TEACHERS AND EVIDENCE-BASED PRACTICES

by

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A Dissertation Submitted to the Graduate Faculty of George Mason University in Partial Fulfillment of The Requirements for the Degree of Doctor of Philosophy Education

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Teachers and Evidence-Based Practices

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DEDICATION

This dissertation is dedicated to my father, George G. Black, who would have been so proud to add this accomplishment to the list.
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ABSTRACT

TEACHERS AND EVIDENCE-BASED PRACTICES

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The discrepancy between the findings in research and the practices in the classroom is referred to as the research to practice gap. The research to practice gap has existed for many years in education and despite efforts to identify and bridge the gap, the gap continues to exist. Federal legislation, such as the No Child Left Behind Act of 2001 (NCLB), also referred to as The Elementary and Secondary Education Act (ESEA), and the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA), attempts to reduce the research to practice gap by mandating that educators implement evidence-based practices during the instructional day. The purpose of this study was to gather data from a randomly selected national sample of general education and special education teachers to better comprehend general and special education teachers' understanding and use of evidence-based practices during the instructional day. Using Internet-based survey research and follow-up interviews, general education and special education teachers across the United States were asked to respond to survey items regarding their sources of
knowledge of evidence-based practices, their perceived use of evidence-based practices during the instructional day, and what they consider to be barriers to the implementation of evidence-based practices. The survey contained 42 items, subdivided into three scales that included both multiple choice and open-ended items that generated both quantitative and qualitative data. Internal reliability coefficients were significant. In addition, all respondents were asked if they would agree to a follow-up interview to provide additional in-depth information on evidence-based practices. A smaller sample who agreed was interviewed and those qualitative data were used to corroborate survey findings. The major findings of this study revealed the following: (a) no statistical differences between general education and special education teachers’ sources of knowledge and understanding, perceptions of use, and reported barriers or challenges regarding evidence-based practices; (b) while general education and special education teachers equally reported confidence in their knowledge and skills to implement evidence-based practices, when asked to provide their own definition of evidence-based practices those definitions were overwhelming rated lower than expected; and (c) both general and special education teachers appeared dependent on the context of the local school district and their own school for accessing information regarding evidence-based practices. Findings are discussed in terms of educational implications, limitations, and future research.
1. INTRODUCTION

Schools in the United States have been subject to recent reform initiatives with an increasing emphasis on high achievement for all students. The two main bodies of federal legislation, the No Child Left Behind Act of 2001 (NCLB), also referred to by its founding title, the Elementary and Secondary Education Act (ESEA), and the Individuals with Disabilities Education Improvement Act of 2004 (IDEIA), currently mandate that all public school students participate in high stakes assessments so that all students can demonstrate appropriate grade-level mastery of curriculum objectives in the areas of reading and mathematics by the year 2014 (Dworkin, 2005). In order to achieve such an ambitious goal, both bodies of legislation also addressed the behaviors of the classroom teachers by requiring the implementation of scientifically based and research-based instructional practices, respectively (Jones, 2009; Odom, Brantlinger, Gersten, Horner, Thompson, & Harris, 2005; Ysseldyke & Burns, 2009). In short, the federal regulations governing the funding allocations for public schools across the United States are requiring that schools look toward science and research to guide the decision making process when determining instructional programs and teaching methodologies.

As a result, the state of education in the United States is currently operating under what is often referred to as the “Age of Accountability” (Case, 2005). In regards to specific requirements in NCLB, schools are expected to transform themselves into
standards-based institutions in efforts to drive data-based decision making in regards to student learning and assessment (Linn, Baker, & Betebenner, 2002). Systematically, schools are to refer high quality research in order to determine the best practices for teaching various classroom learners. As reported by Simonsen, Fairbanks, Briesch, Myers, and Sugai (2008), educators who follow current regulatory requirements are directed to identify and implement scientifically-validated practices.

As school systems have attempted to understand the impact of reauthorized federal regulations, they require teachers to make decision based on the best available research knowledge (Boardman, Aguelles, Vaughn, Hughes, & Klinger, 2005). Policy makers and research scholars have shifted focus in order to comply with federal regulations and align themselves in support of public schools. However, there is prevailing literature that addressed the disproportional application of the findings of scientific research on effective educational practices as evidenced by observing the practices in schools and classrooms (Cook, Smith, & Tankersley, 2012; Porter & McMaken, 2009). The passage of NCLB in 2001, followed by the reauthorization of IDEIA in 2004 brought the research to practice gap to a national policy issue (Spencer, Detrich, & Slocum, 2012). The regulatory requirement to implement identified evidence-based practices designed as a means to bridge the gap (Cook & Odom, 2013).

The first, and arguably most difficult, task for stakeholders has been to interpret the federal regulations (Linn et al., 2002) and agree on a working definition of two key terms: scientifically based research and research-based practices. Clearly, operationalizing each term is required to inform practice. However, the debate has been
complicated by different stakeholders bringing with them specific areas of expertise and professional biases. As a result, the field of education has determined that embracing a third term is more appropriate and accurate for the process of determining consistently successful strategies for teaching students (Cook & Cook, 2011). The term, “evidence-based practices,” has emerged in the literature as scholars and practitioners have established that it better represents the quality standards agreed upon for determining consistently successful strategies for teaching students.

**Defining “Evidence-Based Practices”**

In support of the regulatory requirements, the federal government joined the discussion regarding “evidence-based practices” by providing a resource on the Internet (Burns & Ysseldyke, 2009) that is accessible to all stakeholders. The What Works Clearinghouse (WWC) website is designed “to provide educators, policymakers, researchers, and the public with a central and trusted source of scientific evidence about ‘what works’ in education” (http://ies.ed.gov/ncee/wwc/). The site probably maintains the most comprehensive and best known list of evidence-based practices (Cook & Odom, 2013). The home page of the WWC website states, “our goal is to provide educators with the information they need to make evidence-based decisions.” The website goes on to state that their “rigorous standards” allows for the identification of “high-quality research that provides evidence.” Yet, throughout the entire website, there is no standard definition of the term, “evidence-based practices.” Instead, practitioners have to make inferences by reviewing the criteria and descriptors provided throughout the site which explains how practices, products, and programs are evaluated in order to determine if
they can be considered an evidence-based practice or not. In addition, despite the reputable dearth of information the site is regarded for, until recently the WWC had not identify evidence-based practices appropriate for working with students with disabilities (Cook & Odom, 2013).

It is largely understood that the term, "evidence-based practices," simply refers to those instructional practices that have proven to result in positive outcomes for students. This simple explanation reveals the root to a much larger problem. Allowing various stakeholders to perform professional duties based on their own conceptions of which practices are proven to result in positive learning outcomes for students proposes a continuum that would be far too vast and would presumably not adhere to the intent of the federal legislation. If one incorporates the information provided by the WWC, they might add high-quality research and rigorous standards to their concept of evidence-based practices. Yet, even still, the interpretation is left to the consumer.

Due to mounting ambiguity, many scholars have agreed to increase efforts to identify the most effective practices (Cook et al., 2012). Specifically in the field of special education, determining the most effective practices requires identifying quality indicators in research methodology, which would result in a common understanding of research findings (Odom et al., 2005). The Division of Research at the Council for Exceptional Children, the largest international professional organization dedicated to students with special needs, embarked on the task of identifying quality indicators for single-subject and group experimental research designs. The quality indicators for identifying evidence-based practices were published in a special issue of *Exceptional Children* (EC) in 2005.
The purpose of the task was to identify how evidence from research could be used to understand how each methodology could inform effective practices in special education (Odom et al., 2005). Since the special issue of EC, various professional organizations and researchers have used the standards to develop independent standards (Cook & Odom, 2013). Examples include The National Professional Development Center on Autism Spectrum Disorders (http://autismpdc.fpg.unc.edu/) and The State Implementation and Scaling-up of Evidence-Based Practices Center (SISEP) (http://sisep.fpg.unc.edu/), which represent two centers funded by the U.S. Department of Education’s Office of Special Education Programs (OSEP).

Evidence-based practices also became integral to the implementation of Response to Intervention (RTI), a model for implementing instructional interventions to remediate academic skills deficits identified with learners. IDEIA 2004 articulated the use of RTI to identify students with learning disabilities under the condition that evidence-based practices were implemented in the instruction and assessment of individual students struggling in the classroom (Cook et al., 2012). RTI refers to a means of providing early intervention to students who are at risk for school failure (Fuchs & Fuchs, 2006). It is essentially a multi-tiered system of providing high-quality targeted evidence-based practices to students demonstrating academic deficits in the classroom. The system is based within a belief that many students who demonstrate academic deficits in the classroom do so because they have not received quality instruction. Therefore, when these struggling students are provided quality instruction using targeted evidence-based practices, the skills deficits will be remediated. If the students do not respond to the
evidence-based practices, then the students may, in fact, be students with a disability. In summary, RTI attempts to lower the incidents of students being found eligible for services as a student with a disability due to the lack of quality evidence-based instruction. In cyclical fashion, the pursuit of evidence-based practices must continue in efforts to support RTI, which is being implemented across the country. A very basic tenet of the RTI model is that struggling students will receive evidence-based practices (Danielson, Doolittle, & Bradley, 2007).

**Relevance of Study**

The field of education has been subject to many reform efforts throughout time. Educators who have been in the field for several years have likely experienced the requirement to implement instructional practices by claims of effectiveness only to find them later replaced by different instructional practices within a couple of years’ time (Boardman, 2005). Many times, teachers perceive instructional expectations pushed on them by legislators and school boards whose membership is absent of individuals with teaching certifications (Boardman, 2005). In addition, policy requirements are filtered down to teachers by so many administrative filters, that the message is often unclear or even inaccurate. As a consequence, teachers have become skeptical of the expectations for policy changes and required practices that are downloaded on to them by state departments and local school districts (Boardman et al., 2005).

The shifting pendulum of policy is only compounded by teachers’ views of scholarly research. Burns and Ysseldyke (2009) indicate that research is simply inaccessible to classroom teachers. Although improving instructional practices and
learning outcomes for students is typically the goal of educational research, findings are typically not written or published for an audience comprised of teachers, but rather fellow scholars and policy makers. Quality indicators require research to be characterized by meaningful quantitative statistical data (Odom et al., 2005). Many teachers simply do not read research studies and interpret quantitative data to make judgments of the findings in order to improve practices for their classroom. In addition, when teachers do read research studies, they often do not trust the claims made by the research literature (Carnine, 1997; Cook, Smith, & Tankersley, 2012; and Nelson, Leffler, & Hansen, 2009). Teachers often do not think that the students described in the research possess similar characteristics to those in their own classrooms or that the research conditions can be practically replicated in their own day-to-day reality. For example, research is often described as though it was conducted in a controlled clinic rather than a typical classroom.

The discrepancy between the findings in research and the practices in the classroom is referred to as the research to practice gap. It has been a constant reoccurring theme in special education (Cook & Odom, 2013; Cook, Smith, & Tankersley, 2012; Porter & McMaken, 2009). Even though the research to practice gap has existed for many years in education and despite efforts to identify and bridge the gap, there is little evidence that the gap has been “meaningfully reduced” (Cook & Odom, 2013). Public school teachers across the nation provide instruction to students every day. Although ultimately responsible for implementing instruction that aligns with policy, classroom teachers are typically left out of the process of developing and interpreting regulatory
requirements. Information based on research is often not accessed by teachers (Cook & Cook, 2004). Given the assumption that teachers are the conduit between positive practices evidenced in research and increased student learning outcomes, teachers must remain in focus when discussing the research to practice gap.

**Statement of the Problem**

The research to practice gap has been problematic in the field of special education for quite some time (Burns & Ysseldyke, 2009; Porter & McMaken, 2009; Richards & Skolits, 2009). In response to the research to practice gap, some scholars have recommended focusing in on the teachers themselves. In 2000, Gersten, Chard, and Baker stated that there had been no empirical research examining why teachers decide to continue or discontinue the use of an effective instructional practice. That statement was echoed years later by Boardman et al. (2005) who revealed that while conducting a review of literature, the authors were unable to locate actual studies which examined special education knowledge and perception of research. There were, and continue to be, many discussion papers regarding the topic. Many assert that in order to address the research to practice gap, it is important to look at teachers’ perceptions of research to better understand how classroom practices are selected and maintained (Boardman et al., 2005; Landrum et al., 2007). This, of course, would begin with examining the role of the teacher. However, despite the logic, very little empirical research has been conducted to examine why teachers decide to continue or discontinue the use of effective evidence-based practices (Boardman et al., 2005; Gersten, Chard, & Baker, 2000).
Purpose and Research Questions

The purpose of this study was to gather data to better comprehend general and special education teachers' understanding regarding the use of evidence-based practices during the instructional day. Information from teachers about their practice is important information to be obtained in order to inform the research to practice gap (Burns & Ysseldyke, 2009; McDaniel et al., 2010). It can be theorized that examining a teacher’s attitudes, beliefs, and behaviors might finally offer the effective means to address the research to practice gap by allowing researchers to tailor studies and findings so that they can be easily incorporated into a teacher’s daily routines. This research is intended to allow the researcher to examine trends in themes regarding teachers' understanding and attitudes and to report the findings in relationship to the research to practice gap.

The research questions for this study are as follows:

How do general education teachers’ sources of knowledge and understanding, perceptions of use, and reported barriers or challenges regarding evidence-based practices differ from special education teachers?

1.1 What are general education and special education teachers’ sources of knowledge understanding of evidence-based practices?

1.2 How do general education and special education teachers perceive their use of evidence-based practices during the instructional day?

1.3 What do general education and special education teachers report as barriers or challenges to implementing evidence-based practices during the instructional day?
Definition of Terms

Evidence-Based Practices. Instructional practices documented as effective based on high-quality empirical research.

Individuals with Disabilities Education Improvement Act of 2004 (IDEIA). The federal statute that governs the provision of services to school-aged children with disabilities. IDEIA aligned with its general education equivalent, No Child Left Behind, in 2004 by requiring that special education teachers are highly qualified and that special education students participate in standards-based assessments. In addition, the federal regulation requires federally funded public schools to rely on research-based educational programs and instructional practices.

No Child Left Behind Act of 2001 (NCLB). The reauthorized Elementary and Secondary Education Act (ESEA), which requires states to develop standards-based assessments for which student progress will be assessed on an annual basis in order to demonstrate growth in literacy areas. The federal regulation requires federally funded public schools to rely on scientifically based research educational programs and teaching methods in order to ensure student achievement. NCLB also requires that teachers be highly qualified.

Research to Practice Gap. The term refers to the failure of knowledge generated by education research to impact, influence, or inform classroom practices as designed.

SPSS. Software used to assist in analyzing quantitative data.

Multi-Tiered Intervention Systems. The term refers to a model of systematic interventions to address academic and behavior deficits assessed in students.
**Nvivo.** Software used to assist in analyzing qualitative data.

**Quality Indicators.** The term refers to features of research required to determine high-quality designs.
2. LITERATURE REVIEW

The purpose of this section is to provide a summary of literature related to the research to practice gap, teachers’ perceptions of research, and evidence-based instructional practices. It should be noted, that despite the federal requirements, there is limited quantitative research regarding the topic of teachers’ use of evidence-based practices in the classroom or how the field of special education documents evidence-based practices. Qualitative research, including interviews and focus groups with teachers’ understanding of evidence-based practices and instructional practices exists (Boardman et al., 2005; Landrum et al., 2007; Jones, 2009). Additionally, numerous position papers on evidence-based practices have also have been published (Greenwood, 2001; Greenwood & Abbott, 2001). This section will review the literature on the research to practice gap, teachers’ perceptions of research, issues regarding teacher preparation, factors regarding evidence-based practices, and barriers to implementing evidence-based practices. In addition, this section will review research associated with this current research project and provide a description of a pilot study conducted in preparation for the current study.

Search Procedures

A literature search was conducted using the following databases: APA PsycINFO, Education Resources Information Center (ERIC), and Google Scholar. Key words
included the following: education, public school teachers, research to practice gap, evidence-based practices, public school teachers, special education teachers, research-based instruction, scientifically based practices, and teachers’ perceptions. The search included the years between 2001 and 2013. In addition, reference lists were reviewed and thorough ancestor searches of key articles or book chapters were conducted to intensify relevant literature. The Internet sites of professional organizations and the U.S. Department of Education were searched to determine any relevant references to the topic.

Research to Practice Gap

The purpose of the current study is to examine the research to practice gap by gathering data in regards to the role of the teacher in the implementation of evidence-based practices. This section will summarize the literature in regards to the research to practice gap by defining it, demonstrating why it is important to address, and discussing the theoretical reasons for its existence. There are no research studies or any quantitative data regarding this particular topic.

The research to practice gap refers to the disproportional application of the findings of scientific research on effective educational practices as evidenced by observing the practices in schools and classrooms (Cook, Smith, & Tankersley, 2012; Porter & McMaken, 2009). Cook and Odom (2013) believe the gap has existed as long as research and practice have co-existed. The discussion of the research to practice gap has been a prevailing theme throughout the literature as scholars have asserted reasons it exists (Burns & Ysseldyke, 2009; Espin & Deno, 2000; Forman, Smallwood & Nagle, 2005; Greenwood, 2001; Landrum & Tankersley, 2004). In a 2001 publication,
Greenwood and Abbott indicate that special education research and policy had focused on reducing the research to practice gap for 30 years. Through a thorough literature review, it is apparent that many researchers have examined the research to practice gap and offered reasons for its existence and solutions (McLeskey & Billingsley, 2008) in publications.

Research should be the foundation of teaching and learning practices in the classroom (Burns & Ysseldyke, 2009; Earles-Vollrath, 2012). In the field of special education, considerable research has provided information regarding best practices for teaching students with a wide range of special needs (Boardman et al., 2005; Gersten, Vaughn, Deshler, & Scholler, 1997; McLeskey & Billingsley, 2008). Greenwood, Tapia, Abbott, and Walton (2003) indicated that while there is convincing evidence regarding reading instructional practices that increase student progress when learning to read, the adoption of these practices by schools is not occurring at the rate expected. Observational studies report that effective practices are being implemented on an inadequate or on a hit or miss haphazard basis (Landrum, 2007).

The goal of applied research in the social and behavioral sciences is focused on improvement of practice (Carnine, 1997). Yet, the overarching theme throughout the literature regarding the research to practice gap is that research is not accessible to teachers or, rather, is not accessed by teachers (Greenwood, 2001; Landrum et al., 2007), nor does it have much influence on teachers (Boardman et al., 2005; Cook, Smith, & Tankersley, 2012; Landrum & Tankersley, 2004). Cook and Cook (2011) asserted that
researchers cannot assume that generating a list of evidence-based practices will directly result in a change of practice.

The gap in the relationship between research and teachers in schools has a significant consequence on practice. Simply put, students who require the most effective instructional practices to achieve their potential are simply not receiving them (Landrum et al., 2007). Because it is perceived that researchers rely heavily on their own community to drive practice, practitioners often perceive research to be based on abstract theories, which not relevant to practice (Gersten et al., 1997). In general, educational research reports are often written with technical language reflecting the scientific nature of quality research. Quality research reports, which are published in peer reviewed professional journals, often report advanced quantitative statistics that may be undecipherable by a non-researcher (Greenwood & Abbott, 2001). For instance, Horner, Carr, Halle, McGee, Odom, and Wolery (2005) indicated that quality indicators, which must be addressed in single-subject research, must include prescribed descriptors in the areas of participants and setting, dependent variables, independent variables, baseline, experimental control/internal validity, external validity, and social validity. If the research design addresses the quality indicators, then the study can be considered as high quality study. High-quality research is, in fact, a goal and the expectation imbedded in the federal regulation. The identification of effective instructional practices must be discovered through the use of experimental or quasi-experimental research, which follows the quality indicators agreed upon by the scholars themselves.
The cause for the research to practice gap might be explained more specifically by looking at the nature of research itself. Cook et al. (2008) noted that quality evidence-based practices are identified through research design, quality of research, magnitude of effect, and quantity of supporting research. Research articles in highly regarded professional journals are subject to a rigorous peer review process for the purposes of maintaining quality. In order for researchers to have their work published, it must be approved by a review board comprised of their peers or other qualified researchers. The education field has established very specific criteria for a journal to be considered peer reviewed. In short, manuscripts are submitted by authors based on the type and purpose of the journal. Editors review the manuscript for relevancy to ensure the manuscript meets the journal’s guidelines. The manuscripts which meet the publications guidelines are then forwarded to approximately three peer reviewers. The peer review process is a blind review process; the author(s) identifying information is removed from the manuscript. Reviewers then return the manuscript to the editors with decisions which typically with recommendations which range from accept, to revise and resubmit or unacceptable.

*Exceptional Children* (EC), a journal which publishes original research and analysis that focuses on the education of students with disabilities, is a highly rated peer reviewed journal. The journal’s Internet site lists the five types of articles the journal publishes: research studies, research reviews, methodological reviews, data-based position papers, and policy analysis. Each type of article is accompanied by a specific descriptor. For instance, “research studies” is described as those manuscripts which
“include qualitative, large group quantitative or single-subject design studies” (Council for Exceptional Children, 2013). Articles are first screened by the editors to ensure they meet the requirements of the journal and then forwarded to two or three blind peer reviewers. While the process of peer review is designed to maintain the integrity of the research, the process results in articles being written to comply with high research standards for fellow scholars rather than practitioners (Landrum et al., 2007). Also, the course of conducting research for the purposes of publication has resulted in researchers interacting with other researchers to determine acceptable instructional problems to be studied (Greenwood & Abbott, 2001). Further, it has been cited that the rigorous expectations in the research field impact the reason researchers’ perceive that practitioners do not have the skills to understand the implications of their studies (Spencer, Detrich, & Slocum, 2012).

In general, it is understood that some teachers are not provided preparation in research methods or interpreting findings (Greenwood, 2001; Landrum & Tankersley, 2004). In fact, they may be uninformed about research in general because their degrees result in teacher licensure and are not necessarily research-oriented degrees. Greenwood (2001) indicates that many teacher educators may neither require teachers in training to read research articles, nor do they teach intervention research methods for the purposes of improving instruction. Greenwood (2001) stated that teachers may not be taught the skills to navigate scholarly tasks in a manner that allows them to improve instruction in the classroom. Teachers often have limited background and confidence navigating research (Landrum et al., 2007). Furthermore, research is often perceived as being too technical in
nature (Carnine, 1997; Landrum et al., 2007). If it is hard for teachers to locate and interpret research, then they are not likely to make the effort (Carnine, 1997).

