multiple comparison procedures with unequal *n*'s and/or variances: A Monte Carlo study. *Journal of Educational Statistics, 1,* 113-125.

Gareis, C. R. (2007). Instructional planning: Using teaching models as frameworks for instructional strategies.

Goldhaber, D., (2002). The mystery of good teaching: Surveying the evidence on student achievement and teachers' characteristics. *Education Next,* 2 (1). Retrieved February 29, 2012 from http://educationnext.org/the-mystery-of-good-teaching/

Goldin, C. & Katz, L. F. (2008). *The Race Between Education and Technology*. Cambridge, MA: The Belknap Press of Harvard University Press.

Good, T. L. & Brophy, J. E. (2004). *Looking in classrooms*. New York, NY: Harper & Rowe.

Gravetter, F. J. & Wallnau, L. B. (2008). *Essentials of statistics for the behavioral sciences (6th ed.)*. Belmont, CA: Thomson Wadsworth.

Halverson, R., Kelly, C., & Kimball, S. (2004). How principals make sense of complex artifacts to shape local instructional practice. In W. K. Hoy & C. G. Miskel (Eds.), Educational administration, policy, and reform: Research and measurement (pp. 153-188). Greenwich, CT: George F. Johnson.

Hanushek, E. A., Kain, J. F., O'Brien, D. M., & Rivkin, S. G. (2005). *The market for teacher quality* (Working Paper #11154). Cambridge, MA: National Bureau of Economic Research. Retrieved February 8, 2012 from http://www.nber.org/papers/w11154.

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to student achievement*. New York: Routledge.

Hattie, J. (2003). *Teachers make a difference: What is the research evidence?* Retrieved February, 14 2012 from http://www.leadspace.govt.nz/leadership/pdf/john_hattie.pdf.

Haycock, K. (1998). Good teaching matters: How well-qualified teachers can close the gap. *Magazine of History*, 13(1), 61–63.

Hershberg, T. & Robertson-Kraft, C. (2010). *Maximizing the opportunity provided by race to the top. Perspectives on Urban Education*, 7(1), 128-131. Retrieved February 18, 2011 from the Education Research Complete database.

Hill, H. C. (2009). Evaluating value-added models: A validity argument approach. *Journal of Policy Analysis & Management*, 28(4), 700-709.

Hunter, M. (1979). Teaching is decision making. *Educational Leadership*, 37(1), 62-67.

Jackson, A. W., & Davis, G. A. (2000). *Turning points 2000: Educating adolescents in the 21st century*. New York: Teachers College Press.

Jalongo, R., Rieg, S. A., & Helterbran, V. R. (2007). *Planning for learning: Collaborative approaches to lesson design and review*. New York: Teachers College Press.

Jasper, B. A. (1986). *An investigation of the differences in antecedents to planning and lesson plans between identified effective and ineffective teachers* (Unpublished doctoral dissertation). The University of Texas at Austin, Austin, TX.

Jencks, C., Smith, M., Acland, H., Bane, M. J., Cohen, D., Gintis, H., Heyns, B., & Michelson, S. (1972). *Inequality: A reassessment of the effect of family and schooling in America*. New York: Basic Books.

John, P. D. (2006). Lesson planning and the student teacher: Re-thinking the dominant model. *Journal of Curriculum Studies*, 38(4), 483-498. Retrieved January 15, 2011 from the Education Research Complete database.

Johnson, B. L. (1997). An organizational analysis of multiple perspectives of effective teaching: Implications for teacher evaluation. *Journal of Personnel Evaluation in Education*, 11, 69-87.

Johnson-Leslie, N. A. (2007). Effective vs. ineffective teachers educating our children:

A content analysis. *International Journal of Learning*, 13(9), 132-142. Retrieved

July 6, 2012 from the Education Research Complete database.

Jones, K. A., Jones, J. L., & Vermette, P. J. (2011). Six common lesson planning pitfalls:

Recommendations for novice educators. *Education*, 131(4), 845-864.

Joyce, B. R., Weil, M., & Calhoun, E. (2004). *Models of Teaching* (7th ed.). Boston:

Allyn and Bacon.

