Educational Research in the United States:

A Survey of Pre-K-12 Teachers' Perceptions Regarding the Purpose, Conceptions, Use, Impact, and Dissemination

by

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ABSTRACT

The purpose of this survey study was to collect data from pre-K-12 educators in the U.S. regarding their perceptions of the purpose, conceptions, use, impact, and results of educational research. The survey tool was based on existing questionnaires and case studies in the literature, as well as newly developed items. 3,908 educators in a database developed over 10+ years at the world's largest education company were sent a recruiting email; 400 elementary and secondary teachers in the final sample completed the online survey containing 48 questions over a three-week deployment period in the spring of 2013. Results indicated that overall teachers believe educational research is important, that the most important purpose of research is to increase effectiveness of classroom practice, yet research is not frequently sought out during the course of practice. Teachers perceive results in research journals as the most trustworthy yet also perceive research journals the most difficult to access (relying second-most often for research via in-service trainings). These findings have implications for teachers, administrators, policy-makers, and researchers. Educational researchers should seek to address both the theoretical and the applied aspects of learning. Professional development must make explicit links between research findings and classroom strategies and tactics, and research must be made more readily available to those who are not currently seeking additional credentialing, and therefore do not individually have access to scholarly literature. Further research is needed to expand the survey sample and refine the survey instrument. Similar research with administrators in pre-K-20 settings as well as in-depth interviews would serve to investigate the "why" of many findings.

DEDICATION

I have three dedications, one global and two personal:

I dedicate this work to the education community. May we strive to focus on the next right thing with intention, interdisciplinary exchange, and mindful inquiry.

For my parents, who have always supported my education

For Tom

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Chapter 1

Introduction

If a tree falls in a forest and no one is around to hear it, does it make a sound?

If educational research is conducted and no one is around to read it (or apply it), does it make an impact?

The effective communication of research results with educators is paramount for impacting instructional interventions in the classroom. According to Zeuli (1994), "reading research is one important way teachers learn about teaching" (p. 39). Additionally, according to Isaac and Michael (1995), "research and evaluation in education is timely and important" because "it is the only way to make rational choices between alternative practices, to validate educational improvements, and to build a stable foundation of effective practices as a safeguard against faddish but inferior innovations" (p. iii).

Although the field of education (including translating research into practice and the effective use of educational technology) is changing exponentially and has an accompanying body of research to match, relatively few studies (Alverson, 2008; Beycioglu, Ozer, & Ugurlu, 2009; Biddle & Saha, 2005; Broekkamp & van-Hout Wolters, 2007; Everton, Galton, & Pell, 2000; Everton, Galton, & Pell, 2002; Ekiz, 2006; Gore & Gitlin, 2004; Hemsley-Brown & Sharp, 2003; Napier, 1978-1979; Shkedi, 1998; Short & Szabo, 1974; Vanderlinde & van Braak, 2010; Zeuli, 1994) have been conducted that investigate how stakeholders actually perceive (and ultimately use and apply) educational research. At this juncture, the nexus of trends in policy, trends in technology,

and trends in educational research (coupled with a dearth of U.S.-based studies) suggest a focused inquiry into the present status of educators' attitudes toward the purpose, conceptions, use, impact, and dissemination of results of educational research.

Background and Context

Trends in Policy.

The Past. Hagreaves (1996) is credited with the idea of education as an "evidence-based profession" (Everton, Galton, & Pell, 2002, p. 373). This view focuses on teaching as a research-based profession (more in-line with the field of medicine), in which findings are utilized by practitioners in context-specific settings to improve learning and teaching (Everton et al., 2002).

Though the notion of education as an evidence-based profession was not unique to and did not originate in the United States, since the instantiation of No Child Left Behind (N.C.L.B.) was signed into law in early 2002, there has been an ever-increasing focus on linking standards-based education to student performance through the use of data. The N.C.L.B. legislation itself required schools, districts, and states to utilize data to prove adequate yearly progress (AYP), to hire highly-qualified teachers, and to link state standards with student outcomes (No Child Left Behind Act, 2002). Further, the legislation proposed using "scientifically based research" (No Child Left Behind Act, 2002, p. 1465) as the basis for decision-making and defined this type of research with language such as empirical, observation, experiment, hypotheses, and "rigorous data analyses" (No Child Left Behind Act, 2002, p. 1551). Indeed, the words "data" and/or "database" are mentioned 230 times in the text of the N.C.L.B. act, and the exact phrase

"scientifically based research" appears 64 times in the legislation.

The Present. Fast-forward a decade. Current policies (including the U.S. initiative for Common Core Standards) focus on how to adequately prepare learners for college and career (Common Core State Standards Initiative, 2012). These policies seek to establish an agreed-upon baseline for college and career readiness, relying on entities such as the Smarter Balanced Assessment Consortium and the Partnership for Assessment of Readiness for College and Careers (PARCC) to guide assessments that provide data and "measure student progress toward college- and career-readiness" (Smarter Balanced Assessment Consortium, 2012, About section). Similarly, the Data Quality Campaign, which is comprised of approximately 100 organizations interested in U.S. education, has a mission to influence policy that promotes the collection, accessibility, and utilization of "high quality" education data to "improve student achievement" (Data Quality Campaign, n.d., About section). In addition, groups like the National Council on Teacher Quality advocate a "comprehensive reform agenda" aimed at providing evidence to bolster policy to transform how the U.S. "recruit[s], prepare[s], retain[s], and [even] compensate[s] teachers" (National Council on Teacher Quality, 2010, About section). In a rapidly changing environment, in which shifts in policy, technology, and research capabilities are prompting new ways of interacting with data, educational researchers who seek to impact classroom outcomes and educational practices must ask and pursue answers to questions about what data (and the meaningful interpretation of said data) mean for teaching, learning, and research in the 21st century and beyond.

The Future. Since 1997, world-wide efforts like the Programme for International Student Assessment (PISA), administered by the Organization for Economic Co-Operation and Development in conjunction with now over 70 participating countries, have sought to provide data regarding student performance across the globe (Organisation for Economic Development and Co-operation Programme for International Student Assessment, n.d.). Moreover, the assessments, which currently evaluate students in reading, mathematics, and science, are scheduled to deploy as computer-based assessments by the year 2012 (Educational Research Centre, n.d.; Organisation for Economic Co-Operation and Development, n.d.). These scholarly and policy-making trends and practices not only yield new data critical for educational research, but emphasize learning analytics and personalized learning to make use of data (The New Media Consortium, 2012). The meaningful and effective exchange of educational research is one vehicle to inform educational system change and will only continue to increase in value, particularly given the rise of the global middle class, which will require better education services, complex system management, skilled instructors, and technology at-scale (Kharas, 2010).

Trends in Technology.

In General. In addition to trends in policy, advances in technology highlight and augment access to data. For instance, the March 25, 2012 edition of the New York Times ran an article by Quentin Hardy referencing "Big Data" in which the world is described as "one big data problem" (BU, p. 1) where statisticians 'clean and correct' data to account for many variables (BU, p. 6). In fact, how to identify, manage, and analyze data

is becoming big business. During one week in April of 2012, monster.com had 622 postings for data analysts (Monster, 2012) and 34 postings for data scientists (Monster, 2012) across industries (e.g., software development, eCommerce, and healthcare), including education. One might conclude that future models of instructional intervention will require teachers to more frequently interact with cross-functional teams, including data scientists focused on learning analytics, as part of the profession.

In Education. More than fifteen years ago, Isaac and Michael (1997) noted that "the overall power and facility of computers to order, store, and process information rapidly and economically, analyzing large volumes of data with complex statistical programs" (p. iii). Since then, advances such as cloud computing make large data sets accessible from anywhere in the world at a moment's notice, given the proper permissions. Additionally, the strong trend towards online and hybrid education, managed by single-sign-on student information systems and learning management systems, means that data about teaching and learning will become a ubiquitous part of the lexicon of both educational researchers and practitioners (Behrens, 2013; Horn & Staker, 2011; Wicks, 2010). Again, educational research can serve both as a tool for managing the information and informing what to make of the data. Thus educational research is, in and of itself, a worthwhile object under scrutiny (National Research Council, 2002).

Rationale

Education policy-makers are pushing for greater employment of data to inform instruction, technology is making analysis of large data sets accessible and closer to

instantaneous for educational researchers, and yet the question remains: How do we bridge the gap between research and practice? How can education stakeholders learn about promising research and the subsequent implications for instructional solutions in order to improve efficacy and to support learning?

Educational research, and how research results are applied in practical settings, has the potential to impact instruction, instructional decision-making, and teachers' abilities to personalize learning to improve student-learning outcomes. In order to determine how the results of educational research are applied, however, it is necessary to understand the many aspects of the relationship between educational research and practice, beginning with how the relationship is portrayed in the literature.

This literature review is organized in two parts. Part one, the argument of discovery, has five sections describing existing scholarship about educational research: (1) the purpose of educational research, (2) conceptions of educational research, (3) the use of educational research, (4) the impact of educational research, and (5) educational research results and dissemination. Part two has one section and defines the unanswered by building a case for a survey study, building upon earlier studies, yet designed to extend the research to include new participants, namely teachers in the United States.

Argument of Discovery— What do we know?

Purpose of Educational Research.