Jones’ (2009) study indicated that a disconnect existed between teacher’s articulated understanding of evidence-based practices and the instructional behaviors demonstrated when the same teachers were observed. Jones’ (2010) study included 10 novice special education teachers who served students with high-incidence disabilities in grades K-12. The qualitative study included an initial structured interview, a classroom observation, the completion of self-rated teaching practices rating scale, and a follow-up interview. Jones (2009) found that across all observational periods, only a few instances of the implementation of research validated practices were observed. Guckert’s (2010) study indicated that teachers lacked in depth knowledge of evidence-based practice and, therefore, personalized research resulting in inconsistent applications of validated instructional practices.

The field of special education specifically has made tremendous progress in the developing of empirical evidence regarding effective instructional practice for students with disabilities (Boardman et al., 2005; Burns & Ysseldyke, 2010; Landrum & Tankersley, 2004; McLeskey & Billingsley, 2008; Vaughn, Gersten, & Chard, 2000). The research in the field has strengthened the understanding of effective practices for special education throughout instruction, assessment, and behavioral supports (Boardman et al., 2005). With the use of the Internet, professionals in the field of education can find information regarding evidence-based practices for working with students with disabilities. For instance, the National Professional Development Center on Autism
Spectrum Disorders (http://autismpdc.fpg.unc.edu/) provides resources to evidence-based programs for working with students with Autism Spectrum Disorder. In March 2013, the Internet site purported there to be 24 practices that met the criteria for being defined as an evidence-based practice. Similarly, the WWC (http://ies.ed.gov/ncee/wwc/) provides a list of evidence-based practices for the following topic areas: children and youth with disabilities, dropout prevention, early childhood education, English language learners, literacy, math, science, and student behavior.

As a result of available resources, the researchers might contend that the profession practice research-based decision making and no longer makes decisions based on what one thinks might work (Boardman et al., 2005). Greenwood and Abbott (2001) indicate the larger the research to practice gap, the longer practitioners have to accept less than the best in regards to practice. It has been suggested that the research to practice gap exists because of a fundamental separation of research-based knowledge and practical-based knowledge (Bondy & Brownell, 2004).

**Teachers’ perceptions of research**

This section will discuss what is present in the literature in regards to teachers’ perceptions of educational research. Teachers’ perceptions and understanding of scholarly research is a strong contributing factor to the research to practice gap. This section will review three prominent themes in the literature: the fact that teachers do not trust the literature, that teachers do not think that research resembles their day-to-day reality, and that there are concerns regarding implementing interventions with fidelity.
The field of education is unique, especially public education. Unlike other industries, each teacher teaches in his or her own distinct manner; and for most, teaching is a private matter (Hattie, 2009). Another important characteristic of teachers is that they heavily rely on the context of their individual school environment. Teachers work in relative isolation and tend to rely on sources within the context of their school, such as a teacher down the hall, to determine instructional interventions citation. Cook and Cook (2004) stated that teachers trust what they learn from colleagues’ stories as opposed to what is reported in the research. In a study which examined general education and special education teacher’s perceptions of the usability of interventions, Landrum et al. (2007) found significant difference in teachers’ rating of usability when information was presented from a teacher’s perspective, rather than as reported by a typical research report.

In preparing for a research study, Boardman et al. (2005) were unable to find any studies which examined special education teachers’ knowledge and perceptions of research. This was an extremely concerning finding as it is evident that the research to practice gap has been discussed throughout the literature since as far back as 1997, yet still the literature is sparse when it comes to examining teachers’ perspectives of research findings. Instead of articles that report the findings of quantitative research methods, there are many position papers and articles that do address teacher’s’ perceptions of research (Gersten & Smith-Johnson, 2001; Greenwood, 2001).

The premise that teachers simply do not trust research has been made by Carnine (1997); Cook, Smith, and Tankersley (2012); and Nelson, Leffler, and Hansen (2009).
Boardman et al. (2005) reported that teachers who participated in their focus groups questioned the validity of research findings and indicated that research can be made to show whatever the researcher needed it to say. Veteran teachers’ trust issues were often replaced with cynicism after experiencing practices once considered effective being replaced several years later with another practice with the same claims of effectiveness (Boardman et al., 2005). On the contrary, Landrum and Tankersley (2004) suggested in a position paper that those teachers new to the field of special education may find literature to be self-contradictory in message. This issue is also noted by Boardman et al. (2005) who indicated that the term, “research,” is so misused that one should expect that teachers are not interested in educational research. Some teachers have experienced being provided conflicting research from one instructional practice to another.

Many teachers do not think that research studies resemble their day-to-day reality. Boardman et al. (2005) found that teachers familiar with research did not feel the studies were conducted with students similar to the students in their own classrooms. Although descriptors of subjects are required for purposes of understanding the impact of research studies, the descriptors required for research are often not clear to teachers. For instance, the numbers of student participants in the study are reported as far less than a typical classroom or only certain characteristics of the student participants are mentioned in the actual published report. This is particularly true for single-subject research which may only include one to eight participants per study (Horner et al., 2005). For a special education teacher, the issue might be compounded. Browder and Cooper-Duffy (2003) found few studies that included student participants with multiple significant disabilities.
The technical language, along with sterile descriptors aimed to meet quality standards, makes it difficult for teachers to understand how the findings can be translated to classroom practice. Landrum et al. (2007) simply stated that teachers often “view researchers as residing in an ivory tower that is far removed from the realm of classroom teaching” (p. 36).

Interventions for best practice require research implementations that adhere to strict standards ensuring strong fidelity. For example, when the implementation of instructional practices is investigated or observed, it is discovered that teachers do not always conform to the actual design of the instructional practice or program as delineated in the research (Gersten et al., 1997; Jitendra, 2005). Jitendra (2005) reported that even though instructional scripts were provided, while conducting observations it was indicated that one general education teacher was able to follow the script verbatim throughout the entire lesson, while another teacher was observed delivering the scripted lesson inconsistently. It has been noted that while many professionals in the field embrace research findings, some chose to disregard them, and others make modifications to what is known as effective to suit their own personal needs or preferences (Gersten et al., 1997). This factor frustrates researchers, yet is clearly a manifestation of the dilemma for teachers in regards to both understanding and implementing evidence-based practices.

It is generally understood that teachers work in relative isolation (Greenwood & Abbott, 2011). So how do teachers make decisions about instructional practices? Landrum et al. (2002) reported that teachers rated the usability of information received from colleagues higher than information from professional journals. Further, Greenwood
and Abbott (2001) noted that teachers adopt new instructional practices based on information received from other teachers in the building or as imposed by external requirements. Cook and Cook (2004) reported that teachers respond positively to stories from other teachers regarding teaching practices that worked in their classrooms. Landrum et al. (2007) found that teachers were more receptive to considering the use of instructional practices if the information is presented from the teachers’ perspective. Further, positive teaching techniques presented by another teacher were interpreted as a proven technique more readily by fellow teachers. It appears far easier for a teacher to envision implementing an instructional practice in their classroom from hearing it described by another teacher than to read, interpret, and translate into practice from a scholarly article (Landrum et al., 2007).

Instead of relying on research, Boardman et al. (2005) reported that teachers chose instructional methodologies that could be practically incorporated into their instructional day, appropriate for the students they taught, and could be modified and adjusted to meet the needs of several levels of students. They tend to use intuitive judgments about what instructional practices work and do not work in their classrooms (Greenwood & Abbott, 2001). Cook and Cook (2004) describe teachers making many rapid-fire decisions as teaching conditions change during the day. This environment often forces teachers to make decisions based their prior experiences or those experiences of their colleagues rather than reflect on research findings to drive the decision making process (Cook & Cook, 2004). The context of the school building is an important factor in the decision making process for teachers.
Issues of Evidence-Based Instructional Practices

McDaniel et al. (2010) reported that evidence-based practices that are implemented with high fidelity will increase the likelihood of students with emotional disabilities and behavior disabilities experiencing positive post-school outcomes. Evidence-based practices are instructional practices that have been proven to result in generally improved student outcomes through high-quality research (Cook, Smith, & Tankersley, 2012). The U.S. Department of Education’s Institute of Educational Sciences established via the WWC website (http://ies.ed.gov/ncee/wwc/) that high-quality research only includes experimental and quasi-experimental studies.

Gersten, Chard, and Baker (2000) noted that focus groups have found that teachers are eager to increase their knowledge and implement those practices that are feasible and sustainable if they are documented as effective for supporting learning and social growth for all students. Cook and Odom (2013) stated that educators are keenly aware that evidence-based practices will not work on every single student. This simple fact, known to teachers, impacts their frustration as they attempt to navigate the research for reasons already noted.

Cook and Odom (2013) reported that many evidence-based practices have yet to be identified due to the amount of time and expertise required to analyze previous research to determine if the research was conducted with the attributes determined as quality indicators. In addition, the authors ascertained that the lack of high-quality research studies is another contributing factor (Berliner, 2002; Seethaler & Fuchs, 2005).
Jitendra, Burgess, and Meenakshi (2011) stated that evaluating the research base for evidence-based practices in special education is still in its infancy.

The Council for Exceptional Children published quality research standards in a special issue of their peer reviewed journal, *Exceptional Children*, in 2005. Yet, even the prominent authors of the 2005 publication stated in a 2013 special issue of the same journal, *Exceptional Children*, that while some are using the standards proposed in 2005, other scholars and organizations are using adapted versions to develop independent sets of standards (Cook & Odom, 2013). Examples may include the National Autism Center (http://www.nationalautismcenter.org/) and the National Secondary Transition Technical Assistance Center (http://www.nsttac.org/); each organization’s Internet presence includes sources for evidence-based practices in their respective fields of expertise. In short, proven evidence-based practices are being stored in several different places. In fact, Landrum and Tankersley (2004) asserted that while the Internet provides the consumer with great resources, the information made available electronically has outpaced the human ability to make sense of it all. The result being that the consumer must have the skill to determine what sources to trust. Subsequently, searching for standardized evidence-based practices through various sources, rather a consumer has to have enough of a knowledge base to understand where to look and what to trust.

Researchers have attempted to analyze bodies of research to determine whether published studies are high quality and meet the standards for being determined an evidence-based practice. For example, Jitendra, Burges, and Gajria (2011) examined the literature to determine if the research base meets the standards to qualify cognitive
strategy instruction as an evidence-based practice for improving comprehension for students with learning disabilities. Overall, the authors determined that single subject studies on cognitive strategy did not meet the rigor of the quality standards to be considered an evidence-based practice. In another publication, Jitendra, DuPaul, Someki, and Tresco (2008) described the empirically supported academic interventions which meet the criteria for being considered an evidence-based practice for providing reading and mathematics instruction to students with Attention-Deficit Hyperactivity Disorder. Yet, despite the progress made in the research, Cook et al. (2003) stated that there is little to no systematic institutional or administrative support for teachers attempting to implement effective instructional practices. In addition, the lack of definitiveness in the federal legislation and the amount of ambiguity amongst scholarly research is one factor impacting the research to practice gap. There simply exists a variance in expectations that makes it difficult for special education teachers to achieve a clear understanding of expectations throughout the day. From a top-down perspective, the important information regarding effective teaching practices is simply not filtering down to the classroom teacher. Current teacher education programs do not provide the information regarding interventions in a format that allows for effective implementation in the classroom. The break in the chain from regulation to teacher leads to an inability to translate research into daily instructional practice, which has been identified as a significant barrier to improving student outcomes (Browder & Cooper-Duffy, 2003; Carnine 1997; Cook et al., 2003; Greenwood, 2001; Kaufman, 1996).
**Issues Regarding Teacher Preparation**

McLeskey and Billingsley (2008) contended that the lack of instruction of research-based effective practices throughout teacher training programs is a contributing factor to the research to practice gap. Richards and Skolits (2009) found that teachers often cite unfamiliarity with instructional strategies and inadequate training when addressing student engagement in the classroom. However, teacher educators could actually serve as the link between research and practice (Landrum & Tankersley, 2004). Teacher preparation programs have the potential to significantly impact the research to practice gap by providing pre-service teachers with the knowledge and skills to navigate and implement best practices found via research. McLeskey and Billingsley (2008) contended that current federal statutes, the No Child Left Behind Act of 2001 (NCLB; 20 U.S.C. § 6301 et seq.) and the Individuals with Disabilities Education Act of 2004 (IDEIA; 20 U.S.C. § 1400 et seq.), actually create additional barriers regarding the research to practice gap by allowing states to respond to special education teacher shortages by lowering standards for teacher certification in order to create shortcut routes to certification.

The goal of teacher preparation programs should be to prepare teachers in the implementation of publically agreed-upon standards of practice (Landrum & Tankersley, 2004). However, Cook et al. (2003) noted that many teacher training programs are often guided by the preferences and experiences of the teacher educator, rather than the knowledge base found in the research. Denton and Vaughn (2008) illustrated that some persons responsible for teacher education vary in knowledge and beliefs about
instructional methodology and even dispute the implementation of empirically validated instructional methodology. Landrum and Tankersley (2004) stated that pre-service teachers who are eager to conquer new academic knowledge find the education literature to be overwhelming in volume and self-contradictory in message. Hattie (2009) reported that one reason why research may not have had more impact on practice is the difficulty associated with summarizing and comparing the various formats of data, making research even more difficult for new pre-service teachers to navigate. Brownell, Ross, Colón, and McCallum (2005) indicated that there is no research to support that the inclusion of instruction regarding evidence-based practices components makes a difference in outcomes for special education teachers or their students.

Although little research exists on the topic of teacher preparation programs and the use of evidence-based practices, there are some promising new examples of research on the horizon. However, Paulsen’s (2005) final thoughts after completing an instructional intervention study with pre-service teachers indicated if teacher preparation programs provide training on explicit instruction, require the use of explicit instruction in lesson plans developed by pre-service teachers, and require the implementation of effective strategies, those pre-service teachers will be provided the tools to become successful teachers. Scheeler, Bruno, Grubb, and Seavey (2009) found that immediate feedback provided by teacher educators to pre-service teachers was an effective and efficient strategy to promote the acquisition on evidence-based practices by pre-service teachers. There is a continued need for additional sources of evidence to inform the field for a
better understanding of how teacher preparation programs can positively impact teachers’ use of evidence-based practices in classrooms.

**Challenges to Implementing Evidence-Based Practices**

Barriers to implementing evidence-based practices are reported throughout the literature from several perspectives. McLeskey and Billingsley (2008) contended that inadequate work conditions contribute to the research to practice gap. The authors reported that lack of instructional time, many competing demands, and lack of materials make it difficult for special education teachers to implement evidence-based practices. Browder and Cooper-Duffy (2003) found that teachers identified time constraints and lack of administrative support as major obstacles in implementing research-based practices. Teachers actually reported it was difficult to provide individualized instruction to students as needed on a regular basis.

Teachers report additional barriers to implementation of effective instructional practices. Boardman et al. (2005) reported special education teachers indicated they simply could not do everything required of them considering the number of students in different grade levels represented in their classes, compounded with the number of subjects to be taught. Researchers have learned that lack of time is a prevailing barrier voiced by teachers in regards to implementing evidence-based practices (Boardman et al., 2005; Browder & Cooper-Duffy, 2003; Klinger, Ahwee, Pilonieta, & Menendez, 2003; McDaniel, Duchaine, & Jolivette, 2010). Others report teachers cite scheduling constraints (Boardman et al., 2005; Browder & Cooper-Duffy, 2003; McDaniel, Duchaine, & Jolivette, 2010), lack of administrative support, insufficient materials, and
teachers’ lack of in-depth understanding of an instructional practice (Boardman et al., 2005; Klinger et al., 2003). Klingler et al. (2003) indicated additional barriers include the pressure associated with high stake assessments and other instructional mandates directed by the school district.

Information from teachers about their practice is important to inform the research to practice gap (Burns & Ysseldyke, 2009; McDaniel et al., 2010). Yet Gable, Tonelson, Shethl, Wilson, and Park (2012) reviewed the literature on instructional practices implemented by teachers of students with emotional disabilities. They found many practices were either dated, included a very small sample size of teachers, or did not allow for a comparison of general and special education teachers. It can be theorized that addressing teacher’s attitudes, beliefs, and behaviors might allow researchers to tailor their studies so that the findings can be easily incorporated into a teacher’s daily routines. Information from teachers can also inform teacher preparation programs to help assist in developing more effective means to prepare teachers to perform in concert with the expectations of federal statutory and regulatory requirements.

**Studies Relevant to Teacher’s and Evidence-Based Practices**

There were some studies found that directly address teachers’ knowledge and perceptions of instructional practices. For example, Gable et al. (2012) conducted survey research in a mid-Atlantic state to determine the current knowledge and skills levels of general and special educators who work with students with emotional disabilities. The researchers asked participants to select an appropriate response reflecting their perceived level of importance, usage, and level of preparation to implement 20 evidence-based
practices appropriate for working with students with emotional disabilities as predetermined for inclusion in the survey. The researchers’ findings indicated that there are a number of documented evidence-based practices that are not in common use. Both the general education and special education teachers indicated they were not prepared to teach or were not adequately prepared to implement the important instructional strategies known to address common deficiencies inherent in children identified as having an emotional disability. One limitation to this research study is that the sample was selected from a single state within the United States.

Burns and Ysseldyke (2009) conducted survey research to determine the frequency in which evidence-based practices were used with students with disabilities as reported by special education teachers and school psychologists who were members of the Council for Exceptional Children. The researchers asked participants to rate the frequency of use for eight identified instructional practices used when working with special education students. The eight instructional practices were applied behavior analysis, direct instruction, formative assessment, mnemonic strategies, modality instruction, perceptual-motor training, psycholinguistic training, and social skills training. Each instructional practice varied in reported effect size in regards to effectiveness based on meta-analytic research (Forness, 2001; Kavale & Forness, 2000). This research study found that the evidence-based practice with the largest effect size is reportedly used least frequently by the participants of the study. In short, the findings indicated that participants who responded to the survey were either not aware of the effect sizes associated with each instructional practice or, if they did have that information, made
instructional decisions based on other information. Burns and Ysseldyke’s (2009) study did not ask participants about the decision making process or barriers to implementation. One limitation noted in their study was that participants were all members of a professional organization, which distributed scholarly journals to its membership. These individuals may be more well-informed than other professionals in the field who are not members.

Jones’ (2010) study included 10 novice special education teachers who served students with high-incidence disabilities in grades K-12. The qualitative study included an initial structured interview, a classroom observation, the completion of self-rated teaching practices rating scale and a follow-up interview. Jones noted after the preliminary interviews that the teachers had varying views of research and its usefulness working with students with disabilities. Jones categorized participants as definite supporters of research, cautious consumers of research, and critics of research. Further discrepancies were noted when teachers were observed teaching. Classroom observations of all three groups of teachers revealed low rates of implementation of evidence-based practices during the instruction of students with disabilities. Teachers’ understanding of research appeared to impact the fidelity of implementation of evidence-based practices, which could potentially result in positive or negative outcomes for students.

Guckert’s (2010) study included 10 K-12 special education teachers enrolled in a special education graduate program. The researcher employed qualitative methodology to explore special education teachers’ use and perceptions of evidence-based practices. Data were collected through the use of semi-structured interviews, teacher artifacts from
lessons taught, and analytic memos from interviews with the participants. Similar to Jones (2010), Guckert found that while all teachers’ believe they use evidence-based practices, the actual awareness level of the teachers’ understanding of evidence-based practices vary. Guckert categorized teachers’ awareness of research as either aware, partially aware, or not aware. She also found that the varying levels of teachers’ awareness of research impacted the way in which teachers changed or modified evidence-based practices which could potentially result in either positive or negative outcomes for students. One limitation noted in the study was that it only included 10 participants; therefore, the extent to which the findings were representative of other special education teachers could not be determined.

Pilot Study

In preparation for the current study, the researcher completed a pilot study, which employed the same survey research methodology with a smaller, more targeted sample of participants (Bradley-Black, 2011). Conducting a pilot study provides the researcher the opportunity to test the design of the research and make necessary revisions based on identified errors or findings in the analysis of data generated. In this section, the researcher will first describe the pilot study and provide a brief analysis of the data. In Chapter 3, the researcher will indicate what modifications were made to the survey instrument, as a result of findings from the pilot study, for the current study. A rationale for changes will be provided as well.

Pilot study instrument development. A pilot study was completed using an earlier version of the survey for a graduate class project. The survey was developed
throughout an entire semester and was subject to many revisions based on peer and professor feedback. The ability to present the developed questions to fellow graduate students, many of whom were at the time, or had been, public school teachers, allowed the researcher to follow the principles of good question design by ensuring each question was clearly understood. In addition, the researcher wanted to ensure that responding to survey items was relatively easy in regards to the cognitive demands required of participants for retrieving the information and allowing each participant to find their true response within the confines of the choices provided (de Leeuw et al., 2008). Allowing graduate peers to review the pilot survey also informed the researcher of the amount of time needed to respond to all items (Dillman et al., 2009). Designing a survey is an intricate process of development, which requires balancing the need to collect specific bits of data from participants while also addressing the needs of participants to remain within their comfort level in order to elicit a high response rate. When a participant finds the survey too difficult to complete, either in length or difficulty of questions, they simply will opt out of the task. The more comfortable and “easy” the survey is for each person to complete, the higher the probability they will take the time to complete it in its entirety.

For the pilot study, a 14-item Internet-based survey was developed by the researcher for the study. The first section of the survey addressed the participants with a couple of brief sentences introducing the study and with an invitation to participate. The introduction included a guarantee of anonymity and provided the contact information of a supervising university professor in the event of questions or concerns. Each participant was required to indicate their agreement to participate by choosing a response to provide
consent. The participants who indicated their willingness to participate were directed to the second section of the survey. Participants who chose not to provide consent were directed to a brief thank you statement.

The second section of the survey contained 10 items, which asked teachers to respond to questions regarding their use of evidence-based practices. In order to avoid response sets, the questions varied in structure. Some items requested the participants to rate a statement on a four-category scale choosing from “strongly agree,” “agree,” “disagree,” and “strongly disagree.” The researcher made a deliberate decision not to include a neutral response option for participants. These questions addressed whether or not teachers felt that evidence-based practices were valid teaching methods, if teachers felt they had the knowledge and skills to implement evidence-based practices, if teachers indicated they would like to use evidence-based practices more often, and asked if additional professional development would encourage teachers to use evidence-based practices more often. Other items asked the respondents to select the attribute(s) that best described their response to certain statements. These items asked teachers to identify where they have learned about evidence-based practices and how they determine which evidence-based practice to use.

Finally, one item in the second section of the pilot survey required the participants to rate their response on a continuum of 1 to 10 in order to understand power of impact. This item was more complex in nature as it asked teachers to respond to their use of particular evidence-based practices. The survey included the name of an evidence-based practice and a definition of that practice and then asked the participants to indicate how
frequently they implemented each practice. Response options included “almost every
day,” “once or twice a week,” “a couple times a month,” “never,” and “not familiar.”