Kagan Publications. 1999. *Higher-level Thinking Questions*. San Clemente, CA: Kagan.

Kagan, D. M. & Tippins, D. J. (1992). The evolution of functional lesson plans among

twelve elementary and secondary student teachers. *The Elementary School*

Journal, 92(4), 477-489. Retrieved November 10, 2010 from the Education

Research Complete database.

Korkmaz, I. (2009). The examination of elementary teachers' effectiveness on using

questioning strategies in their classrooms. *The International Journal of Learning*,

16(6), 513-522. Retrieved February 3, 2014 from Education Research Complete

Database.

Korkmaz, O. & Yesil, R. (2010). A comparison of different teaching applications based

on questioning in terms of their effects upon pre-service teachers' good

questioning skills. *College Student Journal*, 44(4), 1006-1020. Retrieved

February 3, 2014 from Education Research Complete Database.

Kauchak, D.P. & Eggen P.D. (1998). *Learning and teaching: Research based method*.

Boston: A Viacom Company.

Ko, E. K. (2012). What is your objective?: Preservice teachers' views and practice of

instructional planning. *The International Journal of Learning*, 18(7), 89-100.

Retrieved May 14, 2013 from the Education Research Complete database.

Koh, K. & Luke, A. (2009). Authentic and conventional assessment in Singapore

schools: An empirical study of teacher assignments and student work.

Assessment in Education: Principles, Policy & Practice, 16(3), 291-318.

Retrieved July 6, 2012 from Education Research Complete database.

Koeller, S. & Thomspon, E. (1980). Another look at lesson planning. *Educational

Leadership*, 37(8), 673-675.

Kracl, C. L. (2012). Review or true? Using higher-level thinking questions in social

studies instruction. *The Social Studies*, 103, 57-60.

Kupermintz, H. (2003). Teacher effects and teacher effectiveness: A validity

investigation of the Tennessee value added assessment system. *Educational

Evaluation & Policy Analysis*, 25(3), 287-298. Retrieved October 28, 2010 from

The JSTOR database.

Lambert, G. E. (1988). Lesson planning and the experienced teacher. *OCSS Review*,

24(1), 52 58. Retrieved from ERIC database.

Leinhardt, G. & Greeno, J. G. (1986). The cognitive kill of teaching. *Journal of

Educational Psychology*, 78(2), 75-95.

Marshall, B. (2012). Teacher lesson planning: Superficial or deep? *Teaching Young

Children*, 6(2), 24-26.

Marzano, R. J. (2007). *The art and science of teaching: A comprehensive framework for effective instruction.* Alexandria, VA: Association for Supervision and Curriculum Development.

Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement.* Alexandria, VA: Association for Supervision and Curriculum Development.

McCutcheon, G. & Miner, H. R. (2002). A contemporary study of teacher planning in a high school English class. *Teachers and Teaching: theory and practice*, 8(1), 81-94.

McCutcheon, G. (1980). How do elementary school teachers plan? The nature of planning and influences on it. *The Elementary School Journal*, 81(1), 4-23.

McEwan, E. K. (2002) *10 traits of highly effective teachers.* Thousand Oaks, CA: Corwin Press, Inc.

Mertzman, T., Vierk, J., Kildahl, T., Wintheiser, J., Hung, Y., and Goldstein, A. (2007). Improving teachers' scaffolding choices. *International Journal of Learning*, 13(11), 7-15.

Meyer, R. H. (1996). Value-added indicators of school performance. In E. Hanushek, & D. Jorgenson (Eds.), *Improving America's Schools: The Role of Incentives* (pp.197-223). Retrieved from http://site.ebrary.com.proxy.wm.edu/lib/williamandmary/docDetail.action?docID=10041154

Milanowski, A. (2004). The relationship between teacher performance evaluation scores and student achievement: Evidence from Cincinnati. *Peabody Journal of Education*, 79(4), 33-53.

Miller, G.R. (2007). *Engaging diverse learners in historical thinking*. Lynch Graduate School of Education, UMI Microform 3268509.

Mintz, S. L. & Yarger, S. J. (1980). *Conceptual level and teachers' written plans*. Paper presented at the annual meeting of the American Educational Research Association Boston, MA April, 1980.