Etymology of Research and the Process of Normal Science. The etymology of the word research is from Middle French (from recercher), meaning "to go about

seeking" and from Old French (recerchier), meaning "to search" (Research, 2012). This definition of research connects the fundamental act of seeking with the specific process of science. For instance, Thomas Kuhn (1963) describes how the process of normal science can be defined as "research firmly based upon one or more past scientific achievements, achievements that some particular scientific community acknowledges for a time as supplying the foundation for its further practice" (p. 10). Studies continue and evolve based on the existing foundation of scholarship until anomalies in findings are different enough from the existing paradigm that a scientific revolution occurs, prompting a new paradigm (Kuhn, 1963, pp. 10-12). Therefore, in general, one might think of educational research as a way "to search" for new paradigms that solve a problem or improve the efficacy of an existing situation in education.

Research in Education. In the context of educational research, there is some debate about the purpose of the research and how researchers and educators "search" for new understandings, paradigms, and measure intended outcomes. Scholars have noted a gap regarding many aspects of research, including the ultimate aim of educational research and the reciprocity between research and practice (Vanderlinde & van Braak, 2010) and how the research impacts practice (Biddle & Saha, 2005).

However, there are scholars who offer accessible and succinct suggestions for the aim of educational research. For instance, Vanderlinde and van Braak (2010) simply state that the main aim of educational research is "the improvement of educational processes and outcomes" (p. 300). One interpretation is, therefore, that there is *both* a policy and practice element to the research— the knowledge we create to improve the processes and

the knowledge we create to improve practice (Vanderlinde & van Braak, 2010). Other researchers acknowledge and even reference how factors like the evolution of technology can influence data in current educational research (Isaac & Michael, 1997).

Researchers have identified nine reasons for the importance of educational research, ranging from the need for evidence-based policies, to the need to guide sound instructional materials, to the existence of funding that will enable researchers to explore applied techniques (Isaac & Michael, 1997). Gall, Gall, and Borg (2007) note that research is crucial to further our understanding about all aspects of education, including "teaching and learning", and "administration" (p. 3). Additionally, Gall et al. (2007) clearly outline and define four aims of educational research: (1) description, (2) prediction, (3) improvement, and (4) explanation (p. 3). These same four purposes or types of knowledge are referred to as "objectives" by Johnson and Christiansen (2008), yet they actually add a fifth element—"exploration," defined as "attempting to generate ideas about phenomena" (p. 23). The aim of educational research, then, is often to address the continuum of inquiry: generating new ideas, honing theories of operation, and determining the efficacy of particular influences with the ultimate goal of impacting instruction and learning.

In fact, both Gall et al. (2007) and Johnson and Christensen (2008) suggest that research demands more than artifacts of theory and must move towards the applied. For instance, in *Educational Research,* Gall et al. (2007) suggest that although the ultimate aim of most education research is to improve society or the world at-large, teachers and other stakeholders do not necessarily use or "value" findings (p. 10). Johnson and

Christiansen (2008) state that "the ultimate objective of most social, behavioral, and educational research is improvement of the world or social betterment" (p. 26). Thus, a working definition of educational research that combines the theoretical with the practical could help bridge the aforementioned gap between academia and practice.

Definitions of Educational Research. Before a working definition can be selected, it is imperative to review the existing definitions of educational research. These definitions vary based on the philosophical traditions they represent. Although the field of educational research is vast (there are twelve divisions in the American Educational Research Association, comprised of more than 150 special interest groups) (Johnson & Christiansen, 2008), many definitions of educational research have common elements, including an emphasis on influencing practice. For example, some definitions equate research with science, focusing on empirical data developed in line with prevailing standards of inquiry (Johnson & Christiansen, 2008). Notwithstanding these common elements, the definitions of research also tend to focus on some key distinctions across three traditions.

The first tradition is generally aligned with quantitative research. These definitions tend to be within a frame that some call the "positivist tradition" (Broekkamp & van Hout-Wolters, 2007, p. 210; Shkedi, 1998, p. 560). Definitions based on this tradition tend to include

> a systematic approach to a) identifying relationships of variables representing concepts (constructs) and/or b) determining differences between or among groups in their standing on one or more variables of interest (i.e., the relationship of membership in two or more groups to their standing on one or more variables). (Isaac & Michael, 1997, p. 2)

Definitions based on this tradition tend to emphasize quantitative language and constructs such as “error and “bias” (Gall et al., 2007, p. 35).

On the other hand, there is a second tradition that emphasizes the highly contextualized nature of education and information as well as the invention of ideas. Sometimes labeled “post-modernist” those who adhere to this school of thought believe that the “exchange of knowledge” is important because “each situation is different” (Broekkamp & van Hout-Wolters, 2007, p. 210). In fact, some scholars co-opt the “concepts of the positivistic approach” (Shkedi, 1998, p. 573) and reframe them with a qualitative lens (or “humanities” tradition), describing how quantitative conceptual issues can be translated: “ontology” can be relative, the “epistemology” must not separate “the knower and known,” and the methodology must allow for new “constructions” (Shkedi, 1998, p. 574; Guba & Lincoln, 1989; Burkhardt & Schoenfeld, 2003). Those in this school tend to advocate for more collaborative and applied research, leveraging models of engagement that employ case studies, interviews, narrative, and design-based research or action research.

A third tradition exists. “The post-positivism” or “moderate enlightenment approach” focuses on the evidence and conceptual framework. One might argue this approach is akin to a mixed-method study or even an “engineering” tradition that pulls from different traditions to make a practical impact (Broekkamp & van Hout-Wolters, 2007, p. 210; Burkhardt & Schoenfeld, 2003).

Operational Definition of Educational Research. Educational researchers, like most researchers, typically develop and test hypotheses to validate theories (Isaac &

Michael, 1997). Therefore, educational researchers endeavor to generate new knowledge or to resolve contradictions or inconsistencies in given bodies of knowledge. There is a great breadth of possible objects of scrutiny (i.e. teaching strategies, instructional design modules, and implementation models), audiences (i.e. parents, teachers, and administrators), and methods (quantitative, qualitative, and mixed), as well as aims (i.e. description, prediction, improvement, explanation, and influence). It is therefore necessary, in order to begin to bridge the gap between research and practice, to use a functional definition of educational research in any study. In this current study **educational research** is defined as "the structures, processes, products, and persons that are part of the systemic development of knowledge of education" (Broekkamp & van Hout-Wolters, 2007, p. 205). The definition of **educational practice** is defined as "the structures, processes, products, and persons that are directly involved in teaching in educational institutions, determination of local and central education policies, and development of educational tools" (Broekkamp & van Hout-Wolters, 2007, p. 205).

These definitions intentionally draw on the tradition and spirit of inclusion, and are intended to "include pure basic research, pure-practice-oriented research and all forms in between" (Broekkamp & van Hout-Wolters, 2007, p. 205) as they provide both the greatest potential to align with what teachers often identify as the most important aspect of educational research—effective practices that impact student learning (Ekiz, 2006; Shkedi, 1998).

The aforementioned definitions and subsequent objectives of educational research have mostly been outlined and debated in scholarly literature and need to be verified

against the perceptions of pre-K-12 teachers in the U.S.

Conceptions of Educational Research.

The Gap Between Research and Practice. There is a common theme in the educational research literature regarding the gap between theory and practice (Beycioglu et al., 2009; Biddle & Saha, 2005; Broekkamp & van Hout-Wolters, 2007; Everton et al., 2000; Everton et al., 2002; Gall et al., 2007; Hammersley, 2000; McIntyre, 2005; Oancea, 2005; Shkedi, 1998; Vanderlinde & van Braak, 2010). The gap, however, is complicated—opinions differ about the cause and extent (Biddle & Saha, 2005; Vanderlinde and van Braak, 2010). The gap is often discussed in the literature as having two sides: the pedagogy/practitioner side and the scholarship/research side (Vanderlinde & van Braak, 2010). As a case in point, Coulter and Wiens (2002) describe how "academics write about the importance of research for understanding and improving classroom practices [whereas] classroom teachers dismiss the academics' research knowledge as a poor substitute for actual experience" (p. 15). In the same vein, Shkedi (1998), in a study designed to combine case studies and case surveys on teacher attitudes, quotes one teacher as lamenting how "[researchers] draw their conclusions by reading articles and not through even a superficial check in the field" (p. 561) and how educators often believe research lacks pertinence and specific applications to practice. Hemsley-Brown and Sharp (2003) describe how teachers will often set aside the quantitative evidence from research, claiming it to be invalid when juxtaposed with their local context and individual classroom experiences.

Broekkamp & van Hout-Wolters (2007) conducted a literature review that "revealed four basic problems that constitute the supposed gap" (p. 206), including inconclusive results, few practical results, beliefs of practitioners that the results are not practical, and little appropriate use of results. This literature review was followed by the deployment of a questionnaire to individuals attending a symposium organized by the University of Amsterdam and the Professional University of Amsterdam. This questionnaire was ultimately completed by 160 respondents, including teachers, researchers, teacher trainers, designers, and teachers-in-training (Broekkamp & van Hout-Wolters, 2007). Results indicated a high level of agreement with the critiques of educational research identified in the literature review and a high level of consistency across respondent groups regarding conceptions of a gap (Broekkamp & van Hout-Wolters, 2007).

Use of Educational Research.