This item attempted to replicate and extend early research published by Burns and
Ysseldyke (2009). The researchers investigated how frequently special education teachers
and school psychologists reported using specific evidence-based practices throughout the
instructional day. They then compared those responses to the mean effect size of those
practices as reported in meta-analytic research (Kavale & Forness, 2000).

The third section of the pilot survey consisted of demographic questions, which
were designed to gather information regarding the respondents’ level of education, where
they received their teacher preparation, years of teaching experience, and the students
they primarily teach in regards to accessing state curriculum standards. Responses to all
items but one were prepared by the researcher requiring participants to choose which
represented them most accurately. Years of teaching experience was the only open-ended
item allowing participants to enter a number to indicate years.

**Pilot study analysis.** Fifty teachers completed the entire survey, which is a 29%
response rate. Interestingly, while 65 teachers opened the survey and indicated consent to
participate, 10 did not provide any additional responses. No participant was recorded as
choosing not to participate in the survey. Due to the anonymity of the survey, there is
simply no way to identify those nonresponders and attempt to determine why they
opened the survey, but did not respond to any items past the introduction.

In regards to demographics, 24 (48%) reported having 0 to 10 years experience;
16 (32%) reported 11-20 years experience; 9 (18%) reported 21-30 years experience; and
1 (2%) reported 31-40 years experience. Seven (14%) of the teachers indicated the highest degree held to be a Bachelor's degree; 30 teachers (78%) reported having a Master’s degree; and 4 (8%) did not provide a response. Of these teachers, 39 (78%) of the teachers reported to be primarily teaching students who accessed the state standard curriculum, 9 (18%) teachers reported primarily working with students accessing aligned standards, and 2 (4%) did not provide a response.

As illustrated in Table 1, 40% of the teachers responded that they strongly agreed that evidence-based practices were well researched and valid teaching methodologies; 60% responded they agreed. When participants were asked about where they learned much of what they know about evidence-based practices, 68% of participants responded from school district-level professional development. This was followed by college courses (68%), school-based professional development (50%), journals (44%), and peers (42%). Ninety-six percent of the teachers felt as though they have the knowledge and skills to implement evidence-based practices (see Table 1). The responses to the first set of items indicate that the middle school special education teachers who participated in the survey are generally aware of evidence-based practices and feel very confident that they have the skills to implement evidence-based practices. Knowledge regarding evidence-based practices has been acquired equally amongst several common sources available to teachers. One source of information is not accessed more than others by the participants on this study.
This study replicates and extends a portion of the research conducted by Burns and Ysseldyke (2009) by surveying special education teachers to determine how frequently they report using specific evidence-based practices in their instructional day. Burns and Ysseldyke (2009) reported an equal number of respondents answered all items regarding the use of evidence-based practices. For the pilot study conducted, that was not the case. All 50 respondents did not indicate the use of all 6 evidence-based practices; instead, it is observed that they chose which items to provide responses. However, there remains interesting similarities between the two studies throughout this section regarding pilot study data analysis.

<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
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<tbody>
<tr>
<td>Evidence-based practices are well researched and valid.</td>
<td>40</td>
<td>60</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>I believe I have the knowledge and skills to implement evidence-based practices.</td>
<td>44</td>
<td>52</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>I would like to be able to use evidence-based practices more frequently in my teaching.</td>
<td>32</td>
<td>64</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>If I were provided with more professional development by the district or my school, I would use more evidence-based practices.</td>
<td>26</td>
<td>56</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td>Based on my professional judgment, I teach what I think is right to my students.</td>
<td>56</td>
<td>34</td>
<td>8</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1  
*Summary of Responses for Five Survey Items*
Table 2

*Definitions Provided for Evidence-Based Practices Referred to in Survey*

<table>
<thead>
<tr>
<th>Teaching Methodology</th>
<th>Definition provided in survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applied Behavior Analysis</td>
<td>Applied behavior analysis refers to the process of analyzing behaviors to systematically develop a plan to change undesirable behaviors and replace them with more appropriate behaviors.</td>
</tr>
<tr>
<td>Direct Instruction</td>
<td>Direct instruction refers to instructional methods, which involve task analysis of skills accompanied by a specific curriculum design, which is implemented in a very specific and prescribed fashion.</td>
</tr>
<tr>
<td>Formative Assessment</td>
<td>Formative assessment refers to a specific process for measuring the progress of student’s skill acquisition based on a specific goal which guides instruction and the modification of instruction.</td>
</tr>
<tr>
<td>Mnemonic Strategies</td>
<td>Mnemonic strategies refer to a learning strategy which involves enhancing memory for curricular information.</td>
</tr>
<tr>
<td>Modality Instruction</td>
<td>Modality instruction refers to the process of providing instruction to students based on their preferred learning modality (e.g., visual, auditory).</td>
</tr>
<tr>
<td>Social Skills Training</td>
<td>Social skills training refers to the process of systematically remediating social skills deficits to promote more productive and positive relationship with others.</td>
</tr>
</tbody>
</table>

The survey asked teachers to indicate how frequently they used six specific evidence-based practices. Each term was accompanied by a definition in an effort to better ensure clarity of the question. Table 2 supplies a list of the practices and definitions provided in the survey. Table 3 is a comparative table, which provides a summary of responses across both the Burns and Ysseldyke (2009) study and the pilot study.

Regarding the use of evidence-based practices, social skills training ($n = 48$) received the largest amount of responses followed by modality instruction ($n = 43$), formative assessment ($n = 40$), direct instruction ($n = 38$), applied behavior analysis ($n = 35$), and mnemonic strategy ($n = 22$). However, the popularity of responses did not
correlate with the reported frequency of use for each evidence-based practice. Direct instruction was reported to be used at least once a week by 97.6% of the teachers. This response was slightly higher than the findings of Burns and Ysseldyke (2009) who reported 90% of participants using direct instruction at least once a week. In the pilot study, approximately 85% of teachers reported using formative assessment and modality instruction at the same frequency. Again, these results are slightly above the findings of Burns and Ysseldyke (2009) who reported 75%. Next, approximately 77% of the teachers reported using applied behavior analysis and social skills at least once a week. These finding vary slightly from Burns and Ysseldyke (2009) who reported 75% and 70%, respectively. Finally, 63.7% of the teachers who reported using mnemonic strategies implemented them at least one a week. This finding is consistent with Burns and Ysseldyke (2009) who reported 62% for their study.

Table 3
Comparing the Frequency of Responses Across Two Surveys

<table>
<thead>
<tr>
<th></th>
<th>Almost every day</th>
<th>At least once a week</th>
<th>Once or twice a month</th>
<th>(almost) never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct instruction</td>
<td>83.3%</td>
<td>95.0%</td>
<td>6.3%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Formative assessment</td>
<td>36.8%</td>
<td>37.5%</td>
<td>39.7%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Modality instruction</td>
<td>56.9%</td>
<td>53.5%</td>
<td>23.0%</td>
<td>30.2%</td>
</tr>
<tr>
<td>Applied behavior</td>
<td>54.6%</td>
<td>57.0%</td>
<td>15.5%</td>
<td>22.8%</td>
</tr>
<tr>
<td>analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social skills training</td>
<td>55.7%</td>
<td>49.0%</td>
<td>20.1%</td>
<td>27.0%</td>
</tr>
</tbody>
</table>
When asked how teachers determine when to use evidence-based practices, 82% responded based on those which work for students as evidenced by positive progress. That was followed by the student’s Individual Education Program (78%), the disability of the student (64%), colleagues’ recommendations (32%), what the administrator assigns the teacher to teach (16%), and which is easiest to manage (14%). In addition, 96% of the participants would like to use evidence-based practices more frequently in their teaching, the remaining 4% disagreed. Asked differently, 82% of the teachers responded that they would use more evidence-based practices if provided with more professional development from the district or school. Interestingly, when provided with the statement “based on my professional judgment, I teach what I think is right for my students,” 56% of the respondents strongly agreed, followed by 34% who agreed, 8% who disagreed, and 2% who strongly disagreed.  

**Summary**

It is concerning that the research to practice gap continues to be a prevailing theme throughout the literature. While much work has been done to establish quality standards to identify evidence-based practices for the purposes of providing quality instruction to school aged children with diverse learning needs, there are several barriers preventing founded instructional practices from getting into the hands of qualified teachers able to implement the practices. The review of the literature indicates that there
is a need to continue to complete research which examines teachers’ understanding regarding the use of evidence-based practices during their instructional day. A better understanding of teachers’ perceptions of instructional practices will assist in informing the researchers in order to adapt research that can be readily translated and implemented in the classroom by highly qualified teachers.
3. METHODS

Modifications to pilot instrument

In preparation for the current study, the researcher completed a pilot study which employed the same survey research methodology with a smaller, more targeted sample of participants. Conducting a pilot study provides the researcher the opportunity to test the design of the research and make necessary revisions based on identified errors or findings in the analysis of data generated (Creswell, 2008). The design, implementation, and findings of the pilot study were discussed in the previous chapter. In this section, modifications made to the pilot study instrument will be discussed in efforts to address the construct of the survey instrument developed for the current study. After modifications to the pilot instrument are described, this section will discuss the survey instrument used and the implementation of the current study.

Based on the findings of the pilot study described in the previous chapter, modifications were made to the survey in order to collect data which better addressed each research question and allowed for the collection of more meaningful data. The survey items were increased from 14 questions to 42 questions. Information regarding demographics was moved from the last section to the second section of the survey and a section was added to address issues regarding the use of multi-tiered intervention systems.
in schools. This section describes the changes made to the survey instrument as a result of the pilot study and for the purposes of completing the current study.

The most notable deletion made to the pilot study was the removal of the item which asked participants to indicate what evidence-based practices they implemented on a regular basis. As described for the pilot study, specific evidence-based practices were pre-populated in the survey and presented with corresponding definitions. The structure of that item has been determined partially because the researcher was interested in replicating the study implemented by Burns and Ysseldyke (2009). As indicated in the analysis section, the question was very problematic as several participants did not complete the item. One might theorize that the item was too laborious or respondents did not feel confident with their responses. Either way, that item was replaced with two items. The first item requested the participants to write in the three evidence-based practices used most often into three blank text boxes. The second item asks the participants to rank the instructional practices they listed.

Other items deleted were those which could not be directly linked to the research questions for the current study. For instance, the item which asked teachers if they taught what was right for their students based on their professional judgment was judged superfluous and revealed researcher bias. Besides the two items just discussed, many of the other modifications resulted in the need to adjust response options by either narrowing the range of choices to develop consistency in scales or by adding to response choices as to be more inclusive to all participants. The researcher also significantly
increased the section requesting demographic information in efforts to draw more meaningful conclusions.

Two other changes to the survey involved adding two features into the current study. First, an incentive was included. The incentive allowed participants to enter their name into a random drawing for one of ten gift cards. Second, the researcher included an opportunity for participants to volunteer for a short follow-up interview. This created an opportunity for more in-depth qualitative responses to examine additional issues and seek corroboration with survey responses. Items were added to the survey instrument to allow participants the opportunity to enter required information if they wanted to enter the drawing for a gift card and/or wanted to volunteer to participate in a follow-up interview.

**Design**

The purpose of this study is to gather data to better understand general and special education teachers’ understanding and attitudes regarding the use of evidence-based practices during the instructional day. Information from teachers about their practices is important information to be obtained in order to inform the research to practice gap (Burns & Ysseldyke, 2009; McDaniel et al., 2010). It can be theorized that addressing the teacher’s attitudes, beliefs, and behaviors might allow for effective means to informing the research to practice gap by allowing researchers to tailor studies and findings so that they can be easily incorporated into a teacher’s daily routines.

The researcher implemented an Internet-based survey with follow-up interviews with access to a national sample of teacher participants. The electronic survey included forced choice items, to collect quantitative data, and open-ended items, for the purposes
of collecting qualitative data. The open-ended items were provided so that participants could enter in their own definition of evidence-based practices, characteristics of evidence-based practices, and the evidence-based practices relied on the most. In addition, open text boxes were provided to collect necessary contact information for those participants who volunteered for follow-up interviews. The interview portion will be discussed later in this chapter. Survey research is a quantitative design which allows the researcher to gather data from a sample to describe the understanding and attitudes of a particular population (Creswell, 2008). By surveying a well-defined sample of the population, the researcher is provided the opportunity to estimate the characteristics of a larger population with statistical precision (Dillman et al., 2009). The researcher deployed a list-based method of selection because the sample participants who were selected to participate represented the target population. The careful selection of the sample itself can greatly attribute to a higher response rate. As described in a later section of this chapter, the researcher acquired a sample of randomly selected teachers based on specific characteristics for inclusion. This process provided the opportunity to generalize the responses of a select few to the larger population.

The size and geographic range of the sample largely affects the impact of the data collected. Since the researcher distributed the survey to slightly more than 4,000 teachers across the United States, many limitations to conducting large scale survey research were avoided. As described more thoroughly in a later section, the survey was available to participants via the Internet. Also, participants received an email from the researcher as one method of contact. The researcher selected the Internet as the survey format and
email as a communication tool largely because both formats were considered a cost-effective and efficient means to reach out to participants across the entire United States. Although email coverage and Internet coverage is not regarded as satisfactory for the general population, it is generally observed that most school districts across the United States afford a professional email address to teachers. Accordingly, the researcher employed the services of a company which maintains a list of email addresses for approximately 200,000 teachers across the United States. This option allowed the researcher to have the sample selected amongst a database of a considerable amount of teachers.

Since Internet-based surveys are self-administered, this form of data collection allows the researcher to access larger amounts of participants in a short time period in comparison to other research methodologies. When participants are provided the opportunity to enter responses anonymously by means of a self-administered survey, they can be less likely to distort responses in a socially desirable direction (Burns & Ysseldyke, 2009; de Leeuw et al., 2008). That is to say, when participants are completing surveys in the privacy of their own home or classroom, there is a higher probability they will provide an honest response. In contrast, when participants answer questions in the presence of other people, there is a risk that their responses will be modified to ones which the respondent feels would be more socially acceptable to those people present. As mentioned earlier, Internet-based surveys are considered cost-effective and versatile (Nardi, 2003).
Sample

The initial sample size is a critical consideration in electronic survey research because the initial size influences the final survey response rate. For the purposes of this study, 4,200 randomly selected participants were invited to complete a survey via postcard and email. Burns and Ysseldyke (2009) indicated in their study that researchers who intend to extend the research should consider selecting a sample of educators from a source other than a professional organization database. Using Market Data Retrieval (MDR) to select the sample addressed the reported limitation; thus, eliminating the notion that the sample participants came with pre-existing notions of survey items based on their involvement with a particular professional organization, school system, or region.

Teachers across the United States were invited to participate in this study. Selection criteria included: (a) teachers employed by a public school; (b) teachers from one of the 50 United States; (c) special education teachers; (d) general education teachers who teach English, mathematics, science, or social studies; (e) individuals who teach currently; (f) elementary, middle, or high school teachers; and (g) kindergarten through grade 12 (K-12) teachers. An equal number of special education and general education teachers were selected in efforts to draw conclusions regarding the knowledge, attitude, barriers, and use of evidence-based practices during the instructional day.

The target population was accessed by employing the services of MDR, a company that maintains databases for the purposes of educational research. MDR is the optimal resource for selecting the sample participants because it provides contact information for teachers who meet the above selection criteria across the country.
availability of a sample from a large, diverse population allows the researcher to use statistical analysis to determine the characteristics of the entire population (Dillman, et al., 2009). The services of MDR were ideal for this research project as it provided the researcher the opportunity to select a random sample of participants from across the United States. The database can also accommodate for the selection of a large sample size. The result of being able to survey such a large, random sample from a population of similar characteristics allows for the calculation of sampling error (Fowler, 2009; de Leeuw et al., 2008).

There is literature to suggest that there are legal and cultural barriers in regards to contacting participants randomly by email. However, that discussion focused on the fact that many personal email addresses are provided through privately owned Internet providers (Dillman et al., 2009). In the case of this research, the email addresses provided to contact participants were owned by public school systems and are, therefore, in the public domain. Further, participants were invited to participate and expected to respond based on their professional capacity.

**Inclusion and exclusion criteria.** The researcher imposed few exclusionary characteristics in efforts to select a sample of teachers with a large variance in regards to demographic information. General education teachers who taught courses other than English, mathematics, science, and social studies were excluded. In addition, special education personnel not listed as “teachers” also were not included in the sample selection.
The mandate to implement evidence-based practices originates from two federal regulations which encompass public school education in the United States. There is no obligation for private K-12 education providers who do not receive federal funding to adhere to the requirements; therefore, private school teachers were excluded from the study.

**Procedures**

In order to ensure the ethical treatment of human subjects, on April 25, 2012, the researcher submitted an application to George Mason University’s Human Subjects Research Board (GMU HSRB) for permission to conduct the study. Submitting the research to a review board also ensures that the study has been well-designed (Dillman et al., 2009).

On March 29, 2012, while simultaneously preparing for GMU HSRB approval, the researcher contacted a representative from MDR to determine how to proceed with obtaining email and postal mailing addresses and planning for the deployment of two emails to participants. As mentioned earlier, MDR maintains a national database of contact information for educators across the United States. Prior to approval, the researcher was able to discuss the inclusion criteria and anticipated schedule for the deployment of the research. The contract with MDR was not finalized until the research was approved. Permission to conduct the study was granted by GMU HSRB on April 27, 2012. The researcher immediately contacted MDR and finalized the contractual agreement.
Prior to sending an unsolicited email to each participant, the researcher designed a post card for the purposes of introducing the research project to each participant (see Appendix B). The post card was designed using the online business Vistaprint.com. A draft copy of the post card was submitted with the GMU HSRB application. Once permission was granted on April 27, 2012, the researcher ordered the required amount of post cards. The post cards arrived the following week, on May 2, 2012, and the set of peel and stick mailing labels was delivered to the researcher on May 4, 2012. Fortunately, it was discovered, immediately, yet at the end of the workday, that the labels delivered by MDR were incorrect. An email was immediately sent to the MDR representative; however, a response was not received until the following Monday. The researcher received the correct set of labels on May 10, 2012.

On May 11, 2012, the researcher delivered the 4,200 post cards to a commercial agency for mailing. The representative at the site stated that the post cards would most likely go out the same day; however, it was possible that they would not all be mailed until May 14, 2012. The first email deployed on May 22, 2012 (see Appendix C). The reminder email deployed on May 29, 2012 (see Appendix D).

Individual consent was required of each participant before completing the survey (see Appendix A). Consent information was presented to participants on the first page of the survey. This page of the document is described in more detail in the survey section of this chapter. Consent was obtained from each participant electronically.
**Survey Instrument**

The final survey instrument used for this study was titled “Understanding Teachers and Evidence-Based Practices” (see Appendix A). The survey consisted of 6 sections with a total of 42 items. This section describes each section of the survey instrument.

Since the survey was delivered via unsolicited email, the opening paragraph could be considered most important to the success of the research. However, the researcher was fortunate to have the access to a database which allowed each participant to receive an individual invitation to participate. This gave participants the impression that they were selected due to their qualifications; which, in fact, was the case. Sending out individual invitations can be more effective than sending general invitations (Manfreda & Vehovar, 2008).

**Section one.** When the participants opened the survey by entering the hyperlink printed on a post card or selecting the link imbedded in the email they received, they were directed to a few sentences from the researcher thanking them for opening the survey and reminding them of the opportunity to be entered into a drawing for 1 of 15 $20 gift cards. The introduction was brief, yet designed to inform them of the purpose of the research, the reason each participant was selected, and the ease it would take to complete the survey itself. The brief statement from the researcher was followed by the information compliant with GMU HSRB to ensure the ethical treatment of participants. The section contained brief statements regarding informed consent, risks, benefits, and confidentiality. At the end of the first section, respondents were asked to provide consent
to participate by choosing a “yes” or “no” response. Participants who chose to take the survey were directed to the survey after selecting “yes.” Those who selected “no,” were directed to the last page of the survey which thanked them for participating.

Section two. Section two asked the participants questions regarding demographic information. Information solicited included gender, years of teaching experience, level of education, teaching credentials, and current teaching assignment. The researcher determined it appropriate to put the demographic section at the beginning of the survey so that participants would have the opportunity to respond to questions which were relatively easy to answer. The researcher implemented this strategy in hopes that participants would feel positive about completing the survey and would be encouraged to complete the survey in its entirety.

Section two contained a total of 16 items. There were 13 multiple-choice items in this section. Six of the multiple choice items contained an “other, please describe” option. This option allowed participants to enter a response not offered by the prepopulated options. For instance, when asked if their school location would be considered rural, suburban, or urban, the “other, please describe” option was provided in the event that participants were not familiar with the terms, how they might be defined, or did not feel that the geographic location of their work place could be described with the options available for selection. Two items were open-ended questions and asked participants to fill in the year that they received their last higher education degree and to write in their teacher license/certificate. The final item provided a drop-down box to allow participants to select the state where they teach.
Section three. The third section included 12 questions regarding participants’ attitude, understanding, reported barriers, and use of evidence-based practices during the instructional day. In order to avoid response sets, the questions varied in structure. Dillman et al. (2009) noted that using closed response items more often and using open response items sparingly helps to keep the respondent’s motivation high; closed response items are perceived as less difficult to complete, requiring less physical and cognitive energy. Where the researcher did not feel that it was necessary to force participants to choose a response within the ones provided, an “other, please describe” option was made available.

The first question in section three provided the participants with an open text box to include their own definition of evidence-based practices. After analyzing the data from the pilot study, this item generated the most discussion between the researcher, colleagues, and the dissertation committee. The researcher intended to limit open-ended responses in efforts to increase response rate. However, it became evident that if the researcher provided any form of the definition of the term, “evidence-based practices,” the purpose of the study would not be adequately met. Therefore, through various discussions, it was determined that this item would remain open-ended allowing for qualitative analysis of a participants’ responses. After completing their own definition, participants were asked to list the characteristics they think are important about evidence-based practices. The response for this item was an open-ended format as well. The purpose of the follow-up item was intended to elicit more details regarding the participants’ concept of the term.
Four of the items in section three were considered direct rating tasks, requiring participants to respond to a three-category scale which included the options “yes/unsure/no.” These items asked participants if they felt that evidence-based practices are well researched and valid teaching methodologies, if they believed they have the knowledge and skills to use evidence-based practices, if they would like to use evidence-based practices more often, and would they use evidence-based practices more often if provided with more professional development. Others items in section three asked respondents to select the attribute(s) that best described their impression to certain statements. Two items required participants to rate the impact of certain statements. Each item included a starter statement such as “I’ve learned about evidence-based practices from...” and “I determine which evidence-based practice I used based on....” The starter statements were followed by a series of closing statements which participants were asked to rate on five-point scales from “always to never” or “completely to not at all,” respectively. Five radio buttons were provided for each item, labeled as indicated in the preceding sentence. The participant’s selection on a scale was designed to inform the researcher to understand which item has more impact or is regarded as having a greater influence on participants. As with earlier items, the option of “other” accompanied by a blank text box was provided in the event participants felt that pre-populated items were not representative.