Mitra, A., Jain-Shukla, P., Robbins, A., Champion, H. & Durant, R. (2008). Differences in Rate of Response to Web-Based Surveys Among College Students. *International Journal on E-Learning, 7*(2), 265-281. Chesapeake, VA: AACE.

Mohan, M. & Hull, R. E. (1975). *Teaching effectiveness: Its meaning, assessment, and improvement*. Englewood Cliffs, NJ: Educational Technology Publications.

Morine, G. (1976). *A study of teacher planning*. BTES Technical Report 75-11-6. San Francisco, CA: Far West Laboratory for Educational Research and Development.

Morine-Dershimer, G. (1978-1979). Planning in classroom reality an in-depth look. *Educational Research Quarterly*, 3(4), 83-99.

National Board for Professional Teaching Standards (2012). *Early childhood generalist standards*. Retrieved from http://www.nbpts.org/generalist-ec

The National Commission on Excellence in Education. (1983). A nation at risk: The imperative for educational reform. Retrieved from datacenter.spps.org/uploads/sotw_a_nation_at_risk_1983.pdf

Newton, X. A., Darling-Hammond, L., Haertel, E., & Thomas, E. (2010). Value-added modeling of teacher effectiveness: An exploration of stability across models and contexts. *Education Policy Analysis Archives, 18*(23), 1-23. Retrieved November 21, 2010 from the Education Research Complete database.

Nuthall, G. (2005). The cultural myths and realities of classroom teaching and learning:

A personal journey. *Teachers College Record*, 107(5), 895-934.

Nye, B., Konstantopolulos, S., & Hedges, L. V. (2004). How large are teacher effects?

Educational Evaluation and Policy Analysis, 26(3), 237-257.

Odden, A., Borman, G., & Fermanich, M. (2004). Assessing teacher, classroom, and

school effects, including fiscal effects. *Peabody Journal of Education*, 79(4), 4-

32.

OECD. (2010). *Strong performers and successful reformers in education: Lessons from

PISA for the United States*. Retrieved from February 17, 2012 from

http://www.oecdilibrary.org/education/lessons-from-pisa-for-the-united-

states_9789264096660-en

Orlich, D., Harder, R., Callahan, R., Trevisan, M., & Brown, A. (2004). *Teaching

strategies: A guide to effective instruction* (7ᵗʰ ed.). Boston: Houghton Mifflin.

Ornstein, A. C. & Hunkins, F. P. (2009). *Curriculum: Foundations, principles, and

issues (5ᵗʰ ed.)*. Boston: Pearson.

Ornstein, A. C. & Lasley, T. J. (2004). *Strategies for Effective Teaching* (3ʳᵈ ed.).

Boston: McGraw Hill.

Panasuk, R., Stone, W., & Todd, J. (2002). Lesson planning strategy for effective

mathematics teaching. *Education*, 122(4), 808-827. Retrieved November 13, 2010

from the Education Research Complete database.

Panasuk, R. M., & Todd, J. (2005). Effectiveness of lesson planning: Factor analysis.

Journal of Instructional Psychology, 32(2). Retrieved November 13, 2010 from

the Education Research Complete database.

Peterson, P. L., Marx, R. W., & Clark C. M. (1978). Teacher planning, teacher behavior, and student achievement. *American Educational Research Association,* 15(3), 417-432. Retrieved January 26, 2011 from JSTOR.

Peterson, P. L. & Clark, C. M. (1978). Teachers' reports of their cognitive processes during teaching. *American Educational Research Journal,* 15(4), 555-565. Retrieved November 14, 2011 from JSTOR.

Polk, J. A. (2006). Traits of effective teachers. *Arts Education Policy Review,* 107(4), 23-29.

Popham, W. J. & Baker, E. L. (1970). *Systematic instruction.* Englewood Cliffs, NJ: Prentice-Hall.

Porter, A. C. & Brophy, J. (1988). Synthesis of research on good teaching: Insights from the work of the institute for research on teaching. *Educational Leadership,* 45(8), 74-85.