There are many factors affecting the use of educational research, including audience, and audience interest, as well as barriers and facilitators (Beycioglu et al., 2009; Burkhardt & Schoenfeld, 2003; Everton et al., 2000; Everton et al., 2002; Shkedi, 1998; Vanderlinde & van Braak, 2010; Zeuli, 1994).

Audiences for Educational Research. A handful of studies, including one comprehensive literature survey, outline how policy-makers, administrators, and teachers actually use research (Hemsley-Brown & Sharp, 2003). There is some evidence that each audience utilizes the research differently. For instance, results of these studies suggest

that local authorities rely on student performance data for the purposes of "school improvement," principals and administrators rely on research for "decision-making," and teachers rely on research for "credible, concrete cases or examples" that will transfer to the classroom (Hemsley-Brown & Sharp, 2003, pp. 452-453). Additionally, critics claim that local authorities, policy-makers, and politicians either are often unimpressed with research or do not employ the best strategies for interpreting findings (Broekkamp & van Hout-Wolters, 2007). In short, administrators often seek data that will point towards school change, whereas teachers often seek more tactical information that can have a direct impact on individual students (Hemsley-Brown & Sharp, 2003; Shkedi, 1998; Zeuli, 1994).

Audience Interest in Educational Research. Other studies enumerate the topics of highest interest and importance to educators. In a series of two survey studies, Everton et al. (2000; 2002) identified ten different areas of "research influence" with "aspects of learning" ranking number one (Everton et al., 2000, p. 172). The same researchers asked teachers to select "important issues" in education and found that the "comparison of different teaching strategies" was chosen by 61% of the teachers in the first study and by 55.9% of the teachers in the combined sample (Everton et al., 2000, p. 173; Everton et al., 2002, p. 383). This finding was slightly different when compared to self-identified topics, in which teachers regarded "the need to improve motivation and tackle pupil disengagement" as being more important than any other issue (Everton et al., 2000, p. 174).

When teachers do seek out educational research, the topics of interest can be

categorized by types of literature. Shkedi (1998) includes a list of six types of "practical education literature" that teachers tend to read including pedagogical approaches, theoretical issues like language development, case studies reflecting other teaching experience, subject-matter readings, general educational psychology literature, and specific research studies on topics of interest (pp. 564-566).

Barriers and Facilitators to Use of Research. Researchers in many of these same studies go on to outline the specific factors that influence educators' use of educational research (either proving problematic for or supportive of use) across stakeholder groups. Vanderlinde and van Braak (2010) describe two sets of factors—barriers and facilitators— that affect how educators leverage research. The four barriers are "lack of applicability, ambiguity of research material, technical and complex language, and descriptive research" (Vanderlinde & van Braak, 2010, p. 306), which are similar to barriers cited in other studies (Hemsley-Brown & Sharp, 2003). In addition, other authors describe low expectations that teachers actually utilize findings (Broekkamp & van Hout-Wolters, 2007; Burkhardt & Schoenfeld, 2003), along with factors that prevent teachers from accessing research. They and other authors describe root causes such as lack of time, understanding, and trust (e.g., extrapolating beyond what should be generalized), as well as flat-out unavailability of research (Gore & Gitlin, 2004; Shkedi, 1998).

On the other hand, Vanderlinde and van Braak (2010) also cite five facilitators, including practicality, evidence of benefits, time to read and apply, proponents at the school level, and government influence, as factors in educators engaging with research.

Other researchers cite facilitators including availability or access of research, time to read, relevance to practice, and atmospheres of collegiality (Hemsley-Brown & Sharp, 2003). Finally, Shkedi (1998) investigated teachers' attitudes towards research in a survey of 47 Israeli teachers in Jerusalem in which open-ended interview prompts were paired with responses. All responses were coded, resulting in five categories that can be used as lenses to investigate how teachers engage with research literature. Within these five categories there are specific findings that describe how teachers turn to research because they are motivated by academic study or professional need, citing root causes such as (1) course requirements, (2) job requirements, (3) a desire to "expand professional knowledge," and (4) "problems" (i.e. specific child development questions) (Shkedi, 1998, p. 566).

Operational Definitions of Barriers, Facilitators, Interest, and Importance. In the present study, **barrier** is defined as any factor preventing or discouraging interaction with educational research, and **facilitator** is defined as any factor motivating or encouraging interaction with educational research.

For the purposes of the present study, **interest** is defined as concern for a topic, as evidenced through selection from provided options or as listed by self-initiative. **Importance** is defined as a state of prioritization as evidenced through higher ranking as urgent on a provided list of options.

Attitudes toward Research: Value and Impact.

Other researchers acknowledge or refer to the gap between research and practice, yet focus instead on particular factors, such as teachers' views of research, including

constructs such as **value** (Everton et al., 2000; Everton et al., 2002; Beycioglu et al., 2009; Short & Szabo, 1974; Napier, 1978-1979; Vanderlinde & van Braak, 2010; Hemsley-Brown & Sharp, 2003; Ekiz, 2006). If, as some authors propose, the primary goal of educational research is to positively impact the practice of teaching and learning, thereby improving the overall system, then it is important to understand the attitudes of practitioners (Ekiz, 2006). Many of these same researchers show that teachers highly value research when it is focused on classroom application and "effective learning" (Vanderlinde & van Braak, 2010, p. 305; Everton et al., 2002). In other words, when educational research provides strategies and tactics for questioning, assessment, designing lessons, interpreting data, and 'what works' when translated to classroom environments, then the research is judged by teachers to have more merit.

Researchers have collected data regarding "teachers' views on [the impact of] educational research" (Beyciolgu et al., 2009, p. 1088; Everton et al., 2002). Teachers were asked, for instance whether they had ever considered educational research, and, if so, to list researchers of influence and how the influence has impacted their practice (Everton et al., 2002). A case in point is the Everton et al. (2000) survey study in the UK (with 302 respondents) to "investigate baseline data on teachers' views about research" (p. 374). The study (using the same battery of questions) was extended two years later in the UK during "Challenge Conferences" for a combined total sample of 572 (Everton et al., 2002, p. 375). This second and combined study revealed significant differences for variables to consider, including years of experience, gender, grade level of concentration (e.g., primary or secondary) and job role (e.g., teacher or principal) (Everton et al., 2002).

For instance, on questions related to the impact of educational research, their results suggest that those respondents who have not considered research were more likely to be female classroom assistants or assistant teachers working in primary schools who were between the ages of 25 and 44, with "between 5 and 25 years of teaching experience" (Everton et al., 2002, p. 378). Additionally, the research interest scale results (ability to identify up to seven sources of research information) indicated statistically significant results in which deputies (i.e. the second most senior teacher at a school in the UK) showed higher interest scores than did principals, and that research assistants had the lowest interest (Everton et al., 2002). Further, attitudes of primary and secondary teachers differed significantly across 24 topics when participants were asked to rank the issues by importance (Everton et al., 2002). For instance, elementary teachers selected "comparison of different teaching strategies" as the third most important topic, whereas a statistically significant number of secondary teachers ranked "comparison of different teaching strategies" as the second most important topic (Everton et al., 2002, p. 385). Additionally, there were statistically significant results when the same 24 topics were subjected to a factor analysis and the items were grouped into three scales: generic teaching skills, teaching for understanding, and basic skills (Everton et al., 2002). The results, when analyzed by the demographic variable, revealed that older and "more experienced" teachers rated generic teaching skills as important (Everton et al., 2002, p. 386). Individuals with post-graduate qualifications were more likely to consider teaching for understanding as being important; the primary teachers were more likely to select basic skills as being important (Everton et al., 2002). Finally, when asked about the value of

research for informing classroom practice and the teacher's own involvement in research, two statistically significant results also emerged. Secondary teachers seemed less positive towards involvement in research than did primary teachers, and male secondary teachers were the least likely to support teacher involvement in research (Everton et al., 2002).

Short and Szabo (1974) also found significant differences in attitudes based on subject area. These researchers conducted a study with 204 secondary teachers from Western New York; teachers completed a test of educational research knowledge and an attitudinal inventory. Their results indicated that social studies teachers' mean attitude score was significantly lower than were the attitude scores of teachers in the other four subject areas (English, Mathematics, Science, and an "other" category) . Moreover, the teachers' knowledge scores were related to the "recency" of coursework or participation in educational research, with a significant difference if either activity had been completed within the past five years (Short & Szabo, 1974, p. 77). In contrast, Napier (1978-1979) found that "increases in research knowledge did not result in gains in attitude toward research" (p. 131). In fact, in the Napier study (1978-1979), there was a "decreased trend" (e.g., lower attitude scores following instruction regarding educational research). This outcome was hypothesized to be attributable to three other factors that could have confounded the results, including a small sample size ($n = 26$) (p. 133).

Yet results about value and attitude may be dependent on audience or country of study. Shkedi (1998) found (albeit in a study with a smaller sample size) in Israel that research literature "is not part of the typical teachers' library" (p. 559), and Beycioglu et al. (2009) report that 32% (N = 80) of teachers in Turkey "responded that they had never

seriously considered research findings since entering the teaching profession" (p. 1090).