Finally, one item in section three asked participants to list the three evidence-based practices they rely on the most. To provide a response, participants were provided with three open text boxes. As indicated earlier, due to anticipated variance in the
knowledge of participants and use of terms across stakeholders, the researcher determined that including an exhaustive list of evidence-based practices would not elicit the same information as actually having participants type in the names or descriptors of the instructional practices they would identify. To follow that thought process, after participants listed the top three evidence-based practices, the next item asked participants to rate the use of the instructional practices they listed. The response options included: “daily,” “once every other day,” “two to three times a week,” “once a week,” and “less than once a week.”

Section four. The fourth section asked the participants questions regarding multi-tiered intervention systems. Multi-tiered interventions where introduced when the IDEIA was reauthorized in 2004 as an acceptable method for identifying students with disabilities. The basic premise behind the concept is the students who respond poorly to evidence-based practices are, in fact, those students in need of specially designed instruction (Fuchs & Fuchs, 2007). In schools where multi-tiered intervention systems have been implemented, students identified as performing well below age and grade-level expectations are referred to participate in evidence-based interventions. In most designs, evidence-based practices are implemented first in the general education setting by a general education teacher or a specialist other than a special education teacher.

The fourth section consists of six items: two require a “yes/no” response, one requires a “yes/somewhat/no” response, one requires a “yes/maybe/no” response, and two are open-ended questions. The first two items simply asked if the participants are familiar with multi-tiered intervention systems and if such systems are implemented in their
school. Due to the fact that multi-tiered intervention systems are considered relatively new models in education, the latter item allows participants to select “somewhat” as an option. Completion rules were included in section four of the survey. If a participant selected “no” to either item just mentioned, a skip logic rule was imbedded and the survey skipped the remaining items in section four and proceeded to the first item in section five. The two other “yes/no” response items in this section asked the participants if they had a student(s) in their classroom who is participating in, or who has participated in, a multi-tiered intervention program in their school. If participants chose “yes,” they were asked if the evidence-based practices used with the student(s) who participate in the multi-tiered intervention system made a positive difference and improved the student’s academic skills. In addition to “yes/no,” this item also allowed for participants to choose “maybe.” The two open-ended questions in section four asked participants to list the evidence-based practices implemented at their school in the first and second tier, respectively. Participants were provided with an open text box to provide their response.

**Section five.** The fifth section of the survey invited participants to volunteer for a follow-up interview via email, telephone, or Skype. The researcher intended to briefly interview each participant who volunteered in order to gain a deeper understanding of the teacher’s attitudes, understanding, and use of evidence-based practices. A semi-structured interview protocol was implemented in order to corroborate the data collected via the Internet survey (see Appendix G). The interview process was designed to allow the researcher to develop richer conclusions regarding the teacher’s actual understanding and
use of evidence-based practices. The follow-up interview was designed to collect data that would allow the researcher to develop more meaningful, functional conclusions.

**Section six.** Section six addressed the incentive for completing the survey. The researcher intended to award 10 randomly selected participants with $20 gift cards to either Barnes & Noble, Starbucks, or Target. Participants were asked to enter a first name, an email address, and to indicate which gift card they would prefer. Once participants completed all items in section six, the Internet survey forwarded to a final two sentences which thanked them for participating and indicated that the researcher appreciated their time and effort.

**Response Rate**

Response rate has become a complicated topic in the area of survey research. This is specifically because the nature of the research has evolved in the most recent years from the traditional paper/pencil documents to more advanced delivery systems which utilize the availability of the Internet. In the findings of a meta-analysis completed by Shin and Fan (2008), the researchers report that statistical analysis showed that response rates of both mail surveys and web-based surveys varied considerably across 39 studies. For some studies, the web-based survey resulted in a higher response rate, while for others, the mail survey succeeded in achieving a higher response rate. When researching survey delivery systems as means for collecting data from a given population of agriculture teachers in the state of Texas, Fraze et al. (2003) noted that response rate and variability of email and web-based surveys had yet to be determined.
When conducting survey research without direct interaction by an interviewer, additional efforts need to be made when making contact with participants to increase response rate. In addition, the written communication needs to be well written with a good layout (Dillman et al., 2009; Steeh, 2008). The nature of the Internet requires modifications in the way the researcher communicates with potential participants. A cover letter style introduction is considered inappropriate as it is often too lengthy and dense (Manfreda & Vehovar, 2008). Accordingly, for this current study, the researcher first introduced the research study via post card sent through U.S postal mail to each participant selected. The post card was followed by an email sent the following week. Another component found useful for maintaining a decent response rate is to provide the researcher’s contact information to the respondents. When participants have the opportunity to send questions, concerns, comments, or complaints, they often feel more involved in the process and positive about cooperating (Manfreda & Vehovar, 2008). For the proposed study, the researcher included her contact information as part of the required GMU HSRB statements. In addition, as required, the contact information for both the advising professor and GMU HSRB was included in section one of the survey, the section that also included the required informed consent. Email correspondence sent to participants was delivered from the researcher's student email account with George Mason University. Participants could simply reply to each email they received in order to be in direct contact with the researcher.

Preliminary discussions with MDR indicated that 3,000 unsolicited delivered surveys would result in 50 to 60 people actually completing the survey. Those numbers
would yield an estimated response rate between 1.7 and 2.0%. The customer service representative stated that many more invited participants would open the email they receive and click on the hyperlink to open the survey; however, they wouldn’t complete the survey in its entirety. Burns and Ysseldyke (2009) surveyed members of a professional organization and reported a response rate of 34.8% and 33.3% for the special education teachers and school psychologists surveyed, respectively. The authors reported the response as consistent with other recent studies which sampled participants from similar groups. In regards to the research procedures, the publication only indicated that surveys were sent to participants; however, the delivery method is not specified.

Several different strategies can be implemented in efforts to increase the response rate when implementing survey research. In a study by Gagnon and Maccini (2007), the procedures included two mailings, one reminder post card, and a follow-up phone call; yet, the researchers reported their response rate at 36%. Sandford (2010) used MDR to contact randomly selected participants three different times, twice by email and once by post card. Sandford (2010) reported a response rate of 4.1% of the original total of 3,000 participants. Mehrenberg (2009) deployed one post card followed by an email to 2,000 sample members, which yielded a response rate of 9%, or 177 responses. Morrison (2010) also implemented an electronic Internet-based survey. The researcher reported a 16% response rate after sending three different emails and one post card to 3,000 teachers; one email was sent to introduce the study, and two emails were sent as reminders.
One tool used by the researcher included sending each participant a post card as the first notification of the study, since sending out a notification ahead of time allows the researcher the opportunity to inform participants of the legitimacy of the survey and the importance of completing the survey (Manfreda & Vehover, 2008). Given the limited size of the post card, the information was brief. However, the purpose of the content was to increase their awareness of the study and the importance of their participation. As an added convenience, the link to the survey was included on the post card. The post card also alerted the participants to the possibility of winning a $20 gift card for completing the survey.

To address issues regarding response rate, the researcher deployed one initial post card and two follow-up emails to selected participants. All correspondence to participants identified the researcher by name, by role as a graduate student, and provided contact information. The required informed consent portion of the survey and the follow-up interview also included the contact information of the supervising professor and GMU HSRB. The researcher adhered to recommendations by making all written material as brief as possible. Efforts were made during the design of the survey to decrease the number of open-ended questions and to consolidate items so that the survey did not require an inordinate amount of effort by the participants. An opportunity to participate in a follow-up interview was provided to the participants. If participants felt their perceptions were not accurately captured in the survey, they could use this opportunity to elaborate on their responses directly with the researcher. Finally, as already mentioned, an incentive was offered for completing the survey.
**Follow-up Interviews.** Participants were asked to volunteer for follow-up interviews. Participants indicated their willingness to participate in a follow-up interview by entering their first name, an email address, a Skype address or a phone number. On May 7, 2012, the researcher sent email messages to 15 of the 38 participants who volunteered to participate in a follow-up interview. Email messages were sent to the remaining 23 participants the week of May 14, 2012. The researcher attempted to contact participant volunteers thought July 30, 2012. Each follow-up interview was conducted via telephone call. The researcher started every interview by reading the required GMU HSRB informed consent statement (Appendix F). After documenting each participant’s verbal agreement to participate in the follow-up interview, the researcher asked the questions based on the semi-structured interview developed for the current student (Appendix G). Participants were first asked if they were asked to identify their position (e.g., general education, special education teacher, or teacher leader). The remainder of the items asked participants questions regarding their use of evidence-based practices. Items on the follow-up interview asked participants if they would like to provide information that might have not been captured on the survey about their use of evidence-based practices, to elaborate on their use of evidence-based practices, and to describe barriers to implementing evidence-based practices. Other items asked participants about their experience with multi-tiered intervention systems and how they learn about new instructional methods. The last item asked participants if they would recommend any changes be made to the survey.
This chapter presents the findings of the data collected from the “Understanding Teachers and Evidence-Based Practices” survey instrument. The first part of the chapter will describe the demographic information in order to understand the sample populations who have become the participants in this study. The second section will include a reporting of the quantitative data, which will be presented in the order of each research question and corresponding survey item. In addition to the presentation of quantitative data, supporting qualitative data will be presented to report, illustrate, or support the overall data collected in regards to each research question.

Survey Instrument

The “Understanding Teachers and Evidence-Based Practices” survey consisted of 42 items. It was an Internet-based survey that was delivered to participants as a link embedded first on a post card and then embedded in two email messages. Thirty-two items required participants to select a response from multiple options. Ten items were open-ended and required participants to type their responses into an open text box. The survey was comprised of demographic information which collected personal and professional information. In addition, the survey consisted of several items which asked participants to indicate their perceptions of statements regarding their knowledge and
understanding, use of, and the barriers to using evidence-based practices during the instructional day.

Within the instrument, the survey included three subscales in total, each consisting of 9 five-point Likert scale items. The first subscale, “sources of knowledge,” included items regarding general and special education teachers’ sources of knowledge to understand evidence-based practices. The second subscale, “determine use,” included items which address how general and special education teachers report their perceived use of evidence-based practices during the instructional day. Accordingly, the third subscale, “impact on use,” included items which examine what general and special education teachers report as barriers and challenges to implementing evidence-based practices during the instructional day. See Appendix A for more detailed information.

**Reliability**

Analysis of internal consistency was completed for three subscales and the total survey. The Cronbach’s alpha for the “sources of knowledge” subscale was .707 ($N = 9$). The internal consistency for the “determine use” subscale was .769 ($N = 9$) and for “impact on use,” it was .836 ($N = 9$). The reliability of all three subscales was .789 ($N = 27$).
Response Rate

A total of 4,053 participants were contacted three times and asked to complete an Internet-based survey regarding their reported use of evidence-based practices. The first contact was made by means of a post card sent to participants at the address of the school where they were employed (See Appendix B). A week after receiving the post card, participants received an email (See Appendix C). A follow-up email was sent after another two weeks had passed. The survey remained open for four months, respectively during the end of the school year and into the summer months. A total of 265 participants opened the survey and provided informed consent to participate in the study, which represents a 6.5% response rate.

For purposes of understanding how research procedures impact response rate, participants were asked to indicate if they completed the survey after receiving the initial post card, the first email, or the second email. Interestingly, 19.6% indicated that they completed the survey after receiving the initial post card. This finding is slightly higher than anticipated given the fact that participants had to have manually typed in the web address for the survey into an Internet browser to access the survey. In addition, 30.9% indicated that they responded after they received the first email, while 17.4% indicated that they completed the survey after receiving the second email. Participants who received an email invitation and a reminder email had direct access to a hyperlink, which if selected would open right to the survey. Thirty-two percent (32%) did not share when they completed the survey. See Figure 1 for more information.
Figure 1. Reported frequency of respondents’ completion of the survey based on notifications received.

Frequency counts across all participants, means, and standard deviations were calculated for all three subscales: “sources of knowledge,” “determine use,” and “impact on use.” See Tables 4, 5, and 6 for more information. Calculations for the total subscale scores were as follows: “sources of knowledge” \( (M = 32.26, SD = 6.7) \); “determine use” \( (M = 29.70, SD = 5.70) \); “impact on use” \( (M=19.95, SD=6.50) \).
Table 4

*Frequency counts across all participants, means, and standard deviations for “source of knowledge” subscale*

<table>
<thead>
<tr>
<th>Source of Knowledge</th>
<th>1. mainly</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5. not at all</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>College/University</td>
<td>42</td>
<td>26</td>
<td>30</td>
<td>21</td>
<td>44</td>
<td>2.99</td>
<td>1.55</td>
</tr>
<tr>
<td>National Professional Conference</td>
<td>19</td>
<td>23</td>
<td>23</td>
<td>13</td>
<td>76</td>
<td>3.68</td>
<td>1.50</td>
</tr>
<tr>
<td>School district professional development/training/workshop</td>
<td>46</td>
<td>46</td>
<td>47</td>
<td>16</td>
<td>16</td>
<td>2.47</td>
<td>1.24</td>
</tr>
<tr>
<td>District requirements</td>
<td>38</td>
<td>40</td>
<td>28</td>
<td>19</td>
<td>40</td>
<td>2.90</td>
<td>1.50</td>
</tr>
<tr>
<td>School-based professional development</td>
<td>47</td>
<td>43</td>
<td>39</td>
<td>18</td>
<td>25</td>
<td>2.60</td>
<td>1.37</td>
</tr>
<tr>
<td>Reading professional journals</td>
<td>25</td>
<td>38</td>
<td>40</td>
<td>27</td>
<td>35</td>
<td>3.05</td>
<td>1.36</td>
</tr>
<tr>
<td>My peers/Colleagues</td>
<td>17</td>
<td>49</td>
<td>53</td>
<td>20</td>
<td>39</td>
<td>2.98</td>
<td>1.24</td>
</tr>
<tr>
<td>Internet sites</td>
<td>16</td>
<td>35</td>
<td>40</td>
<td>29</td>
<td>39</td>
<td>3.25</td>
<td>1.32</td>
</tr>
<tr>
<td>I haven’t learned about evidence-based practices</td>
<td>11</td>
<td>6</td>
<td>12</td>
<td>9</td>
<td>89</td>
<td>4.25</td>
<td>1.30</td>
</tr>
</tbody>
</table>

Table 5

*Frequency counts across all participants, means, and standard deviations for “determine of use” subscale*

<table>
<thead>
<tr>
<th>Determine of Use</th>
<th>1. mainly</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5. not at all</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The needs of the students</td>
<td>122</td>
<td>39</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>1.38</td>
<td>.69</td>
</tr>
<tr>
<td>Which is easiest to manage</td>
<td>19</td>
<td>56</td>
<td>51</td>
<td>24</td>
<td>13</td>
<td>2.73</td>
<td>1.10</td>
</tr>
<tr>
<td>Which shows positive student progress</td>
<td>102</td>
<td>48</td>
<td>12</td>
<td>6</td>
<td>1</td>
<td>1.56</td>
<td>.823</td>
</tr>
<tr>
<td>Disability Identification of the student</td>
<td>45</td>
<td>46</td>
<td>45</td>
<td>12</td>
<td>13</td>
<td>2.39</td>
<td>1.20</td>
</tr>
<tr>
<td>Required by student’s IEP</td>
<td>74</td>
<td>40</td>
<td>31</td>
<td>11</td>
<td>8</td>
<td>2.02</td>
<td>1.64</td>
</tr>
<tr>
<td>My colleague’s recommendation</td>
<td>16</td>
<td>55</td>
<td>52</td>
<td>22</td>
<td>16</td>
<td>2.80</td>
<td>1.11</td>
</tr>
<tr>
<td>What I read in a journal</td>
<td>6</td>
<td>19</td>
<td>58</td>
<td>38</td>
<td>38</td>
<td>3.52</td>
<td>1.10</td>
</tr>
<tr>
<td>My teaching schedule</td>
<td>20</td>
<td>31</td>
<td>51</td>
<td>27</td>
<td>29</td>
<td>3.09</td>
<td>1.27</td>
</tr>
<tr>
<td>Data from progress monitoring</td>
<td>58</td>
<td>66</td>
<td>23</td>
<td>13</td>
<td>4</td>
<td>2.02</td>
<td>1.02</td>
</tr>
</tbody>
</table>
Table 6

Frequency counts across all participants, means, and standard deviations for “impact on use” subscale

<table>
<thead>
<tr>
<th></th>
<th>1. mainly</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5. not at all</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>75</td>
<td>64</td>
<td>23</td>
<td>1</td>
<td>8</td>
<td>1.85</td>
<td>1.00</td>
</tr>
<tr>
<td>Available materials</td>
<td>63</td>
<td>61</td>
<td>28</td>
<td>7</td>
<td>6</td>
<td>1.98</td>
<td>1.03</td>
</tr>
<tr>
<td>Training</td>
<td>50</td>
<td>59</td>
<td>37</td>
<td>14</td>
<td>6</td>
<td>2.20</td>
<td>1.07</td>
</tr>
<tr>
<td>Works well with all students</td>
<td>46</td>
<td>62</td>
<td>36</td>
<td>11</td>
<td>7</td>
<td>2.20</td>
<td>1.06</td>
</tr>
<tr>
<td>Number of students in my room</td>
<td>56</td>
<td>46</td>
<td>34</td>
<td>12</td>
<td>15</td>
<td>2.29</td>
<td>1.27</td>
</tr>
<tr>
<td>Different needs in my classroom</td>
<td>66</td>
<td>56</td>
<td>33</td>
<td>5</td>
<td>4</td>
<td>1.93</td>
<td>.97</td>
</tr>
<tr>
<td>Providing services in the general class setting</td>
<td>39</td>
<td>54</td>
<td>39</td>
<td>13</td>
<td>17</td>
<td>2.48</td>
<td>1.24</td>
</tr>
<tr>
<td>Difficulty of implementation</td>
<td>24</td>
<td>62</td>
<td>46</td>
<td>19</td>
<td>12</td>
<td>2.59</td>
<td>1.10</td>
</tr>
<tr>
<td>How quickly it will remediate a skill</td>
<td>40</td>
<td>66</td>
<td>37</td>
<td>13</td>
<td>7</td>
<td>2.27</td>
<td>1.054</td>
</tr>
</tbody>
</table>

Additional statistical analyses were completed to determine if there were any differences in mean scores and standard deviations throughout the data collected. An independent-samples t-test was conducted to compare the responses across all participants: participants who responded after receiving the initial postcard and first email, considered “early responders”; and participants who responded after receiving the second email, considered “late responders.” Mean scores were compared for all three subscales: “sources of knowledge,” “determination of use,” and “impact on use.” For the “sources of knowledge” subscale, there was not a significant difference in the mean scores for early responders ($M = 29.56, SD = 6.76$) and late responders ($M = 29.55, SD = 6.63$) conditions; $t = .01(108), p = .63$. For the “determination of use” subscale, there was not a significant difference in the mean scores for early responders ($M = 21.77, SD = 6.02$) and late responders ($M = 21.64, SD = 5.51$) conditions; $t = .14(150), p = .97$. For
the “impact on use” subscale, there was not a significant difference in the mean scores for early responders \((M = 21.10, SD = 6.85)\) and late responders \((M = 19.15, SD = 6.17)\) conditions; \(t = 1.84(152), p = .38\). This means there were no statistical differences on all three total subscale scores between early responders and late responders.

An independent-samples t-test was also conducted to compare responses provided by male and female participants. Mean scores were compared for all three subscales: “sources of knowledge,” “determination of use,” and “impact on use.” For the “sources of knowledge” subscale, there was not a significant difference in the mean scores for the male participants \((M = 30.97, SD = 7.21)\) and female participants \((M = 28.84, SD = 6.40)\) conditions; \(t = 1.55(106), p = .42\). For the “determine of use” subscale, there was not a significant difference in the mean scores for the male participants \((M = 24.64, SD = 6.65)\) and female participants \((M = 20.54, SD = 4.78)\) conditions; \(t = 4.25(149), p = .10\). For the “impact on use” subscale, there was not a significant difference in the mean scores for the male participants \((M = 21.73, SD = 7.16)\) and female participants \((M = 19.37, SD = 6.28)\) conditions; \(t = 2.02(150), p = .62\). This means there were no statistical differences on all three total subscale scores between males and females.

An independent-samples t-test was also conducted to compare responses provided by participants between the ages of 18 and 40, considered “younger,” and the participants between the ages of 41 and 70+, considered “older.” For the “sources of knowledge” subscale, there was not a significant difference in the mean scores for younger participants \((M = 27.57, SD = 5.58)\) and older participants \((M = 30.30, SD = 6.89)\) conditions; \(t = -1.94(108), p = .14\). For the “determine of use” subscale, there was not a
significant difference in the mean scores for younger participants ($M = 21.05, SD = 5.61$) and older participants ($M = 21.91, SD = 5.73$) conditions; $t = -.813(150), p = .60$. For the “impact on use” subscale, there was not a significant difference in the mean scores for younger participants ($M = 20.41, SD = 7.09$) and older participants ($M = 19.80, SD = 6.32$) conditions; $t = .512(152), p = .88$. This means there were no statistical differences on all three total subscale scores between younger and older.

An independent-samples t-test was also conducted to compare the responses across all participants who reported their highest degree earned was a Bachelor’s degree and participants who reported their highest degree earned was a Masters’ degree or higher. Mean scores were compared for all three subscales: “sources of knowledge,” “determination of use,” and “impact on use.” For the “sources of knowledge” subscale, there was not a significant difference in the mean scores for those participants with a Bachelor’s degree ($M = 30.63, SD = 7.50$) and participants with Master’s degrees or higher ($M = 29.12; SD = 6.37$) conditions; $t = 1.06(105), p = .36$. For the “determination of use” subscale, there was not a significant difference in the mean scores for those participants with a Bachelor’s degree ($M = 20.59, SD = 6.07$) and participants with Master’s degrees or higher ($M = 22.31; SD = 5.46$) conditions; $t = -1.72(147), p = .48$. For the “impact on use” subscale, there was not a significant difference in the mean scores for those participants with a Bachelor’s degree ($M = 18.39, SD = 6.95$) and participants with Master’s degrees or higher ($M = 20.57; SD = 6.30$) conditions; $t = -1.87(148), p = .86$. This means there were no statistical differences on all three total
subscale scores between highest degree earned was a Bachelor’s degree and highest degree earned was a Master’s degree or higher.