Pressley, M., Wharton-McDonald, R., Allington, R., Block, C. C., & Morrow, L. (1988). *The nature of effective first-grade literacy instruction* (Report No. CELA-R-11007). Albany, NY: National Research Center on English Learning and Achievement.

Rosenshine, B. V. (1986). Synthesis of research on explicit teaching. *Educational Leadership,* 43(7), 60-69.

Rossman, G. B. & Rallis, S. F. (2003). *Learning in the field: An introduction to qualitative research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Sanchez, G., & Valcarcel, M. V. (1999). Science teachers' views and practices in planning for teaching. *Journal of Research in Science Teaching,* 36(4), 493-513.

Sanders, W. L., Wright, S. P., & Langevin, W. E. (2008). *Do teacher effect estimates persist when teachers move to schools with different socioeconomic environments?* (R30SA06034). Nashville, TN: National Center on Performance Incentives Vanderbilt Peabody College. Retrieved February 8, 2012 from https://my.vanderbilt.edu/performanceincentives/ncpi-publications/outcomes-for-students-and-teachers/incentive-pay-and-the-teacher-workforce/do-teacher-effect-estimates-persist-when-teachers-move-to-schools-with-different-socioeconomic-environments/

Shimizu, Y. (2008). Exploring Japanese teachers' conception of mathematics lesson structure: similarities and differences between pre-service and in-service teachers' lesson plans. *Mathematics Education*, 40, 941-950.

Smith, J. K. (1977). *Teacher planning for instruction* (Report No. 12). St. Ann, MO: Central Midwestern Regional Educational Lab. (ERIC Document Reproduction Service No. ED 155 156).

Stronge, J. H. (2007). *Qualities of effective teachers* (2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Stronge, J. H. (2002). *Qualities of effective teachers*. Alexandria, VA: Association for Supervision and Curriculum Development.

Stronge, J. H., Ward, T. J., & Grant, L. W. (2011). What makes good teachers good? A cross case analysis of the connection between teacher effectiveness and student achievement. *Journal of Teacher Education*, 62 (4), 339-355.

Stronge, J. H., Ward, T. J., Tucker, P. D., & Hindman, J. L. (2007). What is the relationship between teacher quality and student achievement? An exploratory

United States Department of Education. (2009). Race to the top program executive

summary, Retrieved February 18, 2011 from

http://www.ed.gov/programs/racetothetop/executivesummary.pdf.

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1993a). Toward a knowledge base for

school learning. *Review of Educational Research*, 63(3), 249-294. Retrieved

April 6, 2012 from JSTOR database.

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1993b). What helps students learn?

Educational Leadership 51(4), 74-79.

Wharton-McDonald, R., Pressley, M., & Hampston, J. M. (1988). Literacy instruction in

nine first-grade classrooms: Teacher characteristics and student achievement.

The Elementary School Journal, 99(2), 101-128.

Wilen, W. W. (2001). Exploring myths about teacher questioning in the social studies

classroom. *The Social Studies*, 92(1), 26-32.

Willen, W. (1990). *Teaching and learning through discussion*. Springfield, IL: Charles

C Thomas.

Wright, S. P., Horn, S. P., & Sanders, W. L. (1997). Teacher and classroom context

effects on student achievement: Implications for teacher evaluation. *Journal of

Personnel Evaluation in Education*, 11, 57-67.

Yinger, R. J. (1980). A study of teacher planning. *The Elementary School Journal*,

80(3), 107-127. Retrieved January 15, 2011 from the Education Research

Complete database.

Yinger, R. J. (1979). Routines in teacher planning. *Theory into Practice*, 18(3), 163-169.

Retrieved January 15, 2011 from the Education Research Complete database.

Zahorik, J. A. (1970). The effect of planning on teaching. *The Elementary School Journal, 71*(3), 143-151. Retrieved January 26, 2011 from JSTOR.

Zahorik, J. A. (1975). Teachers' planning models. *Educational Leadership, 33*, 134-139.

Zahorik, J., Halbach, A., Ehrle, K., & Molnar, A. (2003, September). Teaching practices for smaller classes. *Educational Leadership, 61*(1), 75-77. Retrieved November 21, 2010 from the Education Research Complete database.

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