Operational Definition of Value and Impact. Based on how value has been measured in previous studies, the operational definition of **value** for the current study is the self-identified positive disposition regarding characteristics of educational research based on a provided list (Ekiz, 2006; Everton et al., 2002; Hemsley-Brown & Sharp, 2003; Short & Szabo, 1974; Vanderlinde & van Braak, 2010).

Based on how impact has been measured in previous studies, **impact** is defined as the extent to which educators self-identify as having considered research, including (a) the ability to cite specific researchers and/or research studies, (b) the ability to objectively describe at least one direct change to practice based on the influence of the research and/or (c) to select activities undertaken following engagement with research (Beycioglu et al., 2009; Ekiz, 2006; Everton et al., 2000; Everton et al., 2002; Short & Szabo, 1974; Vanderlinde & van Braak, 2010; Zeuli, 1994; Torbay Council, 2005).

Educational Research Results and Dissemination.

It is possible that due to the fact that unique audiences use research results differently, how the information is accessed may also vary.

To date, there are only a few studies that have investigated the actual process or characteristics that contribute to the effective reading of educational research results (Hemsley-Brown & Sharp, 2003; Zeuli, 1994). Most recent studies focus on the graphical display of information in the hopes of identifying or improving the use of data by educators for specific purposes of instruction and intervention (i.e. school improvement,

progress monitoring, student performance improvement) (Alverson, 2008; Hojnoski, Caskie, Gischlar, Key, Barry, & Hughes, 2009).

How Teachers Read Research Results. Researchers in one study did, however, investigate, through experimental design *how* teachers actually approach, interpret, and read research results (Zeuli, 1994). In a two-part study that engaged a total of 13 participants, teachers were asked to "read and respond to three different types of research articles and two research findings" (Zeuli, 1994, p. 39). Zeuli (1994) found that teachers' ability and willingness to read the research varied widely and had a connection to prior beliefs. Findings from the more recent studies, which focus on the characteristics of data display that influence preference, accuracy, and acceptability, indicate that format (e.g., table versus line graph) influences preference and accuracy of interpretation differs significantly based on role (e.g., parent versus administrator) (Alverson, 2008; Hojnoski et al., 2009).

Where Teachers Access Research Results. In a few studies researchers collected data on the sources or channels educators utilize to access research. Everton et al. (2002) found that 73% of teachers were most likely to access information from professional development or in-service training. The second and third most popular sources were official publications (similar to documents published by the U.S. Department of Education) and documentation from courses for professional development or academic study (Everton et al., 2002) Finally, almost 63% of teachers had accessed research in books and just over 56% self-reported reading research in journals (Everton et al., 2002). In another study (based on the Everton et al., 2002 questionnaire), researchers found

slightly different results with a sample of 300 teachers in Turkey: academic journals were the most frequently reported source for research access (28.2%) followed by books (18.8%) (Beycioglu et al., 2010).

Operational Definition of Source and Credibility. Based on how sources (including the credibility of these sources) have been measured in previous studies, **sources** are defined as the locations from which research is obtained. Credibility is defined by Merriam-Webster as "the quality or power of inspiring belief" (Credibility, 2013). And source credibility is defined as "the expertise or trustworthiness of the source" (Kang, 2010, p. 6; Kemp, 2007). Therefore, **credibility** is defined as the quality or power of a source to provide trustworthy information.

Argument of Advocacy— What do we need to know more about?

> "The knowledge base keeps growing, but this does not mean necessarily that educational practitioners know about it, value it, or apply it in their work" (Gall et al., 2007, p. 10).

The previous studies (although predominantly conducted outside of the U.S.), when coupled with complementary scholarship, both establish a baseline for the relevant categories and phrasing of survey questions as well as indicate statistically significant differences to inform certain analyses regarding perceptions and attitudes towards educational research (Biddle & Saha, 2005; Ekiz, 2006; Everton et al., 2000; Everton et al., 2002; Broekkamp & van Hout-Wolters, 2007; Gall et al., 2007; Gore & Gitlin, 2004; Johnson & Christiansen, 2008; Kemp, 2007; Shkedi, 1998; Short & Szabo, 1974; Torbay Council, 2005; Vanderlinde & van Braak, 2010).

The present study was intended to be the first in a series that seeks to contribute to and extend the understanding of educational research to include data from teachers in the United States. The study began by investigating the perceptions of U.S. educators on a large scale to establish a basis for future studies regarding attitudes toward and the effective use of educational research.

Research Purpose and Questions

The purpose of this study was to conduct one of the first large-scale surveys of U.S. teachers regarding the perceptions and impact of educational research in pre-K-12 education. This survey study was designed to answer the following research questions:

1. Given the five objectives of educational research [as defined by Johnson and Christiansen (2008) and Gall et al. (2007)], how do pre-K-12 U.S. elementary teachers and secondary teachers rank these relative aims?

2. What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' conceptions regarding the relationship between educational research and practice?

3. What types of educational research do pre-K-12 U.S. elementary teachers and secondary teachers use, including types of literature and factors that prevent as well as motivate use?

4. What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' perceptions regarding the impact of educational research?

5. What topics do pre-K-12 U.S. elementary teachers and secondary teachers select as important and valuable in educational research?

6. What are the primary sources pre-K-12 U.S. elementary teachers and secondary teachers use to access educational research and what are their perceptions of access and credibility?

Chapter 2

Method

Overview

This chapter was designed to describe the study design, study participants, study procedures, the materials and instruments, as well as the data sources and data analyses.

Design

This study was designed as a large-scale nationally representative survey to collect data about perceptions of educational research in the United States. The study was based on constructs in educational research literature, existing international survey work, as well as questionnaires and case studies from previous efforts (Broekkamp & van Hout-Wolters, 2007; Ekiz, 2006; Everton et al., 2000; Everton et al., 2002; Gall et al., 2007; Johnson & Christiansen, 2008; Kemp, 2007; Shkedi, 1998; Short & Szabo, 1974; Torbay Council, 2005). The study was designed to be the first in a series that seeks to contribute to and extend what was known about the perceptions of educators regarding the purpose, conceptions, use, impact, and results of educational research. This particular study began by investigating the perceptions of pre-K-12 U.S. elementary and secondary educators.

Participants

The participants in the study were a combined total of 428 teachers from across the United States.[1] Teachers were categorized into two levels based on the majority of years of teaching experience: elementary and secondary. To be eligible for inclusion in the sample, individuals must have been teaching in pre-K through grade 8, or must have

[1] NCES data from fall of 2011 reported a total of "3.7 million full-time equivalent (FTE) elementary and secondary school teachers" in public and private schools combined in the United States (National Center for Education Statistics, 2011).

currently been teaching in grade 9 through grade 12, or have been serving students in pre-K through 12 grades for teaching and learning purposes (e.g., curriculum specialist) at the time of the study.

Participants in all groups were recruited using existing research databases developed over a period of 10+ years at the world's largest education company that contain approximately 5,000 records. The first database was started in 1998 as a way to engage educators in research studies involving the development of instructional solutions and was in the process of being combined with a second database that was started in 2009 specifically for usability studies. The participants in the initial database were originally recruited via paper and pencil surveys and later recruited using online survey efforts. During recruitment for each study, researchers added new participants to the database, collecting first and last name, contact information, grades of teaching experiences, disciplines and subjects, and years of teaching experience. Each participant was also assigned a unique ID to correspond to the school at which they served. Over the years, any time a study (i.e. surveys, focus groups, teleconference interviews) involving pre-K-12 development was completed, the participants in said study were asked if they would like to be added to the database. Therefore, the entire initial database distribution list was constructed using an opt-in approach. Participants could opt out at any time by unsubscribing in the email that was sent for recruitment in a particular study. The individuals in the initial database were not asked to participate in studies with great frequency; in 2012, only two recruitment emails were sent to a small proportion of individuals in the database, and even a smaller fraction (1.6%) of the database actually

engaged in a study.

It is recognized that the study sample was a sample of convenience. It is acknowledged that these teachers have been willing to engage with an organization in order to participate in some type of study, implying that they are somewhat willing to be involved with research at varying degrees. This may mean the sample was somewhat positively predisposed toward research. Therefore, while this sample did not represent all of the teachers in the U.S., it did represent a broad subset of the population of teachers. The sample was geographically diverse and large in size, making it a worthwhile population to explore nonetheless. It is important to note, due to known honorarium restrictions upon public officials in the state of Texas, teachers in Texas were excluded from the recruitment effort. Upon advice of legal council, it was deemed that this was most appropriate way to safeguard teachers from unknowingly violating Texas penal code section 36.07. Although this was unfortunate, there is no reason to believe teachers in Texas differ so drastically in profile that this affected the results of the research study in a dramatic way. If a teacher from Texas somehow (e.g., snowball recruitment) received the survey link and elected to complete the survey, the individual teacher was provided with the option to participate without accepting the honorarium.

For this study, participants were asked to complete the survey during the spring of 2013 (between February 28, 2013 and March 22, 2013).

Procedures

Cognitive Interviews.

Prior to the deployment of the survey, “cognitive interviews” were conducted

with four educators to collect suggestions on how to improve the prototype version of the survey, including instructions, wording, length, clarity, readability, visual design, and navigation (Dillman, Smyth, & Christian, 2009, pp. 221-227). One of the four think-aloud sessions was conducted prior to Instructional Review Board (IRB) approval (e.g., November 29, 2012); three were conducted after IRB approval (between December 7 and 10, 2012). Participants for the cognitive interviews were recruited to reflect the range of teachers who would be included in the survey sample. Two of the participants were female; one was male. One participant was an elementary teacher and two participants were secondary teachers. The participants taught across a variety of areas: special education, language arts, mathematics, science, and world history. The participants had between five and nineteen years of teaching experience. The interviews lasted approximately 90 minutes and participants were each provided with an honorarium of $100 for participation.