**Characteristics of the Sample**

There are several characteristics of the survey which make the results generalizable. First, participants who responded to the study represent 41 states across the entire United States. Thus, there should be no regional biases represented in the responses obtained for the purposes of the study. Second, the demographics of the participants represent a diverse group of educators, which allows for broader conclusions to be drawn. A complete list of state responses can be viewed in Table 7.

Finally, in order to determine if the demographic characteristics of the participants in the current study were consistent with a larger population, where possible, the data was compared with information available through the National Center for Educational Statistics (NCES). The demographic information regarding age, gender, highest degree earned, and years of experience were compared to the data published by NCES. Much of the data from the current study was found to be consistent with the NCES data which allows for greater generalizability.

**Table 7**

*Frequency of Participants’ State Location*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>8</td>
<td>3.0</td>
<td>3.0</td>
<td>7.2</td>
</tr>
<tr>
<td>AR</td>
<td>1</td>
<td>.4</td>
<td>.4</td>
<td>7.5</td>
</tr>
<tr>
<td>State</td>
<td>Totals</td>
<td>Column 1</td>
<td>Column 2</td>
<td>Column 3</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>AZ</td>
<td>3</td>
<td>1.1</td>
<td>1.1</td>
<td>8.7</td>
</tr>
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<td>5.3</td>
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</tr>
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<td>1.1</td>
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<td>3.8</td>
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<td>1.9</td>
<td>1.9</td>
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<td>1.5</td>
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<td>1.1</td>
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<td>1.5</td>
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<td>OR</td>
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<td>.8</td>
<td>75.8</td>
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<td>1.1</td>
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Of the total respondents, 185 (69.8%) identified as female, while 68 (25.7%) indicated to be male. See Figure 2. Twelve individuals did not reveal their gender.

According to the NCES for the 2007-2008 school year, teachers across the nation were reported to be 75% female and 25% male.

![Figure 2. Percentage of male and female participants.](image)

In addition, respondents indicated being between the ages of 18 and 70. The highest frequency age bracket identified was between 51-60 years old with 99 respondents. That bracket was followed by the 73 (27.5%) indicating membership between 41-50 years old. This information is consistent with the NCES data which
indicates the average age of teachers across the United States is 42.5. A further breakdown of the ages reported by participants can be found in Figure 3.

![Figure 3. Frequency of participants’ reported age.](image)

Many items in the demographic section asked participants specific details regarding their qualifications and certifications. Participants were asked to identify what year they obtained their last degree and also to indicate their highest degree earned. The highest number of participants, 76 (18.7%), indicated they earned their last degree between 2001 and 2010; however, this number was only slightly higher than the 61 participants (23%) and 59 (22.3%) who indicated receiving their degree between 1991-2000 and 1981-1990, respectively. In short, 74% of participants indicated earning their last higher education degree between the years of 1981 and 2010. See Figure 4.
In addition to the year that their last degree was earned, participants were asked about the highest degree earned. A vast majority of participants, 145 (54.7%), indicated the highest degree earned was a Master’s degree (e.g., MA/MS/MAT/MEd). The Master’s degree was followed by the Bachelor’s degree with 86 (32.5%) participants. Nineteen participants, representing 7.2%, indicated they had obtained a degree higher than a Master’s degree. See Figure 5 for more information. This data is also consistent with published NCES data which indicated for the 2007-2008 school year, 47.4% of teachers held a Bachelor’s degree, 44.5% held a Master’s degree, and 7.3% held a degree higher than a Master’s.
Teachers were also asked to indicate the number of years they had been teaching. Fifteen (5.7%) participants indicated they had been teaching for 0 to 5 years. Twenty-eight (10.6%) participants indicated they had been teaching for 6 to 10 years. Totaled, 43 (16.3%) participants indicated they had been teaching for 0 to 10 years. See Figure 6. This figure is lower than the NCES data collected, which indicates for the 2007-2008 school year, 47% of teachers had 0 to 9 years teaching experience. Of the total participants, 84 (31.7%) indicated they had been teaching for 11 to 20 years. This figure is more consistent with NCES data, which reports 29.3% of teachers had 10 to 20 years teaching experience. Finally, for the current study, 130 participants indicated they had 21 or more years of teaching experience. This figure represents 29% of the all participants included in the current study. In comparison, NCES reported 23.7% of teachers across the United States were reported to have more than 20 year teaching experience. Whereas the
number of participants who reported teaching experience from 0 to 10 years was lower than reported across the nation by NCES for the 2007-2008 school year, the amount of participants who indicated to have 10 or more years teaching experience for the current study was consistent with NCES data.

Figure 6. Percentage of participants’ reported years of teaching.
Note: 1. 0-5, 2. 6-10, 3. 11-15, 4. 16-20, 5. 21-25, 6. 26-30, 7. 31-35

Participants were also asked to indicate which grade level they taught. Elementary school was defined as grades pre-Kindergarten through grade 5. Middle school was defined as grades 6 through 8. High school was defined as grades 9 through 12. Because some participants taught grades which overlapped the school levels just indicated, an elementary/middle school combined group and a middle school/high school group was included. Based on the participants responses, 49 (18.5%) taught elementary grades, 22
(8.3%) indicated they taught elementary/middle combined grades, 58 (21.9%) indicated they taught middle school grades, 21 (7.9%) indicated they taught middle/high combined grades, and 82 (30.9%) indicated they taught high school grades. See Figure 7 for more information.

![Pie chart showing percentage of reported grade levels taught by participants.](image)

*Figure 7.* Percentage of reported grade levels taught by participants.

Of course, type of teacher was important information to gather for the purposes of the study. Of the total participants, 159 (60%) indicated they were a general education teacher, while 70 (26.4%) of participants indicated they were a special education teacher. See Figure 8.
In efforts to gather more specific data, those participants who indicated they were general education teachers were directed to an item which requested they indicate what content curriculum area(s) they taught. A skip logic was built into the electronic survey; the 70 participants who indicated they were a special education teacher did not view the item regarding content area taught. Content areas were listed as Math, History/Social Studies, English, Language Arts, Reading, and Science. Participants were directed to select all that apply and were also provided a blank text box to indicate additional information. See Figure 9.
Participants who indicated they were special education teachers did not view the item regarding what the content area taught. Rather, special education teachers were to indicate one of the following: a) if they taught special education students who primarily participate in the general education curriculum or access state standards and were expected to graduate with a state standard diploma (general education curriculum); or b) if they taught special education students who accessed the modified diploma, or aligned standards, and are expected to exit high school based on their Individualized Education Program (IEP) goals or by “aging out” of special education (modified curriculum). Of the total participants, 47 (17.7%) indicated they primarily work with special education students accessing the general education curriculum. Twenty-eight (10.6%) indicated they primarily teach special education students who access the modified curriculum. See Figure 10 for more information.

Figure 9. Frequency of content areas taught by participants who identified as being a general education teacher.
In addition to being asked what type of curriculum their students’ primarily access, special education teachers were also asked where they spent a majority of the instructional day. Interestingly, 49 (18.5%) of participants indicated they spend a majority of the instructional day in the special class, or pull out, setting. Of the remaining participants who responded to this item, 14 (5.3%) indicated they spent their instructional time equally between the general class and special class setting, while 9 (3.4%) indicated they spent most of their instructional time solely in the general class setting. See Figure 11.
Of all the participants who completed the survey, 227 (85.7%) indicated they are considered highly qualified based on state or local regulations to teach what they are assigned to teach. A total of 5 (1.9%) participants indicated they were not highly qualified and an equal number indicated they were partially highly qualified for what they are assigned to teach. Thirteen (4.9%) participants indicated they were unsure whether they were highly qualified and 3 (1.1%) indicated they were currently working completing the requirements to become highly qualified. See Figure 12.

*Figure 11.* Percentage of reported settings where special education teachers spend most of their instructional day.
As the teacher preparation program is a considerable theme in the literature review, participants were asked to identify the method in which they received their teaching certificate. This item was worded to include those individuals that might have been working on their certification at the time of completing the survey. Of the total participants, 201 (75.8%) indicated they had received their teaching certificate through a college or university program provided on a college or university campus. Of all the participants, 3 (1.1%) indicated they received their certification through a college or university cohort program through a school district. Eighteen (6.8%) indicated they received their degree through an alternative certification program and, finally, 5 (1.9%) indicated they participated in an online certification or degree program. See Figure 13 for more information.
Follow-up Interviews

At the end of the survey, teachers were asked to volunteer for a 10-15 minute follow-up interview. The purpose of the interview was to gather data in efforts to draw more meaningful conclusions regarding teachers’ sources of knowledge. Unfortunately, of all participants, only 38 volunteered to participate in follow-up interviews. The researcher made several attempts to contact volunteer participants by either email or phone, depending on what information was provided by the participants. Between the weeks of May 6, 2012, and June 29, 2012, the researcher made several attempts to contact volunteers and only secured six interviews. Scheduling follow-up interviews were complicated by personal schedules, work schedules, and time changes across the United States.
The first participant was a male, general education high school math teacher between the age of 41 and 50 years old. His highest degree earned was a Bachelor’s degree which he earned in 1991. He has been teaching between 1 to 5 years. He is considered highly qualified.

The second participant was a female, general education middle school math teacher between the age of 51 and 60 years old. Her highest degree earned was a Bachelor’s degree which she earned in 1997. She has been teaching between 26 to 20 years. She is considered highly qualified.

The third participant was a female, high school special education teacher between the ages of 51 and 60 years old. Her highest degree earned was a Master’s degree which she earned in 1998. She primarily teaches students who access the modified curriculum and spends much of her instructional day teaching in the special class, or pull out, setting. She has been teaching between 26 to 30 years. She did not indicate whether or not she was highly qualified.

The fourth participant was a female, general education elementary math and history teacher between the age of 31 and 40 years old. Her highest degree earned was a Master’s degree which she earned in 2010. She has been teaching between 6 to 10 years. She is considered highly qualified.

The fifth participant was a female, general education middle school history teacher and college instructor between the ages of 16 and 20 years old. Her highest degree earned was a Master’s degree which she earned in 1994. She has been teaching between 21 to 25 years. She is considered highly qualified.
Finally, the sixth participant was a female, general education high school English teacher between the age of 51 and 60 years old. Her highest degree earned was a Master’s degree which she earned in 2001. She has been teaching between 6 to 10 years. She is considered highly qualified.

**Quantitative and Qualitative Analyses by Research Question**

Descriptive statistics were calculated for each item on the survey that could be quantified. Frequency statistics means and standard deviations were calculated for each Likert-scaled and forced choice item. Parametric and nonparametric were used to make comparisons across groups as reported in the demographic data collected. Qualitative data will be discussed throughout.

**Research Question 1.1** The purpose of this study is to gather information to better understand general and special education teachers’ understanding regarding the use of evidence-based practices during the instructional day. Research question 1.1 examined general and special sources of knowledge to understanding evidence-based practices during the instructional day. A large part of this data was derived from the “sources of knowledge” subscale which was comprised of 9 five-point Likert scale items. Five addition multiple choice items and two open-ended questions were also included in the survey to address the first research question and gather more understanding of how teachers gain knowledge of evidence-based practices. Survey items asked participants to report if they perceive evidence-based practices to be well documented in research studies and were valid teaching methodologies. They also asked participants to report where they learned about evidence-based practices and to rate whether or not they have
the knowledge and skills to implement evidence-based practices. Participants were also asked to provide their own definition of evidence-based practices, list the three evidence-based practices they rely on the most, and then rank the three listed and indicate how often they use them. Finally, participants were asked a series of questions regarding their knowledge of multi-tiered intervention systems as a means to better understand what teachers know about evidence-based practices. First, the quantitative statistics, or descriptive statistics will be reported in this section. Then the qualitative data describing the open-ended questions will be reported in the latter portion of this section.

During the follow-up interviews, when participants were asked how they learn about new instructional methods, all six participants indicated professional development opportunities provided through their current work situation, such as school district professional development and professional development that occurs at their base school. Of the six participants who participated in the follow-up interviews, no participants indicated they learned about evidence-based practices from college/university courses, national professional conferences, the Internet, or reading a journal.

When asked if evidence-based practices are well documented by research studies, of all participants, 126 (47.5%) indicated that they agreed. Also, 56 (21.1%) indicated they were unsure, while only 4 (1.5%) stated “no.” See Figure 14. A one sample chi-square was conducted to determine if all participants’ (general education and special education teachers) perceived that evidence-based practices were well documented by research. The results were statistically significant, Pearson $\chi^2 (2, N = 186) = 120.90, p = .00$, indicating that significantly more general and special education teachers reported that
evidence-based practices were well documented by research. A two-way contingency table analysis was conducted to evaluate whether general education teachers and special education teachers were similar or different in the way they reported their perceptions of whether or not evidence-based practices are well documented in the research literature. The two variables were general education teacher and special education teacher with three levels of choices: “yes,” “unsure,” and “no.” The results of the test were not statistically significant, Pearson $\chi^2 (2, N = 167) = 2.93, p = .23$, indicating type of teacher (general education versus special education) did not impact teachers’ perceptions of whether or not evidence-based practices are well documented in the literature.

Figure 14. Percentage of all participants’ perceptions of evidence-based practices being well documented by research studies.
Response frequencies were similar when participants were asked if evidence-based practices are valid teaching methodologies. For that item, 137 (51.7%) indicated “yes,” while 48 (18.1%) indicated they were “unsure,” and 2 (.8%) indicated “no.” Of the participants who indicated they were general education teachers, 52.8% indicated “yes,” while 20.8% indicated they were “unsure,” and 1.3% indicated “no.” There was a slight discrepancy with the responses from those teachers who indicated they were special education teachers. Of those participants, 57.1% indicated “yes,” while 12.9% indicated they were “unsure.” No special education teacher indicated “no” when asked if evidence-based practices are valid teaching methodologies. See Figure 15.

A one-sample chi-square was conducted to determine whether all teachers perceived evidence-based practices to be valid teaching methodologies. Participants could select from three levels of choices: “yes,” “unsure,” or “no.” The results were significant, Pearson $\chi^2 (2, N = 187) = 151.13, p = .00$, indicating that more teachers reported evidence-based practices to be valid teaching practices.

A two-way contingency table analysis was conducted to evaluate whether general and special education teachers were similar or different in the way they reported perceptions of whether or not evidence-based practices are valid teaching practices. The results of the test were not significant, Pearson $\chi (2, N = 168) = 2.61, p=.27.$, indicating the type of teacher (general education teacher versus special education teacher) did not impact teachers’ perceptions of whether or not evidence-based practices are valid teaching practices.
In order to gather data regarding where teachers learn about instructional practices, the survey asked participants to indicate where they learned about evidence-based practices. See Figure 16 for more detailed information. A majority of participants, 139 (52.5%), indicated they have mainly learned about evidence-based practices through school district professional development/training/workshops. School-based professional development was followed by school-based professional development (48.7%), peers/colleagues (44.9%), district requirements (40.0%), reading professional journals (38.9%), college/university courses (37%), Internet sites (34.3%), and national professional conferences (24.5%). Twenty-nine participants (10.9%) indicated they have not learned about evidence-based practices.

The data regarding where participants learned about evidence-based practices were entered into a one-sample chi-square test to determine whether there was a difference in the amount of use of evidence-based practices during the instructional day.
between general education and special education teachers. Across all participants, most of the results were significant. The following items were significant: learned from college/university courses, Pearson $\chi^2 (1, N = 163) = 6.68, p = .010$; school district professional development, Pearson $\chi^2 (1, N = 171) = 66.95, p = .000$; school district requirements, Pearson $\chi^2 (1, N = 165) = 13.388, p = .000$; and school-based professional development, Pearson $\chi^2 (1, N = 172) = 43.00, p = .000$; reading professional journals, Pearson $\chi^2 (1, N = 165) = 10.19, p = .00$; peers/colleagues, Pearson $\chi^2 (1, N = 169) = 28.17, p = .00$; and haven’t learned about evidence-based practice, Pearson $\chi^2 (1, N = 127) = 37.49, p = .00$. This analysis reveals that significantly more general and special education teachers indicated that they mainly learned about evidence-based practices from college/university courses, school district professional development, school district requirements, and school-based professional development, while significantly more general and special education teachers indicated they somewhat have not learned about evidence-based practices. The following items were not found not to be statistically significant: learned from national conference, Pearson $\chi^2 (1, N = 154) = 3.74, p = .053$; and from the Internet, Pearson $\chi^2 (1, N = 159) = 3.327, p = .068$, indicating there is no difference across participants in regards to responses about learning of evidence-based practices from either a national conference or the Internet. A two-way contingency table analysis was conducted to evaluate whether general education teachers and special education teachers were different in the way they reported where they have learned about evidence-based practices. The two variables were general education teacher and special education teacher with five levels of choices on a five-point Likert scale from “1. mainly”
to “5. not at all.” The results of the test was that there is no statistical significance across all items: learned from college or university, Pearson $\chi^{2}(1, N = 148) = .144, p = .71$; national professional conference, Pearson $\chi^{2}(1, N = 139) = 1.023, p = .31$; school district professional development, Pearson $\chi^{2}(1, N = 155) = 6.05, p = .14$; district requirements, Pearson $\chi^{2}(1, N = 149) = 1.39, p = .24$; school-based professional development, Pearson $\chi^{2}(1, N = 155) = 5.15, p = .23$; reading professional journals, Pearson $\chi^{2}(1, N = 155) = .48, p = .50$; peers and colleagues, Pearson $\chi^{2}(1, N = 153) = .47, p = .50$; Internet sites, Pearson $\chi^{2}(1, N = 145) = .161, p = .69$; and haven’t learned about evidence-based practices, Pearson $\chi^{2}(1, N = 113) = .26, p = .61$. These findings indicate that type of teacher (general education and special education) did not impact teachers’ responses regarding where they learned about evidence-based practices.

![Figure 16. Percentage of participants’ responses regarding where they have learned about evidence-based practices.](image)

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When asked to elaborate and provide more information about professional development activities, the participants described professional development opportunities that were either required and included the entire faculty in the building, or opportunities that were provided by the central office and required teachers to travel to another site. One high school teacher said, “we have a faculty meeting every so often where teachers get up and demonstrate a new program or something.” He indicated that some teachers do travel to conferences, but he never has. When asked what type of conferences teachers travelled to, he was unable to elaborate because he had never gone to a conference. He was not sure what they were all about. Conversely, none of the six participants mentioned specific training in evidence-based practices in specific content areas such as a specific reading strategy, Response to Intervention, or Curriculum Based Measurements.

Participants were consistent when asked if they had the knowledge and skills to implement evidence-based practices. Of the participants who identified as being general education teachers, 65 (40.9%) indicated they do have the knowledge to implement evidence-based practices, while 41 (25.8%) indicated somewhat, and 12 (7.5%) indicated they did not have the knowledge to implement evidence-based practices. Of the participants who indicated they were special education teachers, 31 (44.3%) indicated they did have the knowledge, while 16% (22.9%) indicated somewhat, and 3 (4.3%) indicated they did not have the knowledge to implement evidence-based practices. When general education teachers responded to the item regarding their skills to implement evidence-based practices, 70 (46.5%) indicated they did believe they had the skills. Also,
35 (22%) indicated the somewhat had the skills and 10 (6.3%) indicated they did not. Of the special education teachers, 33 (47.1%) indicated they did have the skills, while 17 (24.3%) indicated somewhat. No special education teacher selected no when asked if they had the skills to implement evidence-based practices. See Figure 17.

A one-sample chi-square was conducted to determine whether there was a difference in the way all participants (general and special education teachers) about their knowledge to implement evidence-based practices. The results were statistically significant, Pearson $\chi^2 (2, N = 186) = 62.55, p = .00$, indicating that more general and special education teachers believe they have the knowledge to implement evidence-based practices. In addition, a two-way contingency table analysis was conducted to evaluate whether general and special education teachers were different in the way they responded to whether they have the skills to implement evidence-based practices. The two variables were general education teacher and special education teacher with three levels of choices: “yes,” “somewhat,” and “no.” No statistical significance was found, Pearson $\chi (2, N =168) = 1.06, p = .59$, indicating that type of teacher (general education versus special education) does not impact teachers’ perceptions of the knowledge they have to implement evidence-based practices.

The same statistical analysis was completed for the item which asked participants about their skills in respect to evidence-based practices. The data were entered into a one-sample chi-square to determine whether there was a difference across all participants in the way they responded regarding if they had the skills to implement evidence-based practices. Across both general education and special education participants, the results
were statistically significant, Pearson $\chi^2 (2, N=188) = 95.12, p=.00$, indicating more general and special education teachers believe they have the skills to implement evidence-based practices. In addition, a two-way contingency table analysis was conducted to evaluate whether general and special education teachers were different in the way they reported their perceptions of having the skills to implement evidence-based practices. The two variables were general education teacher and special education teacher with three levels of choices: “yes,” “somewhat,” and “no.” No statistical significance was found, Pearson $\chi (2, N = 168) = 1.06, p = .60$, indicating that type of teacher (general education versus special education) does not impact teachers’ perceptions of their skills to implement evidence-based practices.

Figure 17. Percentage of all participants’ (general education and special education teachers) perceptions of their knowledge and skills to implement evidence-based practices.

When asked about multi-tiered intervention systems, 60% ($N = 159$) of general education teachers and 70% ($N = 49$) of special education teachers who responded to the
survey indicated they were familiar with multi-tiered intervention systems. Only 10.0% 
\((N = 28)\) of general education teachers indicated they were not familiar with multi-tiered 
intervention systems. All special educators reported some level of knowledge. No 
participant who identified as being a special education teacher indicated they were not 
familiar with multi-tiered intervention systems. In contrast, 44.5% \((N = 118)\) of general 
education teachers and 50.0% \((N = 35)\) of special education teachers indicated that there 
is a multi-tiered intervention system currently implemented in their school.

For further analysis, these data were entered into a one-sample chi-square to 
determine whether there was a difference in the way in which all participants (general 
education teachers and special education teachers) reported being familiar with a multi-
tiered intervention. The results were significant, Pearson \(\chi^2 (2, N = 187) = 47.63, p = .00\), 
indicating that significantly more teachers reported being at least somewhat familiar with 
multi-tiered interventions systems. In addition, a two-way contingency table analysis was 
conducted to evaluate whether general and special education teachers were different in 
the way they responded to whether they have the skills to implement evidence-based 
practices. The two variables were general education teacher and special education teacher 
with three levels of choices: “yes,” “somewhat,” and “no.” Statistical significance was 
calculated, Pearson \(\chi (2, N = 119) = 16.453, p = .00\), indicating that type of teacher 
(general education versus special education) does impact responses regarding familiarity 
with multi-tiered intervention systems.

The same analysis was conducted for the next item. These data were entered into 
a one-sample chi-square to determine whether there was a difference in the way all
participants (general education and special education teachers) responded to whether or not there was a multi-tiered intervention system in their school. The results were significant, Pearson $\chi^2 (1, N = 151) = 47.85, p = .00$, indicating that more general and special education teachers indicated having multi-tiered intervention system in their school. A two-way contingency table analysis was conducted to evaluate whether general and special education teachers were different in the way they responded in respect to whether there was a multi-tiered intervention system in their school. The two variables were general education teacher and special education teacher with two levels of choices: “yes,” and “no.” The findings were non-significant, Pearson $\chi (1, N = 133) = .014, p = .91$, indicating that type of teacher (general education versus special education) does not impact whether or not there is a multi-tiered intervention system in their school.

To gather more data to analyze teachers understanding of multi-tiered intervention systems and their knowledge of evidence-based practices, teachers were then asked if they had at least one student, or students, in their classrooms who were participating, or who had participated, in the multi-tiered intervention system in their school. Of the participants who had identified as general education teachers, 39.2% ($N = 104$) indicated they had at least a student, or students, who had participated in a multi-tiered intervention system. Interestingly, of the participants who were special education teachers, 9.2% ($N = 29$) also indicated having a student in the multi-tiered intervention system. When asked if the evidence-based practices used with the students made a positive difference and improved academic skills, 21.1% ($N = 56$) of general education teachers and 45.7% ($N = 21$) of special education teachers indicated that evidence-based practices did make a
positive difference; whereas, 2.6% \((N = 7)\) general education teachers and 5.7% \((N = 4)\) special education teachers indicated they would not state there was a positive difference and improvement in academic skills. See Figure 18 for more information.

For further analysis, a one-sample chi-square was conducted to determine whether there is a difference in the way all participants (general and special education teachers) reported whether the use of evidence-based practices with the student(s) who participated in the multi-tiered intervention system made a positive difference and improved the student’s academic skills. The results were significant, Pearson \(\chi^2 (2, N = 114) = 38.26, p = .00\), indicating more general and special education teachers indicated that the evidence-based practices used with students who participated in the multi-tiered intervention system made a positive difference and improved the student’s academic skills. In addition, a two-way contingency table analysis was conducted to evaluate whether general and special education teachers were different in the way they responded to the use of evidence-based practices with the student(s) who participated in the multi-tiered intervention system made a positive difference and improved the student’s academic skills. The two variables were general education teacher and special education teacher with three levels of choices: “yes,” “maybe,” and “no.” Statistical significance was calculated, Pearson \(\chi (2, N = 100) = 8.12, p = .02\), indicating that type of teacher impacts teachers’ perceptions that the evidence-based practices used with students in the multi-tiered interventions system made a positive difference and improved the student’s academic skills.
Only one of the six participants who participated in the follow-up interviews indicated there was a multi-tiered intervention system in their school. She indicated it was referred to as RTI, but he was not quite sure what words the acronym represented. Since she had no direct experience with RTI, he was unable to describe specific experiences, examples of how it was used, or even what other teachers did with the implementation of RTI. None of the participants referenced the implementation of interventions when responding to any of the interview questions.

Figure 18. General and special education teachers’ knowledge of multi-tiered intervention systems.

In order to gain a better understanding of participants’ knowledge and understanding of the term, “evidence-based practices,” participants were prompted to
write their definition of term in an open text box. Statements entered from both general education teachers and special education teachers were entered into Nvivo statistical software for purposes of analysis. Statements were first analyzed as a whole to establish an understanding of all participants. Second, a simple descriptive rubric was developed to rate each statement in order to cluster the statements into categories for descriptive purposes. Statements entered into the text box were then analyzed on a three-point rubric congruent with many of the three-point multiple choice items throughout the survey.

Responses were rated with a 1, 2, or 3. Essentially, statements were categorized in order to classify respondents’ understanding as having a “strong,” “weak,” or “limited” concept of the term, “evidence-based practices.” Items which earned a rating of 1 included the mention of three elements in their statement: research, instructional practices/strategies, and effectiveness. Items which earned a rating of 1 were statements which identified instructional practices, or teaching strategies, and identified or described instructional practices to be proven or linked to research and indicated the term, “effectiveness,” or an appropriate synonym. For instance, the statement “best practices identified by research as effective in educating students” earned a rating of 1 because it linked the term best practices to research as a factor for determining the practice to be effective. Items which earned a rating of 2 included statements which might have mentioned the terms, “research,” “data,” or “studies,” but did not include a reference specifically to instructional practices, or teaching strategies, or did not indicate effectiveness. As an example, the statement “evidence-based practices are strategies that are based on research, either through qualitative or quantitative data (or a mixture of the two)” earned
a rating of 2 because it did indicate a statement of effectiveness. Items which earned a rating of 3 did not include a statement about instructional strategies, or teaching practices, did not link instructional practices to research and/or did not indicate effectiveness or appropriate synonym.

Of the general education teachers, 5.7% ($N = 9$) of participants provided statements which were rated with 1, while 17.9% ($N = 27$) provided statements rated as 2, and 50.3% ($N = 80$) provided statements rated with a 3. Of the special education teachers, 14.2% ($N = 10$) provided statement rated as 1, while 18.3% ($N = 13$) provided responses rated with a 2, and 32.9% ($N = 23$) provided responses rated with a 3. See Figure 19 for more information. Additionally, Table 8 provides examples of statements provided by both general education and special education teachers for each level of rating.

A one-sample chi-square was conducted to determine whether there was a difference in the way all participants’ (general and special education teachers) definitions of evidence-based practices were rated. The results were statistically significant, Pearson $\chi^2 (2, N = 162) = 70.78, p = .00$, indicating that more general and special education teachers’ definition earned a rating of 3. In addition, a two-way contingency table analysis was conducted to evaluate whether general and special education teachers were different in the way their definitions of evidence-based practices were rated. The two variables were general education teacher and special education teacher with three levels of choices: 1, 2, and 3. The findings were statistically significant, Pearson $\chi (2, N = 162)$
= 7.68, \( p = .02 \), indicating that type of teacher (general education versus special education) does impact the quality of the definition of evidence-based practices.

None of the six participants who volunteered for the follow-up interviews were familiar with the term, “evidence-based practices.” For example, one woman who taught middle school students said she was used to using the word, “best practices.” She stated clearly at the beginning of the interview that she was not familiar with the term, “evidence-based practices.” She has been teaching for a long time, but had not heard the term. She assumed it must be like the term, “best practices.” She went on to explain that she really volunteered for the follow-up interview because her daughter’s name was the same as the researcher’s and she felt like she really needed to help out. When she described her concept of “best practices,” she referred to strategies such as modifying reading materials to students who had low reading levels, using large print, and reducing the amount of information on each page.
Figure 19. Percentage of general education and special education teachers’ rated definitions of evidence-based practices.
### Table 8

*Examples of statements provided by participants when asked to provide their definition of evidence-based practices*

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<tr>
<th>Level</th>
<th>Gen. Ed.</th>
<th>Special Ed.</th>
</tr>
</thead>
</table>
| **Strong**| Best practices identified by research as effective in educating students.  
Instructional practices which are proven effective through multiple sources of research.  
Practices that are based on research and proven to be effective; supported by data.  
Practice that is research based and thus proven more highly effective than other, similar instructional practices.  
If evidence-based practices are research-based practices then it means that research has been conducted in order to be sited as research-based practice.  
Such as best practices in teaching reading.  
Evidence-based practice is the implementation of extensively researched instructional strategies and curriculum that is proven to consistently yield academic growth among the targeted group receiving it. |  |
| **Weak**  | Using research-based practice in teaching.  
Practices that have been thoroughly tested in multiple school settings (rural, urban, etc.), within a certain age range, and successful over a period of several years.  
Using the materials that have been research developed and implemented with strong statistical and anecdotal evidence that these procedures are successful.  
It is using research to improve learning, as well as, looking at my own teaching and collecting data on what has worked for students and what has not.  
Practice based on proven research.  
Using programs for instructions that has strong research behind it and because of this research will if utilized according to program instructions will have similar results. |  |
| **Limited**| A system by which data is used to hold teachers accountable for their teaching.  
Assessing individual needs and interventions where necessary for each student.  
Being able to perform academic tasks with at least 75% accuracy.  
Teaching that includes strategies and methods that have a record of being effective.  
Instructing with a picture in mind of the end result and collecting/evaluating data along the path of instruction.  
Having students work in groups, and including more interactive activities into lectures...using real world problems and analogies as teaching tools. |  |
Nvivo statistical software was also used to generate frequency counts of the words used in the definitions of evidence-based practices provided by general education and special education teachers. Word clouds are visually weighted lists of text data. See Figures 20 and 21 for more information. There was no significant difference between general education and special education teachers based on the analysis of word frequencies. Across general education and special education teachers, the following words had the highest frequencies: based, practice(s), student(s), research, data, teaching, proven, data and using. The word “method” was prominent amongst general education teachers, whereas, special education teachers entered the word “strategies” more often.
Figure 20. Word cloud of general education teachers’ definition of evidence-based practices.
Participants were also asked to provide a list of characteristics of evidence-based practices. Again, word clouds were created in order to provide a visual representation of the frequency of words used. See Figures 22 and 23 for more information. Across all participants, the following words were used with the highest frequencies: student(s), data, research, and based. Of the general education teachers, other high frequency words were practices, learning, proven, real, classroom, and effective. Of the special education
teachers, other high frequency words were used, easy, evidence, consider, procedures, and success.

\textbf{Figure 22.} Word cloud of general education teachers’ characteristics of evidence-based practices.
Figure 23. Word cloud of special education teachers’ characteristics of evidence-based practices.
**Research Question 1.2.** Research question 1.2 examined general and special education teachers’ perceived use of evidence-based practices during the instructional day. Items in the survey asked participants the following: a) to rank how often they use evidence-based practices during the instructional day; b) if they would like to use evidence-based practices more frequently in their teaching; c) to list the three evidence-based practices they rely on the most; and d) how often they use their top three evidence-based practices. A large part of the data of this data is derived from the “determine use” subscale which was comprised of 9 five-point Likert scale items asking participants how they determine which evidence-based practices to use during their instructional day. The quantitative data will be described first. The one open-ended question, which requested participants to write in the names of three evidence-based practices, will be discussed in the latter portion of this section.

Participants where then asked to consider their instructional day and rank how often they used evidence-based practices. Of all the participants, 89 (33.6%) indicated “much of the time,” while 56 (21.1%) indicated “some of the time,” 36 (13.3%) indicated “about half the time,” and 6 (2.3%) indicated “not at all.” There was no significant difference in frequency data when the responses were disaggregated by general and special education teachers. See Figure 24.
Figure 24. Percentage of general and special education teachers’ reported use of evidence-based practices during the instructional day.

These data were entered into a one-sample chi-square test to determine whether there was a difference among all teachers in the way they reported the amount of time they use evidence-based practices during the instructional day. Across all participants the results of the test were significant, Pearson $\chi^2 (3, N = 187) = 78.01, p = .00$, indicating that across all participants (general and special education teachers), more indicated using evidence-based practices all or some of the time. A two-way contingency table analysis was conducted to evaluate whether general education teachers and special education teachers were different in the way they reported the amount of time they use evidence-based practices during the instructional day. The two variables were general education teacher and special education teacher with four levels of choices: “much of the time,” “about half the time,” “some of the time,” or “not at all.” The results of the test were non-
significant, Pearson $\chi^2 (3, N = 168) = 3.73, p = .29$, indicating type of teacher (general education teacher versus special education teacher) does not impact teachers’ perceptions of the amount of time they use evidence-based practices during the instructional day.

Participants were asked if they would like to use evidence-based practices more frequently in their teaching. See Figure 25 for more information. Of the general education participants, 98 (61.6%) indicated that they would like to use evidence-based practices more frequently. Of the same group, 14 (8.8%) said they would not like to use evidence-based practices more frequently. Of the special education teachers, 40 (57.1%) indicated that they would like to use evidence-based practices more frequently during the instructional day, while 6 (8.6%) indicated they would not. A one-sample chi-square was conducted to determine whether there is a difference across participants (general education and special education teachers) in their perceptions about using evidence-based practices more frequently in their teaching. The calculation was statistically significant, Pearson $\chi^2 (1, N = 176) = 99.00, p = .00$, indicating more general education and special education teachers indicated they would like to use evidence-based practices more frequently in their teaching. A two-way contingency table analysis was conducted to evaluate whether general and special education teachers were the same or different in the way they perceive wanting to use evidence-based practices more frequently in their teaching. The two variables were general education teacher and special education teacher with two levels of choices: “yes,” and “no.” The findings were not statistically significant, Pearson $\chi (1, N = 158) = .009, p = .926$, indicating the type of teacher
(general education versus special education) did not impact the participants’ perceptions regarding wanting to use evidence-based practices more frequently during their teaching.

![Bar chart showing percentage of general and special education teachers' reported agreement regarding wanting to use evidence-based practices more often.]

\textit{Figure 25.} Percentage of general and special education teachers’ reported agreement regarding wanting to use evidence-based practices more often.

All participants were asked to list the three evidence-based practices they rely on the most. Very few participants included items which are truly evidence-based practices. Of the general education teachers, the evidence-based practices listed were: think-pair-share, 3:1 positive negative interactions with students, peer tutoring, Thinking Maps, Jig Saw activities, and explicit Direct Instruction. Other types of submissions included the following: names of published curriculum or programs (e.g., Orton-Gillingham, Fred Jones, AIMSWeb); commonly used teaching strategies (e.g., literature circles, Socratic
questioning, bell-ringers); or assessments (e.g., answering questions, diagnostic assessments).

Of the special education teachers, the evidence-based practices listed were: direct instruction, functional behavior assessments, small group instruction, Thinking Maps, and memory strategies. Special education teachers also indicated the names of published curriculum and programs (e.g., First Steps, Orton-Gillingham, SRA, Envision Math) and commonly used teaching strategies (e.g., student involvement writing goals, fun and interesting lessons, ticket out the door). There were only two submissions related to assessment. One participant included the statement, “monitoring daily progress.” Another stated, “evaluation on my own teaching.”

Participants were asked to consider how they determine which evidence-based practices to use. See Figure 26 for more information. Of the participants who identified as general education teachers, 67.3% indicated they mostly determine which evidence-based practices to use based on the needs of the student. Of the participants who identified that they were special education teachers, 65.7% indicated they mostly determine which evidence-based practices to use based on the needs of the student. In contrast, 1.9% of general education teachers and zero special education teachers indicated that the needs of the students did not impact how they determine which evidence-based practice to use. Similarly, 103 (64.8%) general education teachers and 43 (61.4%) special education teachers indicated they mostly determined which evidence-based practice to use by positive student progress. Only 5 (3.1%) general education teachers and 2 (2.9%) special education teachers indicated that positive student progress somewhat had an impact on
their determination of which evidence-based practice to use. Further, 92 (57.9%) general education teachers and 40 (57.1%) special education teachers indicated the data from progress monitoring mostly impacted their determination of evidence-based practices. Also, 15 (9.4%) general education teachers and 2 (2.9%) special education teachers indicated that data from progress monitoring somewhat impacted their determination of which evidence-based practice to use.

Based on additional items, 86 (54.1%) general education teachers indicated the disability identification of the student mostly impacted how they determined to use evidence-based practices, while 38 (51.5%) special education teachers provided the same response. However, 18 (11.3%) general education teachers and 6 (8.6%) special education teachers indicated that the disability identification of the student somewhat had an impact on their determination of which evidence-based practice to use. In response to a similar item, 93 (58.5%) general education teachers and 38 (54.3%) special education teachers indicated the requirements of the IEP mostly determined their use of evidence-based practices; whereas 14 (8.8%) general education teachers and 4 (5.7%) special education teachers indicated the requirements of the IEP somewhat impacted their determination of the evidence-based practices they use.

Of the general education participants, 84 (52.8%) indicated they determine which evidence-based practice they use by which is easiest for them to manage. Of the special education teachers 29 (41.4%) indicated that which is easiest to manage mainly impacts how they determine which evidence-based practice to use. In contrast, 22 (13.8%) general education teachers and 13 (18.6%) special education teachers indicated that
which is easiest to manage somewhat impacted their determination of which evidence-based practice to use. When responding to the item which asked participants to indicate how their teaching schedule impacted their determination of which evidence-based practice to use, 69 (43.3%) general education teachers and 23 (32.9%) special education teachers indicated that teaching schedule mostly impacted their determination of which evidence-based practice to use, while 34 (21.4%) general education teachers and 18 (25.7%) special education teachers indicated that teaching schedule somewhat impacted their determination of which evidence-based practice to use.

Of the general education teachers, 56 (35.2%) indicated that colleague recommendations mostly impacted their determination of evidence-based practices. Of the special education teachers, 30 (42.9%) indicated colleague recommendations mostly impacted their determination of which evidence-based practice to use. On the other hand, 24 (15.1%) general education teachers and 11 (15.7%) special education teachers indicated that colleague recommendations somewhat impacted their determination of which evidence-based practice to use.

Finally, 56 (35.2%) general education teachers and 20 (28.6%) special education teachers indicated that what they read in a journal mostly impacted their determination of which evidence-based practice to use. Similarly, 48 (30.2%) general education and 21 (30.0%) special education teachers indicated that what they read in a journal somewhat had an impact on their determination of which evidence-based practice to use.
Figure 26. How general and special education teachers determine which evidence-based practice to use.

These data were entered into a one-sample chi-square to determine whether there was a difference in the way in which all participants (general and special education teachers) responded in regards to how teachers determine which evidence-based practice they use. Across all participants, the findings were statistically significant. The calculations are as follows: needs of students, Pearson $\chi^2 (1, N=172) = 160.21$, $p = .00$; positive student progress, Pearson $\chi^2 (1, N=169) = 142.16$, $p = .00$; data from progress monitoring, Pearson $\chi^2 (1, N=164) = 103.05$, $p = .00$; disability of the student, Pearson $\chi^2 (1, N=161) = 76.53$, $p = .00$; required by the IEP, Pearson $\chi^2 (1, N=164) = 96.81$, $p = .00$; easiest to manage, Pearson $\chi^2 (1, N=163) = 48.60$, $p = .00$; teaching schedule, Pearson $\chi^2 (1, N=158) = 13.39$, $p = .00$; colleague’s recommendations, Pearson $\chi^2 (1, N=161) = 44.88$, $p = .00$; and what I read in a journal, Pearson $\chi^2 (1, N=159) = .31$, $p = .00$;
These findings indicate that significantly more general education and special education teachers indicated they mostly determine which evidence-based practice to use based on the needs of students, positive student progress, data from progress monitoring, disability of the student, required by the IEP, easiest to manage, teaching schedule, colleague’s recommendation, and read in a journal.

A two-way contingency table analysis was conducted to evaluate whether general and special education teachers were different in the way they responded in respect to what variables impacted how they determined which evidence-based practice to use. The two variables were general education teacher and special education teacher with five levels of choices: a five-point Likert scale. The results were not statistically significant: needs of the student, Pearson χ (1, N = 156) = 1.28, p = .16; positive student progress, Pearson χ (1, N = 153) = .002, p = .97; data from progress monitoring, Pearson χ (1, N = 149) = 2.56, p = .11; disability of student, Pearson χ (2, N = 146) = .20, p = .66; required by IEP, Pearson χ (1, N = 149) = .36, p = .55; easiest to manage, Pearson χ (1, N = 148) = 1.73, p = .19; teaching schedule, Pearson χ (1, N = 144) = 1.51, p = .22; colleague’s recommendations, Pearson χ (1, N = 147) = .28, p = .60; and what I read in a journal, Pearson χ (1, N = 145) = .30, p = .58. There was no substantial difference when the data were separated out by general and special education teachers.

Research Question 1.3. Research question 3 examined how general education and special education teachers report barriers to implementing evidence-based practices. The data were derived from the “impact on use” subscale which consisted of 9 five-point Likert scale items. See Figure 27 for more information.
Of the participants, 72 (45.3%) general education teachers and 27 (38.6%) special education teachers indicated that the statement “works well with all students” completely impacts their use of evidence-based practices. Of the general education teachers, 20 (12.6%) indicated somewhat and 12 (8.2%) indicated the statement does not impact their use of evidence-based practices. Whereas, of the special education teachers, 12 (17.1%) indicated somewhat and 4 (5.7%) indicated the statement “works well with all students” does not impact their use of evidence-based practices. However, when asked if different needs in the classroom impacted use of evidence-based practices, 81 (50.9%) general education teachers and 33 (47.1%) special education teachers indicated completely, while 21 (13.2%) general education teachers and 8 (11.4%) special education teachers indicated somewhat, and 9 (12.9%) general education teachers responded that it does not. Next, 69 (43.4%) general education teachers and 27 (38.6%) special education teachers indicated that the number of students in their classroom completely impacts their use of evidence-based practices. In addition, 20 (12.6%) general education teachers and 8 (11.4%) special education teachers indicated somewhat of an impact. Of the participants, 16 (10.1%) general education teachers and 9 (12.9%) special education teachers indicated that the number of students in their room does not impact their use of evidence-based practices.

Of the participants, 54 (34%) general education teachers and 22 (31.4%) special education teachers indicated the difficulty of implementation completely impacts their use of evidence-based practices. Of general education teachers, 30 (18.9%) indicated that difficulty of implementation somewhat impacts their use of evidence-based practices, while 16 (10.1%) indicated that it does not. Of the special education teachers, 13 (18.6%)
indicated that difficulty of implementation somewhat impacts their use of evidence-based practices and 9 (12.9%) indicated that it does not. On another item, 69 (43.4%) general education teachers indicated that how quickly remediates the skills completely impacts their use of evidence-based practices, while 26 (16.4%) indicated somewhat, and 10 (6.3%) indicated it does not. Of the special education teachers, 30 (42.9%) indicated that how quickly remediates the skills completely impacts their use of evidence-based practices, 6 (8.6%) indicated somewhat, and 8 (11.4%) indicated it does not.

If the general education teachers, 67 (42.1%) indicated that providing services in the general education classroom completely impacts their use of evidence-based practices, while 26 (16.4%) indicated somewhat, and 10 (6.3%) indicated it did not. Of the special education teachers, 20 (28.6%) indicated providing services in the general education classroom is completely a barrier to implementing evidence-based practices, while 9 (12.9%) indicated somewhat, and 15 (21.4%) indicated it did not.