The cognitive interviews were designed to have four parts: (1) welcome and introductions, (2) confirmation of forms, (3) pretest of the actual survey, and (4) closure and thank you (see Appendix A for full protocol). During the welcome and introduction the participant was provided with the context for the dissertation study and a high-level description of the think-aloud process. During the confirmation of forms, the researcher confirmed receipt of the incentive release. During the pre-test of the survey, there were four distinct tasks: (1) the participants reviewed two versions of the survey that differed in the number of questions that appeared on any one screen, (2) participants practiced the think-aloud protocol with two non-survey related items (e.g., “How many windows are in

your home?"), (3) the participants actually completed the entire survey, performing a think-aloud all the while, and (4) participants reviewed the recruitment email, providing feedback about phrasing, subject line text, and interest (Dillman et al., 2009, p. 221). Finally, during the closure and thank you portion of the cognitive interview, participants were reminded how the information would be used, how to contact the researcher should questions regarding the honorarium arise, and a few final questions about the process, including interest in the results of the full study. All participants expressed interest in the results and findings of the full study.

Based on the feedback provided by participants in the cognitive interviews, several modifications were made to the survey. First, the participants preferred Version A of the online survey because it contained only one or two questions per screen (as opposed to Version B, which contained all of the questions for a section of the survey on a scrollable page). Second, some of the items taken directly from questionnaires in the existing literature were modified to accommodate the U.S. context. For instance, participants recommended deleting the reference to "policy-makers" in items 16 through 19, stating that they would answer the question one way if "educators" and "researchers" were in the stem, but another way entirely if "policy-makers" was also included in the item (Broekkamp & van Hout-Wolters, 2007). Third, some language was adjusted for clarity (e.g., changing "certifications" to "endorsements" and adding definitions to research methods) and some language was added for specificity (e.g., Special Education was added as an area of major teaching responsibility).

Survey Deployment.

As previously mentioned, the participants of the study were individuals recruited from an existing research database of approximately 5,000 educators across the United States. This database was cultivated over a period of more than ten years for the purposes of primary research at the world's largest education company.

A total of 3,908 individuals from the database were sent a recruitment email on February 28, 2013. The recruitment email contained a link to the actual survey. Participants who chose to opt-in to qualify for the survey clicked on the link within the email and were subsequently routed to the survey.

The survey was developed using Snap (programmed by a senior research analyst and approved by the lead researcher), deployed online, and contained a total of 48 questions (a combination of closed and open-ended response items). Daily totals for submitted responses were monitored and the survey protocol was designed with slight modifications based on the procedures recommended by Dillman et al., (2009). Specifically, all 3,908 individuals received the initial recruitment email on February 28, any non-respondents received reminder #1 containing the survey link on March 7, any non-respondents received reminder #2 containing the survey link on March 14, and any non-respondents received the final reminder (containing the survey link) on March 21. The first 300 respondents were promised to receive a $25 dollar honorarium; due to sponsorship flexibility, all eligible respondents (n=393) received the honorarium. The 35 individuals who did not receive the honorarium elected not to provide contact information. All respondents were entered into a randomized drawing for an iPod; the winner of the drawing was notified by email and mailed the prize.

All started and completed surveys were analyzed following the selected close date for the survey (March 22, 2013).

Materials and Instruments

The materials consisted of a cognitive interview protocol, a recruitment email, a reminder #1 email, a reminder #2 email, a final reminder email, an International Review Board (IRB) consent and disclosure form, and an online survey.

The **cognitive interview protocol** contained four parts, with the preponderance of the time spent on the pretesting of the survey (see Appendix A).

The **recruitment email** introduced the researcher, topic, and purpose of the research, described the general participant criteria, outlined the estimated completion time for the survey, and contained contact information for the researcher (see Appendix B).

The **reminder emails** contained friendly language nudging participants to complete the survey, provided the survey link (see Appendix C), and were aligned with procedures recommended by Dillman et al. (2009).

The **IRB consent and disclosure form** was designed to meet the requirements for informed consent and was approved by The Office of Research Integrity and Assurance at Arizona State University (see Appendix D).

The **online survey** contained nine sections with a total of 48 questions (designed to be completed in 30-45 minutes): (1) informed consent, (2) general demographic information, (3) teacher demographic information, (4) questions related to the purpose of educational research, (5) questions related to the conceptions of a gap between research

and practice, (6) questions regarding use of educational research, (7) questions regarding the impact of educational research and important topics, (8) questions regarding the educational research results and dissemination of educational research, and (9) participant contact information. Survey items were predominantly based on existing literature and/or previously deployed surveys, survey items, or constructs from the literature (Broekkamp & van Hout-Wolters, 2007; Ekiz, 2006; Everton et al., 2000; Everton et al., 2002; Gall et al., 2007; Johnson & Christensen, 2008; Kemp, 2007; Short & Szabo, 1974; Shkedi, 1998; Torbay Council, 2005) (see Appendix G).

The informed consent section of the survey contained the language submitted to and approved by the IRB in The Office of Research Integrity and Assurance at Arizona State University (see Appendix D).

The second section of the survey contained four items related to general demographic information (see Appendix G), including a question about age, wherein the categories utilized by Everton, Galton, and Pell (2002) where cross-referenced with the age categories for the U.S. Census (2002). The third section contained seven items related to the professional demographics of teachers (e.g., Select the number of years of teaching experience) (Everton et al., 2002; Short & Szabo, 1974). Section four contained three questions related to the purpose of educational research (e.g., Please rank the aims of educational research from one to five according to your beliefs about importance) (Gall et al., 2007; Johnson & Christiansen, 2008). Section five contained four items (equaling 23 choices), across four constructs regarding the conceptions of a gap between research and practice, that asked respondents to select their level of agreement with statements (e.g.,

There is far too little educational research) (Broekkamp & van-Hout Wolters, 2007). The eleven items in section six pertained to the use of educational research, including the types of literature respondents read, and are based on findings from Shkedi (1998), Short and Szabo (1974), Ekiz (2006), Everton, Galton, and Pell (2002), and constructs from Vanderlinde and van Braak (2010) (e.g., Select all of the factors that prevent you from reading educational research). Section seven contained five items measuring the impact and value of educational research; the last item was a matrix response with 18 prompts (e.g., The evidence of research is of value if…it focuses on classroom actions) (Everton et al., 2002). Section eight contained twelve items that inquire about the sources utilized to access educational research as well as the credibility for sources (e.g., Please rate your level of agreement with this statement: This source is qualified to provide information about educational research.) (Everton et al., 2002; Kemp, 2007). The last portion of the survey, section nine, contained fields for name, address, and preferred contact information in order to deliver the honorarium and lottery prize. In total, the survey contained 48 items, 13 of which were open-ended. Ten of the thirteen open-ended items were associated with "other" or "please explain" boxes connected to survey items, whereas three of the survey items were strictly open-ended questions).

Data Sources and Data Analysis

Data Sources. Teachers were the primary data source. The response of each survey study participant was considered a single data file that could be aggregated or disaggregated from the entire sample. The data were exported from Snap as an Excel file and then imported to SPSS after data cleansing.

Demographic data. Teachers were asked questions about age, sex, years of teaching experience, subject-area expertise, geographic location of work, recency of completed coursework related to educational research, and highest completed post-graduate degree (Appendix G).

Purpose data. The participants responded to questions regarding the purpose of educational research, categorized and prioritized by exploration, description, prediction, improvement, or explanation. Data represent self-reported perceptions or attitudes.

Conception data. All participants answered questions that addressed the perceived gap between research and practice. Data represent self-reported perceptions or attitudes.

Use data. All participants answered questions about how they use educational research. They were asked to select and offer options for types of research literature they read and what encourages or discourages the use of educational research.

Impact data. All participants answered questions about changes to teaching practice based on research. Participants were asked to name researchers or studies, explain specific changes to practice influenced by the research, and select actions typically taken after engaging with research. Data represent self-reported perceptions or attitudes.

Topic data. Participants were asked to select topics for which they are interested in further research, rank topics of research based on urgency, and rate the value of evidence. Data represent self-reported perceptions or attitudes.

Educational research results and dissemination data. All participants answered questions about the sources of educational research, the accessibility of the educational research sources, and the credibility of sources. Data represent self-reported perceptions or attitudes.

Data Analysis. All data analyses were aligned to the research questions and the variables of interest (see the Data Analysis Plan in Appendix H) (Chacón, 2009). All survey data were analyzed either using SPSS or a basic coding system for qualitative data (Boyatzis, 1998; Green & Salkind, 2011; Saldaña, 2009).

The quantitative data analysis strategy combined exploratory, descriptive, and inferential data analysis. The results for exploratory and descriptive statistics were usually provided for the whole sample, elementary teachers and secondary teachers.

Qualitative data (responses gathered from open-ended responses as well as some of the thirteen "other" or "please specify" boxes associated with closed-response items) were coded based on notable and significant themes, primarily utilizing the steps outlined by Richard Boyatzis (1998) in chapter two of *Transforming Qualitative Information: Thematic Analysis and Code Development* and *The Coding Manual for Qualitative Researchers* (Saldaña, 2009). Themes were reported in narrative following any relevant quantitative survey data.

Chapter 3

Results

As an organizational support to the reader, this third chapter is organized using a consistent sequence across findings. General demographics for the entire study are presented, followed by findings related to each research question. Within each section for a given research question, the narrative is organized to match the sequence of the survey items as deployed, reporting first on the descriptive findings related to said set of items, followed by statistical findings (i.e. ANOVA, chi-square analyses, and/or multiple regression) when relevant (Allison, 1999; Green & Salkind, 2011).

Sample Size

On the date of study deployment, there were 4,998 individuals in the combined research database. Due to legal constraints regarding honoraria for public officials in Texas, 521 of the individuals in the database were not sent the survey recruitment email. Therefore, the recruitment email was sent to 3,908 individuals. Four hundred and forty emails were returned as undeliverable (11.26% of recruited respondents). A total of 428 surveys were returned (12.34% response rate). A final sample size of 400 was obtained after treating the total set of responses. The twenty-eight respondents who were not included in the sample for analysis were excluded based on the following decision-criteria: (a) three respondents indicated a current job title outside pre-K-12 education (i.e. university professor, business manager, and associate provost), (b) one case was incomplete; the participant did not answer the last eighteen questions, accounting for 49.1% of the responses as incomplete, (c) five cases were duplicates (identified as such

by name and/or email address), and (d) nineteen cases indicated an equal split of teaching experience between elementary grades and secondary grades and were removed to align with the original research questions. (Note: For all duplicate cases, a side-by-side comparison of both cases was conducted. The case with more non-responses was deleted and only data from the more complete case was included for analysis in the study).

Demographic Data

The demographic characteristics of the total study sample are presented in Tables 1 through 3. Of the four hundred respondents, the majority (77%) were female (n=308) while the rest were male (n = 87) (see Table 1). The results indicate the respondents represent 40 states, with no more than 17% (n = 68) of the respondents from any one location (e.g., Arizona) (see Table 2). The largest percentage of respondents was 35-44 years of age (23.5%), followed equally by 50-54 years of age (15.5%), 55-59 years of age (15.5%), and 25-34 years of age (15.5%) (see Table 3).

Table 1

Descriptive Statistics for Gender

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Male	31	12.90	54	35.50	87	21.75
Female	207	86.30	96	63.20	308	77.00
Missing	2	0.80	2	1.30	5	1.25
Total	240	100.00	152	100.00	400	100.00

Note. According to 2007-2008 data from the National Center for Education Statistics, 76% of public school teachers and 74% of private school teachers were female. Based on data from National Center for Education Statistics. (2011). *Fast facts.* Retrieved from http://nces.ed.gov/fastfacts/display.asp?id=28

Table 2

Descriptive Statistics for Geographic Location of Employment By States in U.S.

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Arizona	45	18.75	22	14.47	68	17.00
Arkansas	3	1.25	2	1.32	5	1.25
California	21	8.75	20	13.16	42	10.50
Colorado	4	1.67	1	0.66	5	1.25
Connecticut	5	2.08	1	0.66	6	1.50
Delaware	1	0.42	0	0.00	1	0.25
Florida	8	3.33	12	7.89	20	5.00
Georgia	5	2.08	6	3.95	11	2.75
Idaho	0	0.00	1	0.66	1	0.25
Illinois	5	2.08	4	2.63	9	2.25
Indiana	3	1.25	4	2.63	7	1.75
Iowa	1	0.42	0	0.00	1	0.25
Kansas	6	2.50	0	0.00	6	1.50
Kentucky	13	5.42	0	0.00	13	3.25
Maine	1	0.42	1	0.66	2	0.50

(continued)

Table 2 (continued)

Descriptive Statistics for Geographic Location of Employment By States in U.S.

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Maryland	9	3.75	3	1.97	12	3.00
Massachusetts	14	5.83	2	1.32	16	4.00
Michigan	10	4.17	6	3.95	17	4.25
Minnesota	5	2.08	2	1.32	8	2.00
Mississippi	0	0.00	2	1.32	2	0.50
Missouri	3	1.25	3	1.97	7	1.75
New Hampshire	2	0.83	1	0.66	3	0.75
New Jersey	10	4.17	7	4.61	17	4.25
New Mexico	0	0.00	1	0.66	1	0.25
New York	19	7.92	10	6.58	30	7.50
North Carolina	4	1.67	3	1.97	9	2.25
Ohio	5	2.08	1	0.66	6	1.50
Oklahoma	1	0.42	3	1.97	4	1.00
Oregon	1	0.42	2	1.32	3	0.75
Pennsylvania	15	6.25	7	4.61	22	5.50

(continued)

Table 2 (continued)

Descriptive Statistics for Geographic Location of Employment By States in U.S.

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Rhode Island	1	0.42	1	0.66	2	0.50
South Carolina	1	0.42	0	0.00	1	0.25
Tennessee	3	1.25	3	1.97	6	1.50
Texas	0	0.00	1	0.66	1	0.25
Utah	1	0.42	4	2.63	5	1.25
Vermont	1	0.42	1	0.66	2	0.50
Virginia	6	2.50	4	2.63	10	2.50
Washington	4	1.67	4	2.63	8	2.00
Wisconsin	0	0.00	6	3.95	6	1.50
Wyoming	1	0.42	0	0.00	1	0.25
Missing	3	1.25	1	0.66	4	1.00
Total	240	100	152	100	400	100

Note. There were no respondents from Washington D.C. or the following ten states: (1) Alabama, (2) Alaska, (3) Hawaii, (4) Louisiana, (5) Montana, (6) Nebraska, (7) Nevada, (8) North Dakota, (9) South Dakota, and (10) West Virginia.

Table 3

Descriptive Statistics for Age

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
20-24 Years	1	0.42	0	0.00	1	0.25
25-34 Years	45	18.75	16	10.53	62	15.50
35-44 Years	61	25.42	32	21.05	94	23.50
45-49 Years	32	13.33	13	8.55	47	11.75
50-54 Years	32	13.33	30	19.74	62	15.50
55-59 Years	41	17.08	19	12.50	62	15.50
60-64 Years	25	10.42	28	18.42	53	13.25
65 Years or Older	2	0.83	14	9.21	18	4.50
Missing	1	0.42	0	0.00	1	0.25
Total	240	100.00	152	100.00	400	100.00

Note. According to 2007-2008 data from the National Center for Education Statistics, 44% of public school teachers and 39% of private school teachers were under age 40. Based on data from National Center for Education Statistics. (2011). *Fast facts.* Retrieved from http://nces.ed.gov/fastfacts/display.asp?id=28. Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

Professional Characteristics of Respondents

The survey contained questions about years of experience, grade-level experience and expertise, subject-matter responsibility and expertise, post-graduate degrees, and recency of certain types of coursework related to research (presented in Tables 4 through 8).

A combined total of 81% of the sample had ten or more years of experience (40.25% selected 10-19 years and 40.75% selected 20 or more years) (see Table 4). At the time of the survey, every grade level pre-K through 12 was being taught by at least one respondent in the sample. According to the results, 60% of respondents indicated the majority of years of teaching experience were in elementary grades (n = 240) whereas 38% indicated the majority of years of teaching experience were in secondary grades (n = 152) (see Table 5).

When asked about teaching expertise, 39% and 27% of the total respondents indicated they had expertise in mathematics and science respectively, whereas 21.3% and 36.3% indicated teaching expertise in social studies and English/Language arts respectively (see Table 6). When it came to areas of specialization, 5.5% reported expertise in special education (n = 22), 7.3% reported expertise in English Language Learning (ELL) (n = 29), and 1.5% reported expertise in reading (n = 6). Six respondents (1.5%) indicated expertise in "all" subject areas. Respondents who selected "other" indicated subject areas or course titles such as business, accounting, and foreign languages (e.g., French, German, and Arabic).

Table 4

Descriptive Statistics for Years of Teaching Experience

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
0-4 years	6	2.50	2	1.32	8	2.00
5-9 years	45	18.75	21	13.82	67	16.75
10-19 years	106	44.17	51	33.55	161	40.25
20 or more	82	34.17	78	51.32	163	40.75
Missing	1	0.42	0	0.00	1	0.25
Total	240	100.00	152	100.00	400	100.00

Note. Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

Table 5

Descriptive Statistics for Majority of Years of Teaching Experience By Grade Level

	Overall Sample	
	Frequency	Percent
Elementary	240	60.00
Secondary	152	38.00
Missing	8	2.00
Total	400	100.00

Table 6

Descriptive Statistics for Subject Area Expertise

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Subjects						
Mathematics	123	51.30	29	19.10	156	39.00
Science	55	22.90	53	34.90	108	27.00
Social Studies	50	20.80	33	21.70	85	21.30
English/Language Arts	118	49.20	24	15.80	145	36.30
Special Education	18	7.50	4	2.60	22	5.50
ELL	22	9.20	6	3.90	29	7.30
All of the Above	6	2.50	0	0.00	6	1.50
Elective	11	4.60	28	18.40	39	9.80
STEM/Social Sci. Combo[a]	1	0.40	0	0.00	1	0.30
Social Sci. Combo[b]	0	0.00	0	0.00	0	0.00
Reading	5	2.10	1	0.70	6	1.50

Note. Teachers could select more than one area of expertise. The frequency column displays the number of respondents who indicated a "yes" for possessing subject area expertise.