In addition, of the participants, 94 (59.1%) general education teachers and 35 (50%) special education teachers indicated that time was completely a barrier to implementing evidence-based practices. Whereas, 11 (6.9%) general education teachers and 5 (10%) special education teachers indicated that time somewhat had an impact, and 5 (3.1%) general education teachers and 3 (4.3%) special education teachers indicated that time does not impact the use of evidence-based practices. Of the participants, 79 (49.7%) general education teachers and 35 (50%) special education teachers indicated that availability of materials is completely a barrier to implementing evidence-based practices. Next, 19 (11.9%) general education teachers and 7 (10%) special education teachers...
teachers indicated availability of materials somewhat has an impact, while 8 (5.0%) general education teachers and 3 (4.3%) special education teachers indicated the availability of materials does not have an impact on their use of evidence-based practices.

When asked if training impacts teachers’ use of evidence-based practices, 66 (41.5%) general education teachers and 32 (45.7%) special education teachers indicate that training completely has an impact. Of the participants, 24 (15.1%) general education teachers and 9 (12.9%) special education teachers indicated that training somewhat impacts their use of evidence-based practices. At last, 15 (9.4%) general education teachers and 4 (5.7%) special education teachers indicated that training does not have an impact.

Of the six participants who participated in the follow-up interview, none indicated any barriers to the implementation of instructional practices. When participants were asked how they collect and manage materials, all six participants indicated that materials were provided for them by their school. They mentioned items such as textbooks. When asked about collecting and tracking data, all participants inferred the question was related to grades on assessments.
Figure 27. Percentage of participants’ responses regarding barrier reported to implementing evidence-based practices.

These data were entered into a one-sample chi-square to determine whether there was a difference in the way in which all participants (general education and special education teachers) responded in regard to barriers which impact their use of evidence-based practices. Across all participants, the findings were statistically significant. The calculations are as follows: works well with all students, Pearson $\chi^2 (2, N = 163) = 84.0, p = .00$; different students in classroom, Pearson $\chi^2 (2, N = 164) = 129.67, p = .00$; number of students in classroom, Pearson $\chi^2 (2, N = 163) = 63.18, p = .00$; difficulty of implementation, Pearson $\chi^2 (2, N = 163) = 29.76, p = .00$; how quickly it remediates, Pearson $\chi^2 (2, N = 163) = 76.36, p = .00$; providing services in the general education setting, Pearson $\chi^2 (2, N = 162) = 43.0, p = .00$; time, Pearson $\chi^2 (2, N = 171) = 178.66, p$
A two-way contingency table analysis was conducted to evaluate whether general and special education teachers were different in the way they responded in respect to what impacts their use of evidence-based practices. The two variables were general education teacher and special education teacher with five levels of choices: a five-point Likert scale. There was only one finding of significance, providing services in the general class setting, Pearson $\chi^2 (2, N = 148) = 11.89, p = .00$. The following calculations were not statistically significant: needs of the student, Pearson $\chi^2 (2, N = 148) = 1.51, p = .47$; different needs in my classroom, Pearson $\chi^2 (2, N = 150) = .67, p = .72$; number of students in my classroom, Pearson $\chi^2 (2, N = 149) = .61, p = .74$; difficulty of implementation, Pearson $\chi^2 (2, N = 148) = .051, p = .98$; how quickly it remediates skills, Pearson $\chi^2 (2, N = 149) = 3.74, p = .15$; time, Pearson $\chi^2 (2, N = 155) = 1.35, p = .51$; available materials, Pearson $\chi^2 (2, N = 151) = 1.43, p = .49$; and training, Pearson $\chi^2 (2, N = 150) = 1.17, p = .56$. The calculations indicate that the type of teacher (general education versus special education) does not impact teachers’ perceptions regarding the items which impact their use of evidence-based practices.
5. DISCUSSION

The purpose of this study was to gather data to better understand general and special education teachers’ sources of knowledge and understanding, perceptions of use, and reported barriers or challenges regarding the use of evidence-based practices during the instructional day. The study was conducted using survey research. The sample selection included 4,200 randomly selected general education teachers and special education teachers from across the United States who were invited to participate in the study by receipt of a post card and a series of two email invitations. Of the participants who completed the survey, 159 (60%) indicated they were general education teachers and 70 (26.4%) indicated they were special education teachers. Findings were reported by research questions and corresponding subscales within the survey. The research questions for this study were as follows: Do general education teachers and special education teachers differ when reporting sources of knowledge and understanding, perceptions of use, and reported barriers or challenges regarding evidence-based practices?

1.1 What are general education and special education teachers’ sources of knowledge and understanding of evidence-based practices?

1.2 How do general education and special education teachers perceive their use of evidence-based practices during the instructional day?
1.3 What do general education and special education teachers report as barriers or challenges to implementing evidence-based practices during the instructional day?

This chapter will address the major findings of this study, educational implications, limitations of the research, and recommendations for future research.

**Major Findings**

The purpose of this study was to examine if general education and special education teachers differed in their sources of knowledge and understanding, perceptions of use, and reported barriers or challenges regarding evidence-based. The study implemented Internet-based survey research methodology and follow-up interviews to gather a sample of general education and special education teachers across the United States. Participants were asked to respond to items on a 42-item electronic survey of forced choice and open-ended items available to them via the Internet. In addition, all respondents were asked to volunteer for a follow-up interview and a smaller sample of volunteers was selected and interviewed. The major findings of this study indicated that (a) there were no statistical differences between general education and special education teachers’ sources of knowledge and understanding, perceptions of use, and reported barriers or challenges regarding evidence-based practices; (b) while general education and special education teachers equally reported confidence in their knowledge and skills to implement evidence-based practices, when asked to provide their own definition of evidence-based practices those definitions were consistently rated low in regards to their understanding of the important elements which characterize evidence-based practices;
and (c) both general and special education teachers were notably dependent on the context of the local school district and the school where he or she is employed for accessing information regarding evidence-based practices.

The primary research question for this study was to determine if general education teachers and special education teachers differed when reporting sources of knowledge and understanding, perceptions of use, and reported barriers or challenges regarding evidence-based practices. Data were collected by an electronic survey and follow-up interviews. The sample population for this study included K-12 general education teachers who taught one of the four content area subjects (English, mathematics, science, or social studies) and all K-12 special education teachers who taught students who accessed the general education curriculum and students who accessed the modified curriculum.

The remainder of this section will discuss the major findings in relationship to how teachers become aware of instructional practices, teachers’ perceptions of evidence-based practices, how teachers determine to use evidence-based practices during the instructional day, and the observed discrepancy between teachers’ statements of understanding and observed behaviors. Findings of the current study will be incorporated with previous literature to highlight where the current study extended the existing literature in regards to teachers and evidence-based practices.

**Teachers’ sources of knowledge.** Statistical significance was found when analyzing teachers’ reported sources of knowledge regarding evidence-based practices. The findings of the study indicate that both general and special education teachers
appeared dependent on the context of the local school district and their own school for accessing information regarding evidence-based practices. Participants ranked school district professional development, school-based professional development, and colleagues as main sources of knowledge. Conversely, college and university courses, national professional conferences, and research journals were rated low. The findings of this study support the notion that teachers are highly dependent on the context of their school environment for information on instruction. This study extended the Boardman et al. (2005) study which used focus groups to examine special education teachers’ views of research-based practices. Interestingly, district influence was a resonating theme for teachers when discussing how instructional programs are selected and who is responsible for that selection. The use of focus groups allowed the researcher to go further into depth with participants than the current study. Whereas the current study indicated that district professional development is a significant source of knowledge, the Boardman et al. (2005) study found the teachers reported pressure from the district to use certain techniques and expressed frustration with how often the district changed which instructional programs they endorsed.

The findings of the current study is consistent with the Landrum et al. (2007) study of teachers’ perceptions of the usability of intervention information presented in a data-based format versus a personal, storytelling format. The participants in the study were 127 general education and special education teachers. The amount of each teacher type was not provided. The researchers found that teachers rated the usability of instructional information higher when it was reported from a teachers’ point of view, than
when the same information was presented in a data-based format. The current study extends the research of Landrum et al. (2007) by confirming that teachers do not access research journals to learn about instructional techniques. The findings of both studies could suggest that research journals are not accessed by teachers because the data-based format to which many journals prescribe is not considered usable by teachers. Interestingly, while some authors purport that teachers rely heavily on their colleagues for guidance on instructional practices (Cook & Cook, 2004; Landrum et al.; 2007), participants in the current study ranked school district professional development and school-based professional development as sources from which they have mainly learned about evidence-based practices. It could be theorized that the increase in professional development provided by the school district is a byproduct of the standards-based expectations required by NCLB. As school divisions develop new curriculum and assessment standards in compliance with NCLB, it would make sense that teachers would experience an increase in school district and school-based professional development opportunities and requirements to address the changes. Consequently, these local trainings would also provide additional circumstances where teachers might hear the term “evidence-based practices” misused (Cook & Cook, 2011).

**Teachers’ perceptions of the use of evidence-based practices.** The findings reveal that significantly more general education and special education teachers indicated agreement that evidence-based practices were well documented by research and that they considered valid teaching methodologies. While 47.5% (\(N = 126\)) indicated they agreed, some doubt amongst teachers was present as approximately 22% of the participants
indicated they were at least unsure. Across all participants, significantly more general education and special education teachers reported they had the knowledge and skills to implement evidence-based practices. Significantly more general education and special education teachers reported they use evidence-based practices for at least half of their instructional day. Participants also consistently indicated they would like to use evidence-based practices even more during the instructional day.

The findings from the current study are consistent with the findings of previous research studies (Burns & Ysseldyke, 2009; Guckert, 2010), which also found that teachers reported using evidence-based practices frequently. This study replicated and extended Burns and Ysseldyke’s (2009) study by conducting an Internet-based survey and follow-up interviews of a national random sample of general education and special education teachers. Burns and Ysseldyke surveyed members of The Council for Exceptional Children, the largest international professional organization dedicated to students with special needs, which resulted in a sample of 174 special education teachers and 333 psychologists. Participants were asked to report the frequency they used or observed evidence-based practices being implemented in special education classrooms. The Burns and Ysseldyke (2009) study did not include a follow-up interview, as the current one did. Whereas the methodology of the Burns and Ysseldyke (2009) study and the current study were similar, Burns and Ysseldyke did recognize that deriving a sample from a professional organization presents limitations.

This study also extended Guckert’s (2010) study by gathering additional data about teachers’ knowledge and use of evidence-based practices. Guckert (2010)
employed qualitative methodology to investigate 10 practicing K-12 special education
teachers’ perceptions of the use of evidence-based practices. Through the use of
interviews, the examination of lesson plans, and classroom observations, Guckert (2010)
reported that while teachers self-reported that they used evidence-based practices, the
actual observed awareness level of the teachers’ understanding of evidence-based
practices varied. Guckert categorized teachers’ awareness of research as: aware, partially
aware, and not aware. She also found that the varying levels of teachers’ awareness of
research impacted the way in which teachers changed or modified evidence-based
practices, which could potentially result in either positive or negative outcomes for
students.

The findings of the current study also extended the findings of the study reported
by Jones (2009). Jones used collective case studies to explore the research to practice gap
through the lens of novice teachers. Through the use of interviews teachers revealed that
they valued research and consistently implemented evidence-based practices. However,
when the same teachers were observed teaching, it was determined that their actual
instructional behaviors did not support their perceptions. Similar to the findings of
Guckert’s (2010) study, Jones indicates that teachers were not accessing research as
expected. Jones (2009) asserts that although research has tremendous promise, if teachers
continue to find it inaccessible, not applicable, not trustworthy, or difficult to interpret,
then teachers will continue to turn to their colleagues or those teaching practices that are
perceived to be tried and true.
The findings of the current study support that teachers are generally aware of the term, “evidence-based practices” (Burns & Ysseldyke, 2009; Cook & Cook, 2010; Guckert, 2010; Jones, 2009). As indicated by Cook and Cook (2011), the term, “evidence-based practices,” has become a popular term, which is an important finding because it indicates the educators recognize the importance of the term. Yet, more research needs to be conducted to better understand teachers’ understanding of the term. Information regarding proven evidence-based practices is maintained by various stakeholders such as professional organizations and education centers funded by government programs. Examples include the National Autism Center (http://www.nationalautismcenter.org/) and the Council for Exceptional Children (http://www.cec.sped.org/). As indicated by Jones (2009), knowing where to look for information is challenging at best.

The findings of the current study also confirm that teachers were generally eager to implement practices which are documented as effective for supporting learning and social growth for students (Gersten, Chard, & Baker, 2000). However, the initial positive interpretation should be taken with caution, because there is some concern that while the term, “evidence-based practices,” has become popular, it is often used too often and misapplied (Cook & Cook, 2011).

**Determining to use evidence-based practices.** Participants indicated they mostly determine which evidence-based practice to use based on the needs of the student, positive student progress, and data from progress monitoring. Disability of the student and as required by the IEP were also ranked strongly. Interestingly, teaching schedule,
colleague’s recommendations, and what was read in a journal had less of an impact on teachers’ determinations to use evidence-based practices. Across all participants, teachers indicated that time, available materials, training, and the diverse needs of students in the classrooms completely impact the use of evidence-based practices during the instructional day. Time, lack of materials, and the diverse needs of students in one classroom are factors consistently indicated in the literature which teachers report as barriers to implementing evidence-based practices (Boardman et al., 2005; Browder & Cooper-Duffy, 2003; Klinger, Ahwee, Pilonieta, Menendez, 2003; McDaniel, Duchaine, & Jolivette, 2010). This study extended the Boardman et al. (2005) study by confirming reports from teachers regarding the implementation of evidence-based practices. Consistent with the current study, Boardman et al. (2005) also reported that teachers identified time, lack of materials, and many levels of achievement represented in their classroom as barriers to implementing evidence-based practices. Interestingly, while teachers had indicated that they relied on their colleagues somewhat as sources of knowledge, they indicated that colleagues had less of an influence when determining the use of evidence-based practices. Considering teachers reported that they learn about new instructional practices mainly from school district professional development and professional development opportunities within their schools, it could be hypothesized that the requirements on teachers and the responsibilities put on school divisions under the mandates of NCLB could result in more professional development pushed in teachers than has been the case in the past. However, this is just a theory that is not substantiated by research at this time.
There was only one incident where statistical difference was found between general education and special education teachers. First, when participants’ individual definitions of evidence-based practices were analyzed for the purposes of categorizing statements for descriptive purposes, significantly more definitions across participants were rated as low. Statistical significance was also indicated when examining the data by type of teacher. More definitions provided by special education teachers were rated high, while far more definitions provided by general education teachers were rated as low. Due to the nature of survey research, without being able to further examine teachers’ concepts of the term, “evidence-based practices,” it is simply not possible to determine why special education teachers might have provided better quality definitions.

Overall, all participants were generally positive about their knowledge and skills to implement evidence-based practices. When considering evidence-based practices, all participants indicated they use them throughout much of their instructional day and would like to use them more in their teaching. All general education and special education teachers were in overall agreement about what factors influence how they determine which evidence-based practice to use. Finally, across all participants, teachers were consistent when reporting the challenges or barriers to implementing evidence-based practices.

**Perceptions versus observations.** As already reported general and special education teachers were generally confident by indicating they had the knowledge to implement evidence-based practices. Of all the participants, 66.7% of general education teachers and 67.2% of special education teachers indicated they had the knowledge to
implement evidence-based practices. Yet when the same participants’ definitions of evidence-based practices were rated based on whether or not the definition included important elements of evidence-based practices, a significant amount of those definitions were rated low. Low ratings indicated that the definition supplied by teachers did not identify instructional or teaching practices, did not link instructional practices to research, and/or did not indicate effectiveness or an appropriate synonym.

The findings of the current study extended the findings reported by Jones (2009) and Guckert (2010). Both authors reported that while some teachers demonstrated a strong understanding of evidence-based practices, other teachers demonstrated a general disconnect between what instructional practices were identified as research validated and how they perceived their own classroom instructional behaviors. The current study did not include an observational component. In the current study, despite participants’ general positive attitude about evidence-based practices and confidence that they used evidence-based practices much of the time during the instructional day, a majority of both general education and special education teachers’ definition of evidence-based practices were rated as not demonstrating understanding. Despite all the documents addressing participants invited to participate in the current study, teachers entered statements such as “I’m sorry, I do not know anything about evidence-based practices.”

As indicated by both Ysseldyke and Burns (2009) and Guckert (2010), this study also found that teachers indicated instructional practices that were documented in the research as not effective instructional practices or not even evidence-based practices. Examples of instructional practices teachers indicated as evidence-based practices
included “thinking maps,” “ticket out the door,” “analogies,” and “quizzes/and tests.”

Whereas the Burns and Ysseldyke (2009) survey included a list of evidence-based practices, teachers and school psychologists indicated instructional practices proven through literature to have lower effect sizes continued to be used often by practitioners. This current study was different in that it did not provide participants with a definition of evidence-based practices or any particular instructional practices, but rather relied on the participant to demonstrate knowledge by entering information into the survey itself. This study also extended the findings of Burns and Ysseldyke (2009), Jones (2009), and Guckert (2010) by confirming that general education and special education teachers are not implementing or utilizing evidence-based practices effectively during the instructional day. Again, the findings of the current study support Cook and Cook’s (2011) concerns that the term, “evidence-based practices,” is often used synonymously with other terms such as “research-based practices” and “best practices.”

**Educational Implications**

The purpose of this study was to gather data to better understand general education and special education teachers’ understanding of the use of evidence-based practices during the instructional day. The fact that there was significant similarity between general education and special education teachers has important implications for the education field. In conjunction with NCLB and IDEIA, national initiatives supported by the U.S. Department of Education over the years (e.g., Reading First and Response to Intervention) have promoted, encouraged, and endorsed the use of evidence-based practices in both the general education and special education settings. Reading First, for
instance, is a major component of NCLB, and requires schools to use scientific-based reading research to select core curricula (Fuchs & Fuchs, 2006; U.S. Department of Education, 2002). Similarly, throughout the years, the field of special education has made tremendous progress in the development of empirical evidence regarding effective instructional practice for students with disabilities (Boardman et al., 2005; Burns & Ysseldyke, 2010; Landrum & Tankersley, 2004; McLeskey & Billingsley, 2008; Vaughn, Gersten, & Chard, 2000). The emphasis on the use of evidence-based practices by the major educational federal legislative mandates in the United States may account for the similarities across both general and special education teachers.

Further, given the literature regarding the development of evidence-based practices in special education, one might be a bit alarmed by the fact that the special education teachers who participated in the current study did not indicate a stronger understanding of evidence-based practices. The findings of this study may indicate that information regarding effective instructional practices may also be present throughout general education. The response to the question “What is special about special education?” may be that the empirical evidence founded by the field of special education may be actually being shared with other education disciplines for the benefit of greater learning outcomes for all students (Cook & Schirmer, 2003).

The findings of this study may also precipitate a discussion about the consistency of the lexicon used in the field of education. As already discussed, while teachers indicated they understood the term, “evidence-based practices,” the definitions and characteristics provided by both general education and special education teachers were
surprisingly inadequate. Cook and Cook (2011) have already raised concerns that the term, “evidence-based practices,” is often used synonymously with other terms such as “research-based practices” and “best practices.” Consistent with Cook and Cook’s (2011) assertion and the finding of the research reported by Jones (2009) and Guckert (2010), this study revealed the terms are being misapplied frequently amongst teachers. In fact, 14 participants indicated the terms, “research-based” or “research backed,” when asked to list the important characteristics of evidence-based practices. However, no participants used the term, “best practices.” Recommendations to address establishing common language will help to increase the development of common core concepts throughout the field.

The findings from this study also strongly support recommendations to develop more effective means to provide meaningful professional development opportunities to teachers. First, teachers reported they mainly learn about evidence-based practices from school district professional development and professional development within their schools. Second, they did not indicate they learn much from college and universities and national professional conferences. Hence, the phenomena of the research to practice gap; scholars and practitioners are not crossing paths. Greenwood and Abbott’s (2001) notion of locally constructed professional communities includes researchers and teachers working side by side to develop and conduct research which would address day-to-day classroom concerns. Another approach would be to consider expanding on the work of Paulsen (2005) and Scheeler et al. (2009) who reported positive findings investigating methods for providing pre-service teachers training on actually implementing evidence-
based practices in the classroom setting. Paulson (2005) indicated positive effects teaching pre-service teachers explicit instruction, while Scheeler et al. (2009) revealed the importance of providing pre-service teachers immediate feedback as they implement instructional strategies.

**Limitations**

There are several limitations to this study. First, there are limitations associated with the distribution of a survey, especially an Internet-based survey. Dillman et al. (2009) indicated that one barrier to electronic surveys is the fact that not everyone has the technology to access the Internet and participate equally. It is generally assumed that public schools and, hence, teachers have access to the Internet and adequate technology; however, it is acknowledged that it might not be the case for all teachers who were invited to participate in this study (Dillman et al., 2009). Another important limitation is imbedded in the nature of the self-response format of the survey used for this study. There was no interaction between the researcher and the participants when data were collected via the survey. There was no opportunity for the researcher to verify or question any responses provided. Therefore, it is possible that participants provided socially desirable responses (Dillman, 2009; Harkness, 2008) rather than the truth. For example, one might raise concerns if teachers indicated they did not consider the needs of students when determining instructional practices; therefore, there is the potential that the overall positive responses are inflated for this item. This could partly account for the fact that across all teachers, participants were generally positive about evidence-based practices and their knowledge and skills to implement evidence-based practices. Statistical
calculations do help determine if any response sets are not consistent with expectations. For this study, statistical calculations indicated the reliability across all responses is acceptable. However, despite these documented limitations, it is important to note that the responses provided for this current study were consistent with previous findings in the literature.

The response rate for the current study was a concern. As reported, the response rate was calculated at 6.5% ($N = 265$). Previous doctorate level researchers who completed research by accessing a database supplied by MDR reported similar response rates. Sandford (2010) used MDR to contact randomly selected participants three different times, twice by email and once by post card. Sandford reported a response rate of 4.1% of the original total of 3,000 participants. Mehrenberg (2009) deployed one post card followed by an email to 2,000 sample members, which yielded a response rate of 9%, or 177 responses. Morrison (2010) also implemented an electronic Internet-based survey. The researcher reported a 16% response rate after sending three different emails and one post card to 3,000 teachers; one email to introduce the study, and two emails as reminders. Morrison’s higher response rate may be attributable to an increased number of contacts with potential respondents than the current study. Ysseldyke and Burns (2009) reported a 33.8% return rate after distributing a survey to special education teachers and school psychologists who were members of two national organizations. Those researchers mailed a traditional paper survey to potential participants. The mailing included a cover letter, the survey, and a self-addressed envelope for the purposes of mailing the completed survey back to the researchers.
The current study also did not include an observational component that could have been used to verify or document that teachers’ instructional behaviors actually coincide with their responses throughout the survey. Data analysis tools, such as calculating Cronbach’s alpha, does allow the researcher to make judgments regarding reliability and general inferences derived from the data. The survey used for this study did include open-ended items which allowed for insertion of qualitative data. Participants were required to input information based on their understandings of evidence-based practices. Despite the limitations associated with not observing participants, the inclusion of the open-ended questions somewhat minimized the impact. Yet, many of the findings of this current study were consistent with current literature.

There are some concerns regarding the demographic information of the participants. The age bracket with the most participants was 51-60 years old. In addition, 130 participants indicated they had 21 or more years of teaching experience. It is noted that the years of experience is somewhat consistent with NCES data which reported that 23.7% of teachers across the United States were reported to have more than 20 years teaching experience. The fact that participants are relatively older could contribute to responses regarding sources of knowledge regarding evidence-based practices. Practically speaking, the participants of this study could have received their Bachelor’s degree, Master’s degree, or teaching certificate through a college or university program well before the passing of any federal regulations requiring teachers to implement evidence-based practices. The demographic information did reveal that 45% of the participants indicated they received their last degree between 1981 and 2000. However,
the survey did not gather data regarding whether or not teachers became highly qualified after the passage of NCLB and IDEIA and did not gather data regarding how they became highly qualified. Those requirements may not have required the acquisition of a degree, but rather might have resulted in an additional teacher certification or participation in classes which actually provided information or instruction on evidence-based practices.

The researcher experienced challenges with completing follow-up interviews. Participants were asked to volunteer for follow-up interviews. The survey indicated that the follow-up interview would only last 10 to 15 minutes and could be completed by phone, Skype, or email. Of the total 225 participants, only 38 participants volunteered for follow-up interviews. When the researcher attempted to contact the participants who volunteered, only a very small number were reachable by phone. It is presumed that difficulty contacting participants was because calls were made during the summer months when school was out of session.

Finally, it was difficult to contact those participants who were selected to receive a $20 gift card. Of the participants, 137 entered in their first name and email address to be included into a drawing to win a gift card. The researcher emailed the 10 randomly selected participants to notify them that they had been selected to win a gift card. Of those 10, only five responded to the email in order to claim their gift certificate.

**Implication for Future Research**

Future research may address the limitation of the current study. Replication and extension of this study with a larger sample of general education and special education
teachers would be a beneficial addition to the literature base regarding teachers’ use of evidence-based practices. Additional research is required in order to better understand why teachers decide to continue or discontinue the use of an effective instructional practice (Gersten, Chard, & Baker, 2000) so that those students who require the most effective instructional practices can receive the instruction to achieve their potential (Landrum et al., 2007).

Future research might also examine the issue of teachers’ sources of knowledge more specifically. The exact reasons why teachers are mainly learning about evidence-based practices from their local school districts or individual schools was not revealed by this study; however, it is of concern that teachers rated colleges/university, national conference, and professional journal so low. If it is a growing trend that teachers rely on the context of their environment, teacher educators may have to explore options to transfer the instruction that might have traditionally occurred on a college campus to the teachers on a K-12 public school campus. The literature search revealed that this concept is emerging as by research conducted by Jitendra (2005) indicating that the research to practice gap could be positively impacted if researchers work closely with teachers in the field to fine tune innovative instructional practices.

Summary and Conclusions

As stated previously, the purpose of this study was to gather data to better understand general and special education teachers' understanding regarding the use of evidence-based practices during the instructional day. The study implemented survey research in order to access a randomly selected national sample of general education and
special education teachers. A total of 159 general education teachers and 70 special education teachers participated in the study. The findings of this study support the existing research literature by substantiating that teachers rely heavily on the context of their own schools and their colleagues for information regarding instructional practices. Consequently, teachers do not have a strong understanding of instructional practices proven effective by research studies. In summary, this study confirms that the research to practice gap does continue to exist and, unfortunately, the dire consequences of the separation between research and practice is that students who require the best instruction are not receiving evidence-based practices.
APPENDIX A

Survey: "Understanding Teachers and Evidence-Based Practices"

Understanding Teachers and Evidence-Based Practices

Thank you for entering this online survey! Appreciate your time and effort. At the end of the survey, you will have the opportunity to enter your name into the drawing for a $20 gift card to Target, Barnes & Noble, or Starbucks. In fact, you will also be able to indicate which gift card you prefer!

Please take a moment to read through the required George Mason University Human Subjects Review Board information regarding informed consent, risks, benefits and confidentiality. Once you have completed that section, you will be directed to the final set of questions.

INFORMED CONSENT FORM

RESEARCH PROCEDURES
This research is being conducted to better understand teachers' attitudes, understanding and use of evidence-based instructional practices. If you agree to participate, you will be asked to complete an internet-based survey. The survey should take approximately 25 minutes of your time to complete.

RISKS
There are no foreseeable risks for participating in this research.

BENEFITS
There are no benefits to you as a participant other than to further research in teachers' understanding and attitudes regarding the use of evidence-based practices during the instructional day.

CONFIDENTIALITY
The data in this study will be anonymous and confidential. The data collected from the survey will be downloaded into statistical software. All responses will be converted into a numerical code. For those participants who choose to enter their name to be considered for one of the rewards, names will be stored in a different database than the survey data. While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission.

The researcher will make all efforts to maintain confidentiality. If IP addresses are transmitted, they will be discarded. It is recommended that you close the browser once you have completely the survey to protect your responses.

PARTICIPATION
Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT
This research is being conducted by Katherine Bradley-Back for a doctoral dissertation in the College of Human Development and Education at George Mason University. She may be reached by email (ksab654@gmu.edu) or by phone (703.254.7742) for questions or to report a research-related problem. The faculty advisor for this research is Dr. Margo Mastropieri. She may be reached at mmastrop@gmu.edu or 703-993-4136. You may contact the George Mason University Office of Research Subject Protocols at 703-993-4131 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

Please consider printing this page to maintain in your records.

CONSENT
I have read this form and agree to participate in this study.

☐ Yes
☐ No
Understanding Teachers and Evidence-Based Practices

The following section will ask you to respond to demographic items and ask about your teaching experience. This information will allow me to draw conclusions across several demographic data points, such as years of experience, certification/licensure areas, subjects taught, etc. Please read through the following items and indicate which responses best represent you.

I am:

- [ ] male
- [ ] female

I am (year old):

- [ ] 18 - 25
- [ ] 26 - 30
- [ ] 31 - 40
- [ ] 41 - 50
- [ ] 51 - 60
- [ ] 61 - 70
- [ ] 71+

The highest degree I hold is a:

- [ ] Bachelor's degree (BA/BS)
- [ ] Master's degree (e.g., MA/MS/MAT/MAEd)
- [ ] Specialist degree (Ed.S.
- [ ] Doctorate degree (Ed.D or Ph.D.)

Other (please specify)

I received my last degree in: (enter a year)
Understanding Teachers and Evidence-Based Practices

I have been teaching for ________ years: (Indicate number of years.)

- 0 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 25
- 26 - 30
- 31+

I am currently a __________:

- general education teacher
- special education teacher
- Other (please describe)

I currently teach the following core content areas: (select all that apply)

- Mathematics
- History/Social Studies
- English/Language Arts/Reading
- Science
- Other

Other (please specify)

I primarily teach special education students who participate in:

- the general education curriculum, or access state standard curriculum, and are expected to graduate with a state standard diploma.
- the modified curriculum, or aligned standards, and are expected to exit high school based on their IEP goals or by 'aging out' of special education.

Page 3
Understanding Teachers and Evidence-Based Practices

I spend most of the instructional day teaching in the:

- [ ] general education setting
- [ ] special class, or pull out setting
- [ ] equally in both the general class and special class, or pull out setting
- [ ] in a leadership position, not directly teaching

Other (please specify):

I am considered “highly qualified”, based on state or local regulations, to teach what I am currently assigned to teach:

- [ ] yes, completely
- [ ] no
- [ ] for part of what I am assigned to teach
- [ ] I am not sure
- [ ] I am currently working on completing the requirements to become highly qualified

I received, or am working on, my teaching certificate through:

- [ ] college/university program provided on a college/university campus.
- [ ] college/university cohort program through a school district.
- [ ] alternative certification program.
- [ ] online certification/degree program.

Other (please specify):

I am licensed/certified to teach: [list as stated on your teaching license/certificate]

1. 
2. 
3. 
4. 
5.
Understanding Teachers and Evidence-Based Practices

I currently teach in a school which contains the following grades: (select all that apply)

- [ ] pre-K
- [ ] K
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 5
- [ ] 6
- [ ] 7
- [ ] 8
- [ ] 9
- [ ] 10
- [ ] 11
- [ ] 12

My school has approximately _______ students enrolled

- [ ] 300 or less
- [ ] 301-600
- [ ] 501-1000
- [ ] 1001 - 1500
- [ ] 1501-2000
- [ ] 2001 - 2500
- [ ] 2501- 3500
- [ ] 3501 or more

My school's location would be considered:

- [ ] rural
- [ ] suburban
- [ ] urban

Other (please describe): ____________________________

I teach in the following state:

State: ____________________________

This section will ask you about evidence-based practices. Again, please read each item and choose the response that best represents you. Remember I designed this survey so that it would not take too much of your time. Go with your first response, there is not need to deliberate on any answer you provide.

My definition of evidence-based practices is: ____________________________
# Understanding Teachers and Evidence-Based Practices

**Characteristics I think are important about evidence-based practices are:**

- 
- 
- 
- 
- 
- 

**Evidence-based practices are well documented by research studies.**

- [ ] yes  
- [ ] unsure  
- [ ] no  

**Evidence-based practices are valid teaching methodologies.**

- [ ] yes  
- [ ] unsure  
- [ ] no  

**If I consider my instructional day, I would say I use evidence-based practices.**

- [ ] not at all  
- [ ] some of the time  
- [ ] about half the time  
- [ ] much of the time  

**I've learned about evidence-based practice from:**

| Source                                      | 1 | 2 | 3 | 4 | 5 |  
|---------------------------------------------|---|---|---|---|---|---
| college/university course(s)               |   |   |   |   |   |   
| national professional conference           |   |   |   |   |   |   
| school district professional development/training/workshop |   |   |   |   |   |   
| district requirements                       |   |   |   |   |   |   
| school based professional development      |   |   |   |   |   |   
| reading professional journals              |   |   |   |   |   |   
| my peers/colleagues                        |   |   |   |   |   |   
| internet site(s)                           |   |   |   |   |   |   
| I haven't learned about evidence-based practices |   |   |   |   |   |   
| Other (please specify)                     |   |   |   |   |   |   

**I believe I have the knowledge to implement some evidence-based practice.**

- [ ] yes  
- [ ] somewhat  
- [ ] no  

**I believe I have the skills to implement evidence-based practices.**

- [ ] yes  
- [ ] somewhat  
- [ ] no
### Understanding Teachers and Evidence-Based Practices

I rely on the following three evidence-based practices the most (list up to three):

1. 
2. 
3. 

Of the three evidence-based practices I just listed, I use them:

<table>
<thead>
<tr>
<th></th>
<th>once a day</th>
<th>every other day</th>
<th>two to three times a week</th>
<th>once a week</th>
<th>less than once a week</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I determine which evidence-based practice I use based on:

<table>
<thead>
<tr>
<th></th>
<th>always 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 never</th>
</tr>
</thead>
<tbody>
<tr>
<td>the needs of the students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>which is easiest for me to manage</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>which show positive student progress</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the disability identification of student(s)</td>
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</tr>
<tr>
<td>as required by the student's IEP</td>
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</tr>
<tr>
<td>my colleague's recommendations</td>
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</tr>
<tr>
<td>what I read in a journal</td>
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<tr>
<td>my teaching schedule</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>the data from progress monitoring</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify):

I would like to be able to use evidence-based practices more frequently in my teaching.

- [ ] yes
- [ ] no
Understanding Teachers and Evidence-Based Practices

Because the following items impact my use of evidence-based practices:

<table>
<thead>
<tr>
<th>Item</th>
<th>Completely 1</th>
<th>Yes</th>
<th>Somewhat</th>
<th>No</th>
<th>Completely 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available materials</td>
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</tr>
<tr>
<td>Training</td>
<td></td>
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<tr>
<td>Works well with all students</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Number of students in my room</td>
<td></td>
<td></td>
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<tr>
<td>Different needs in my classroom</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Providing services in the general class setting</td>
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<tr>
<td>The difficulty of implementation</td>
<td></td>
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<tr>
<td>How quickly it will remediate a skill</td>
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<tr>
<td>Other (please describe)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I am familiar with multi-tiered intervention systems (i.e. Response to Intervention (RTI), Positive Behavior Interventions and Supports (PBIS)).

- Yes
- Somewhat
- No

There is a multi-tiered intervention system currently implemented in my school.

- Yes
- No

I have at least one student, or students, in my classroom who are participating, or who has participated, in the multi-tiered intervention system in my school.

- Yes
- No
Understanding Teachers and Evidence-Based Practices

I would state that the evidence-based practices used with my student(s) who participated in the multi-tiered intervention system made a positive difference and improved the student's academic skills.

☐ yes ☐ maybe ☐ no

Please list the evidence-based practices used at your school at level one or in the first tier.


Please list the evidence-based practices used at your school at level two or in the second tier.


I responded to this survey after I received:

☐ the post card
☐ an email
☐ a second email

Other (please specify):


I am seeking volunteers who would be willing to participate in a 10 to 15 minute follow-up interview on this topic either via email, phone or Skype. If you choose to volunteer, please include your contact information in the text boxes below so I can contact you. Understand that your contact information will be stored in a separate database from the other responses provided for this survey.

☐ I would like to participate in a follow up interview.
☐ I do not want to participate in a follow up interview.
Understanding Teachers and Evidence-Based Practices

Thank you for volunteering to participate in a follow-up interview. Please complete the information below so that I can contact you.

First Name: 
Email Address: 
Phone Number: 

If you prefer to use Skype, please include your contact information below.

email address 
Skype user contact information 

Finally, if you wish to have your name entered into the lottery to win a $20 gift card to Barnes & Noble, Starbucks or Target, please enter your first name and email address below. If you are chosen to receive a gift card, I will email you for more additional information in order to get you gift card to you via U.S. postal mail.

First name 
email address 

Thank you for participating in this survey. Your time and effort is much appreciated.
APPENDIX B

Post Card

Your assistance is needed!!!
You have been selected because you are a qualified public school educator!!

I am a doctoral candidate at George Mason University. I am conducting a survey to better understand teachers’ attitudes, understanding and use of evidence-based instructional practices to complete my dissertation.

I designed this survey to take the least amount of time as possible. It should take you no more than 25 minutes to complete. Since it is internet based, you can complete it almost anywhere, at any time. In fact, I have included the link to the survey on this post card.

The survey is open for you to complete. You could win a $20 gift card!
https://www.surveymonkey.com/s/8JZXH97
Please contact me if you have any questions or concerns.

Thank you in advance!
Katherine Bradley-Black
703/244-7742 or kblack4@msoulive.gmu.edu

Your assistance is needed!
You have been selected because you are a qualified public school educator!

Flip this card over and read more.
APPENDIX C

First Email

Your assistance is needed!!

Hopefully by now, you received a post card from me stating that I need your help.

If not, that is ok! I still need your help!

I am a doctoral candidate at George Mason University in Fairfax, Virginia. I am conducting a survey to complete my dissertation to understand teachers’ sources of knowledge, understanding, use and reported barriers of implementing evidence-based instructional practices.

You have been selected because are a qualified public school educator.

I designed this survey to take the least amount of time as possible. It should take you no more than 25 minutes to complete.

Since it is Internet based, you can complete it almost anywhere, at any time. In fact, I have included the link to the survey below. It is open for you to complete.

https://www.surveymonkey.com/s/8JZXH97

Please contact me at kblack4@masonlive.gmu.edu or 703.244.7742 if you have any questions or concerns.

Finally, you could be entered to win a $20 gift card to Barnes & Noble, Target or Starbucks! When you finish the survey, just enter your first name and email address. You’ll be entered to be randomly selected to receive a gift card. You even get to tell me which gift card you would prefer!

Thank you in advance for your time and effort!

Sincerely,

Katherine Bradley-Black
Doctoral Candidate
George Mason University
kblack4@masonlive.gmu.edu
703.244.7742
APPENDIX D

Second Email

A reminder that your assistance is needed!

This is a reminder that I need you to complete my survey. You are a qualified public school educator selected to complete my survey on teachers and evidence-based practices.

I appreciate your time and I want to remind you that I designed the survey to take no more than 25 minutes of your time. Here is the link: https://www.surveymonkey.com/s/8JZXH97. Just click on the link and you will be taken to the survey.

Don’t forget you could win a $20 gift card to Barnes & Noble, Target or Starbucks!

Thank you in advance for you time and effort!

Sincerely,

Katherine Bradley-Black
Doctoral Candidate
George Mason University
kblack4@gmu.edu
703.244.7742
APPENDIX E

GMU HSRB Informed Consent

Note: The informed consent statement below is replicated in section one of the survey.

Thank you for entering this online survey! I appreciate your time and effort. At the end of the survey, you will have the opportunity to enter your name into the drawing for a $20 gift card to Target, Barnes & Noble, or Starbucks. In fact, you will also be able to indicate which gift card you prefer! You have a chance of winning 1 out of 10 gift cards available.

Please take a moment to read through the required George Mason University Human Subjects Review Board information regarding informed consent, risks, benefits and confidentiality. Once you have completed that section, you will be directed to the first set of questions.

INFORMED CONSENT FORM

RESEARCH PROCEDURES
This research is being conducted to better understand teachers’ attitudes, understanding and use of evidence-based instructional practices. If you agree to participate, you will be asked to complete an Internet-based survey. The survey should take approximately 25 minutes of your time to complete.

RISKS
There are no foreseeable risks for participating in this research.

BENEFITS
There are no benefits to you as a participant other than to further research in teachers’ understanding and attitudes regarding the use of evidence-based practices during the instructional day.

CONFIDENTIALITY
The data in this study will be confidential. The data collected from the survey will be downloaded into statistical software. All responses will be converted into a numerical code. For those participants who choose to enter their name to be considered for one of the rewards, names will be stored in a different database than the survey data. While it is
understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of your transmission.

The researcher will make all efforts to maintain confidentiality. If IP addresses are transmitted, they will be discarded. It is recommended that you close the browser once you have completed the survey to protect your responses.

PARTICIPATION
Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT
This research is being conducted by Katherine Bradley-Black for a doctoral dissertation in the College of Human Development and Education at George Mason University. She may be reached by email (kblack4@gmu) or by phone (703.244.7742) for questions or to report a research-related problem. The faculty advisor for this research is Dr. Margo Mastropieri. She may be reached at mmastrop@gmu.edu or 703-993-4136. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

Please consider printing this page to maintain in your records.

CONSENT
I have read this form and agree to participate in this study.

☐ Yes
☐ No
APPENDIX F

GMU HSRB Informed consent for Follow-up Interview

Informed Consent for Telephone, Email or Skype Interviews

Note: This form will be read aloud to those participants who volunteer to participate in a follow-up interview after completing the survey. Please be advised that I anticipate the interview to take 15 – 20 minutes of your time to complete.

RESEARCH PROCEDURES
This research is being conducted to examine teachers’ sources of knowledge, understanding, perceived use and reported barriers regarding implementing evidence-based practices during the instructional day. If you agree to participate in the interview, based on your indicated preference, you will be asked to participate by telephone, email or Skype.

RISKS
There are no foreseeable risks for participating in this research.

BENEFITS
There are no benefits to you as a participant other than to further research in teachers’ understanding and attitudes regarding the use of evidence-based practices during the instructional day.

CONFIDENTIALITY
The data in this study will be confidential. As noted when you volunteered for the follow-up interview, I will only use your first name for the purposes of greeting you and engaging in a conversation. However, your name will be removed from the data once the interview is complete. The data from the interview will be linked to an assigned number for the remainder of the study.

PARTICIPATION
Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.
CONTACT
This research is being conducted by Katherine Bradley-Black for a doctoral dissertation in the College of Human Development and Education at George Mason University. She may be reached by email (kblack4@gmu) or by phone (703.244.7742) for questions or to report a research-related problem. The faculty advisor for this research is Dr. Margo Mastropieri. She may be reached at mmastrop@gmu.edu or 703-993-4136. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

If you would like a copy of the informed document I just read to you, please let me know. I can scan the document and provide you a copy via your email address.

__________________________  ______________________
Name                      Date of verbal consent
APPENDIX G

Follow-up Interview

Semi-Structured Interview

- First, can you tell me your position?
  - *If the participant is a special education teacher:* Please tell me where you spend most of your instructional day: In the general education setting or in the special class setting?
  - *If the participant is in a leadership position:* How much time would you say you spend in the classroom either teaching or observing instruction? Many of the questions I am going to ask are designed to be answered by participants who are currently classroom teachers. If you are not in the classroom providing instruction, you may modify your responses based on your current position as an instructional leader.

- What would you like to tell me about your use of evidence-based practices that was not reflected in your responses when you took the survey?

- Tell me more about how you use evidence-based practices:
  - How do evidence-based practices fit into your daily instructional routine?
  - How do you collect and manage materials?
  - How do you collect data?
  - How do you track data?

- How would you describe barriers to implementing evidence-based practices?

- Are you familiar with multi-tiered interventions such as Response to Intervention (RTI) or Positive Behavioral Interventions and Supports (PBIS)?
  - Do you use a different name for it at your school?
o Can you tell me about your experiences with multi-tiered interventions?
  - Would you say your experiences are positive or negative?

• How do you learn about new instructional methods?
  o Tell me more?

• Finally, one more thing. How would you recommend I change the survey?
REFERENCES
REFERENCES


Bradley-Black, K. (2011). *Special education teachers’ use of evidence based practices (EBPs) during the instructional day*. Pilot Study, College of Education and Human Development, George Mason University, Fairfax, VA.


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CURRICULUM VITAE

Katherine Bradley-Black received her Bachelor of Arts in English/Creative Writing and Philosophy from Sweet Briar College in 1992. She received her Master of Arts in Teaching Special Education from the University of South Carolina in 1996.

Within the field of special education, Ms. Bradley-Black has served as a special education teacher in public schools in both South Carolina and Virginia. She has taught students with special needs at both the middle school and high school level. While completing her doctorate degree, she was an Administrative Coordinator, Compliance with Prince William County Schools in Manassas, Virginia.