[a]STEM/Social Sci. Combo represents a category to describe when teachers indicated subject area expertise in some combination of Mathematics/Science and Social Studies or Mathematics/Science and English/Language arts.

[b]Social Sci. Combo represents a category to describe when teachers indicated subject area expertise in a combination of Social Studies and English/Language Arts

Overall, 8.75% (n = 35) respondents indicated they had a Bachelor's Degree, 14% (n = 56) indicated they had a completed some additional graduate coursework, and 3.75% (n = 15) indicated completed of a Doctoral Degree. Therefore, the overwhelming majority, 73.3% of respondents, indicated completion of a Master's Degree as the highest completed post-graduate degree (n = 293) (see Table 7).

When asked about the recency of completion of coursework in educational research, measurement, or statistics, 5% responded "never" (n = 20), 14.75% responded "within the past year" (n = 59), and a combined total of 64.25% indicated it had been four or more years ago (n = 257) (see Table 8).

Finally, when asked directly about overall interest in educational research, the majority of respondents indicated they were moderately interested (52.75%) with only 2.25% indicating no interest at all, and more than a fifth of respondents selecting extremely interested (21%) (see Table 9).

Table 7

Descriptive Statistics for Highest Post-Graduate Degree

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Bachelor's Degree	26	10.80	8	5.26	35	8.75
Some Additional Graduate Coursework Completed	36	15.00	19	12.50	56	14.00
Master's Degree	172	71.70	115	75.66	293	73.25
Doctoral Degree	5	2.10	10	6.58	15	3.75
Missing	1	0.40	0	0.00	1	0.25
Total	240	100.00	152	100.00	400	100.00

Note. According to 2007-2008 data from the National Center for Education Statistics, 52% of public school teachers and 38% of private school teachers had a master's or higher degree. Based on data from National Center for Education Statistics. (2011). *Fast facts.* Retrieved from http://nces.ed.gov/fastfacts/display.asp?id=28. Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

Table 8

Descriptive Statistics for Recency of Completed Coursework Related to Statistics, Measurement, or Educational Research

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Never	13	5.40	7	4.60	20	5.00
Within Past Year	36	15.00	23	15.10	59	14.75
2-3 Years Ago	39	16.30	25	16.40	64	16.00
4-5 Years Ago	43	17.90	20	13.20	65	16.25
More Than Five Years Ago	109	45.40	77	50.70	192	48.00
Missing	0	0.00	0	0.00	0	0.00
Total	240	100.00	152	100.00	400	100.00

Note. Survey items based on concept or finding from Short, B.G., & Szabo, M. (1974). Secondary school teachers' knowledge of and attitudes toward educational research. *The Journal of Experimental Education, 43(1),* 75-78.

Table 9

Descriptive Statistics for Overall Interest in Educational Research

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Extremely Interested	47	19.60	37	24.30	84	21.00
Moderately Interested	133	55.40	73	48.00	211	52.75
Neutral	31	12.90	17	11.20	49	12.25
Slightly Interested	23	9.60	19	12.50	44	11.00
Not Interested At All	4	1.70	5	3.30	9	2.25
Missing	2	0.80	1	0.70	3	0.75
Total	240	100.00	152	100.00	400	100.00

Research Questions

A total of six research questions were developed to investigate the perceptions of pre-K through 12 U.S. teachers regarding educational research. The following section reports finding by each research question. The findings for each research question are organized in the sequence of the survey items and sequenced as follows: 1) descriptive statistics, 2) tests of statistical differences (e.g., ANOVA or chi-square analyses), and 3) (when applicable) multiple regression analyses.

Purpose of Educational Research.

Research Question 1: Given the five objectives of educational research (as defined by Johnson and Christiansen and Gall et al.), how do K-12 U.S. elementary teachers and secondary teachers rank these relative aims?

There were three survey questions related to the purpose of educational research (Gall et al., 2007; Johnson & Christiansen, 2008). Results indicate that, overall, 82.8% of survey respondents selected improvement as an essential aim of research (n = 331). Exploration had the second highest frequency (80.8%) followed by explanation (66.3%). Less than half of the respondents (40%) indicated that prediction was an essential purpose of educational research (n = 160). Both elementary and secondary teachers selected exploration and improvement/influence most frequently as essential purposes of educational research and selected prediction as an essential purpose least frequently (see Table 10).

Table 10

Descriptive Statistics for Purposes of Educational Research Considered to be Essential

	Elementary					Secondary				
	Frequency			Percent		Frequency			Percent	
	Yes	No	NA[a]	Yes	No	Yes	No	NA	Yes	No
Exploration	200	39	1	83.30	16.30	119	33	0	78.30	21.70
Description	110	129	1	45.80	53.80	68	84	0	44.70	55.30
Prediction	94	145	1	39.20	60.40	65	87	0	42.80	57.20
Improvement/ Influence	196	43	1	81.70	17.90	130	22	0	85.50	14.50
Explanation	160	79	1	66.70	32.90	102	50	0	67.10	32.90

(continued)

Table 10 (continued)

Descriptive Statistics for Purposes of Educational Research Considered to be Essential

	All Respondents				
	Frequency			Percent	
	Yes	No	NA[a]	Yes	No
Exploration	323	76	1	80.80	19.00
Description	179	220	1	44.80	55.00
Prediction	160	239	1	40.00	59.80
Improvement/ Influence	331	68	1	82.80	17.00
Explanation	265	134	1	66.30	33.50

Note. Respondents could select "yes" or "no" for each purpose of educational research. Survey items based on concepts from Gall, M.D., Gall, J.P., & Borg, W.R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson Education. Inc. and Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches.* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

[a]NA represents the number of missing responses

When asked to rank each purpose of educational research according to importance, 42.3% of all respondents ranked improvement as the most important purpose, giving improvement the highest overall percentage across *all rankings* as well as the highest overall percentage for *first place rankings*. Exploration had the second highest percentage of first place rankings (36.6%) and prediction had the highest percentage of rankings for "least important" (35.5%) (see Table 11). According to mean scores, elementary and secondary teachers ranked exploration and improvement/influence as the top two most important purposes of educational research and prediction as least important (see Table 12).

Finally, when asked to select the most compelling research method, 9% of respondents selected quantitative, 6.5% selected qualitative, and 84.3% selected mixed, indicating that data containing both numeric and narrative descriptions were most compelling (n = 337) (see Table 13).

Table 11

Percentage Responses for Rank Order of Purposes of Educational Research

	All Survey Respondents By Percent						
	Most Important	2nd Most Important	3rd Most Important	4th Most Important	Least Important	Missing	Total
Exploration	36.50	26.30	17.50	9.80	9.50	2	99.50
Description	4.00	13.00	26.50	31.30	23.80	6	98.50
Prediction	4.80	11.30	21.50	26.50	35.50	2	99.50
Improvement/Influence	42.30	23.00	10.50	12.50	11.30	2	99.50
Explanation	12.50	26.50	24.00	18.80	17.80	2	99.50

Note. Survey items based on concepts from Gall, M.D., Gall, J.P., & Borg, W.R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson Education. Inc. and Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches.* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Table 12

Descriptive Statistics for Rank Order of Purposes of Educational Research

	Elementary Teachers			Secondary Teachers			All Respondents		
	N	Mean	*SD*	*N*	Mean	*SD*	*N*	Mean	*SD*
Exploration	239	2.18	1.29	151	2.46	1.31	398	2.29	1.31
Description	238	3.61	1.10	148	3.55	1.15	394	3.59	1.11
Prediction	239	3.88	1.16	151	3.61	1.21	398	3.77	1.19
Improvement/Influence	240	2.24	1.37	150	2.31	1.47	398	2.27	1.41
Explanation	239	3.05	1.23	151	2.99	1.38	398	3.03	1.29

Note. Mean scores are based on rank order where 1= MOST important, 5= LEAST important. Survey items based on concepts from Gall, M.D., Gall, J.P., & Borg, W.R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson Education. Inc. and Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches.* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Table 13

Descriptive Statistics for Most Compelling Method of Educational Research

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Quantitative	20	8.30	15	9.87	36	9.00
Qualitative	19	7.90	7	4.61	26	6.50
Mixed	201	83.80	129	84.87	337	84.25
Missing	0	0.00	1	0.66	1	0.25
Total	240	100.00	152	100.00	400	100.00

Conceptions of Educational Research.

Research Question 2: What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' conceptions regarding the relationship between educational research and practice?

There were four multi-part survey questions intended to collect data regarding the conceptions of the existence of a gap between educational research and practice (Broekkamp & van Hout-Wolters, 2007). Each of the four multi-part survey questions was on a 7-point Likert-type scale where 1 represented "Strongly Disagree" and 7 represented "Strongly Agree". The first item, survey question #16, contained questions related to problems that may "constitute a research and practice gap" (Broekkamp & van Hout-Wolters, 2007, p. 212). All respondents somewhat agree that educational research has produced important scientific knowledge ($M = 5.64$, $SD = 1.14$) although respondents are neutral about the extent to which practitioners have a low opinion of educational research ($M = 4.00$, $SD = 1.55$). Respondents indicated a mean score approaching "somewhat agree" when asked if practitioners apply the results of research ($M = 4.96$, $SD = 1.07$) and indicate that they "somewhat disagree" that practitioners use the research haphazardly and irresponsibly ($M = 3.68$, $SD = 1.66$) (see Table 14).

Table 14

Descriptive Statistics for Conceptions of a Gap Between Research and Practice

	Elementary Teachers			Secondary Teachers			All Respondents		
	N	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
#16. Problems that constitute a research-practice gap									
Educational research has produced important scientific knowledge.	240	5.72	0.99	152	5.51	1.33	400	5.64	1.14
Educational research has produced practical applications.	239	5.85	1.02	150	5.71	1.23	397	5.79	1.10
Educational practitioners have a low opinion of educational research.	240	3.80	1.55	151	4.30	1.52	399	4.00	1.55
Educational practitioners apply the results of research.	239	5.14	1.02	151	4.68	1.08	398	4.96	1.07
Educational practitioners use research haphazardly and irresponsibly.	239	3.51	1.65	152	3.97	1.65	399	3.68	1.66
#17. Causes that relate to research									
Educational research can yield useful results even though education is complex.	237	5.81	0.85	152	5.70	1.00	397	5.77	0.90
There is far too little educational research.	229	4.10	1.53	146	4.04	1.54	383	4.07	1.53
Educational research does ask the right questions.	234	4.27	1.22	144	4.23	1.35	386	4.26	1.26
There is no connection to speak of between the various studies on education.	238	3.08	1.21	151	3.54	1.43	397	3.24	1.32
The scientific quality of educational research is usually excellent.	238	4.30	1.08	151	4.05	1.36	397	4.21	1.20
Reports on educational research are inaccessible.	238	3.51	1.43	151	3.53	1.50	396	3.52	1.45

(continued)

Table 14 (continued)

Descriptive Statistics for Conceptions of a Gap Between Research and Practice

	Elementary Teachers			Secondary Teachers			All Respondents		
	N	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
#18. Causes that relate to the use of research									
National educational policy is based on research.	236	4.11	1.62	149	3.70	1.52	392	3.96	1.60
Teacher training colleges base their curricula on research.	236	4.59	1.37	149	4.34	1.40	392	4.48	1.39
Teaching materials (textbooks, online courses, etc.) are based on research.	235	4.71	1.29	150	4.14	1.44	392	4.49	1.37
Consulting educational research is standard with educational practitioners.	234	4.16	1.37	150	3.49	1.40	391	3.89	1.41
Virtually no one within the educational practitioner community has the skills to apply scientific results.	235	2.54	1.27	151	2.51	1.30	393	2.53	1.28
Educational practitioners do not get the time and the means to use the results of educational research.	236	5.31	1.49	151	5.50	1.48	394	5.38	1.49

(continued)

Table 14 (continued)

Descriptive Statistics for Conceptions of a Gap Between Research and Practice

	Elementary Teachers			Secondary Teachers			All Respondents		
	N	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
#19. Cases that relate to research and the use of research									
Educational practitioners carry out research themselves with great frequency.	240	3.97	1.59	150	3.27	1.61	397	3.72	1.62
Educational practitioners cooperate with researchers.	240	4.71	1.09	147	4.40	1.25	394	4.60	1.16
There is collaboration on equal terms between educational practitioners, administrators, and researchers.	238	3.42	1.41	150	2.75	1.40	394	3.16	1.43
The desire to cooperate on equal terms exists with educational practitioners and researchers.	240	4.20	1.33	151	3.92	1.57	398	4.10	1.43
There are many facilities for equal cooperation between the educational practitioners and researchers.	237	3.45	1.26	149	3.15	1.36	393	3.33	1.30
Current educational research could contribute much more to the field than is generally assumed.	239	5.14	0.99	151	5.01	1.26	397	5.09	1.10
Educational research contributes much less to the field than is generally assumed, even when it continues to develop and the results are used optimally.	240	3.80	1.23	150	4.22	1.42	397	3.97	1.33

Note. Mean scores are based on a Likert scale were 1= Strongly Disagree, 2= Disagree, 3= Somewhat Disagree, 4= Neutral, 5= Somewhat Agree, 6= Agree, 7= Strongly Agree. Survey items based on concepts from Broekkamp, H., & van Hout-Wolters, B. (2007). The gap between educational research and practice: A literature review, symposium, and questionnaire. *Educational Research and Evaluation, 13(3)*, 203-220.

Elementary teachers tend to have slightly more positive attitudes (M = 5.72, SD = .99) than secondary teachers (M = 5.51, SD = 1.33) regarding the extent to which educational research has produced scientific knowledge. Secondary teachers (M = 3.97, SD = 1.65) tend to have slightly more positive conceptions than elementary teachers (M = 3.51, SD = 1.65) regarding the extent to which practitioners use results haphazardly and irresponsibly (see Table 14).

The second item, survey question #17, contained questions related to problems that may "relate to research" (Broekkamp & van Hout-Wolters, 2007, p. 212). Overall both elementary and secondary teachers are neutral about whether educational research asks the right questions (M = 4.27, SD = 1.22; M = 4.23, SD = 1.35) and if the scientific quality of the educational research is usually excellent (M = 4.30, SD = 1.08; M = 4.05, SD = 1.36) (see Table 14).

The third item, survey question eighteen, contained questions related to problems that may "relate to the use of research" (Broekkamp & van Hout-Wolters, 2007, p. 212). All respondents in the sample somewhat disagree that national educational policy is based on research (M = 3.96, SD = 1.60), are neutral about whether teacher training colleges base curricula on research (M = 4.48, SD = 1.39), somewhat disagree that consulting educational research is standard with practitioners (M = 3.89, SD = 1.41), and somewhat agree that educational practitioners do not get the time and means to use the results of educational research (M = 5.38, SD = 1.49) (see Table 14).

Elementary teachers and secondary teachers differ slightly on conceptions of national educational policy and the extent to which consulting educational research is standard with practitioners. On both issues, elementary teachers are more positive (M =

4.11, *SD* = 1.62; *M* = 4.16, *SD* = 1.37) than secondary teachers (*M* = 3.70, *SD* = 1.52; *M* = 3.49, *SD* = 1.40) (see Table 14).

The fourth item, survey question #19, contained questions related to problems that may "relate to research and the use of research" (Broekkamp & van Hout-Wolters, 2007, p. 212). All respondents in the sample somewhat disagree that educational practitioners carry out research themselves with great frequency (*M* = 3.72, *SD* = 1.62) and somewhat agree that current educational research could contribute much more to the field than is generally assumed (*M* = 5.09, *SD* = 1.10) (see Table 14).

Elementary teachers somewhat disagreed that there is collaboration on equal terms amongst practitioners, administrators, and researchers (*M* = 3.42, *SD* = 1.41) whereas secondary teachers disagreed (*M* = 2.75, *SD* = 1.40). Although elementary teachers are neutral about the conception of the desire to cooperate on equal terms between educational practitioners and researchers (*M* = 4.20, *SD* = 1.33), they are more positive than secondary teachers (*M* = 3.92, *SD* = 1.57) (see Table 14).

One-way analysis of variance was conducted to evaluate the relationship between grade level of teaching and conceptions of a gap between research and practice. The independent variable (grade level) included two levels: elementary teachers and secondary teachers. The dependent variable in each case was a particular aspect of the conceptions of a gap between research and practice. Across all analyses, there were nine results that were statistically significant (see Table 15).

Table 15

Comparison of Elementary and Secondary Teachers Regarding Conceptions of a Gap

	ANOVA				
	df	*N*	*F*	*p*	ηp2
#16. Problems that constitute a research-practice gap					
Educational research has produced important scientific knowledge.	-	-	-	-	-
Educational research has produced practical applications.	-	-	-	-	-
Educational practitioners have a low opinion of educational research.	1	389	10.18	.002**	.025
Educational practitioners apply the results of research.	1	388	18.61	.000***	.046
Educational practitioners use research haphazardly and irresponsibly.	1	389	7.13	.008**	.018
#17 Causes that relate to research					
Educational research can yield useful results even though education is complex.	1	387	1.42	.234	.004
There is far too little educational research.	1	373	0.12	.735	0
Educational research does ask the right questions.	1	376	0.09	.766	0
There is no connection to speak of between the various studies on education.	-	-	-	-	-
The scientific quality of educational research is usually excellent.	-	-	-	-	-
Reports on educational research are inaccessible.	1	387	0.02	.888	0

(continued)

Table 15 (continued)

Comparison of Elementary and Secondary Teachers Regarding Conceptions of a Gap

	ANOVA				
	df	*N*	*F*	*p*	ηp2
#18. Causes that relate to the use of research					
National educational policy is based on research.	1	383	5.88	.016*	.015
Teacher training colleges base their curricula on research.	1	383	3.07	.081	.008
Teaching materials (textbooks, online courses, etc.) are based on research.	1	383	16.61	.000***	.042
Consulting educational research is standard with educational practitioners.	1	382	21.98	.000***	.054
Virtually no one within the educational practitioner community has the skills to apply scientific results.	1	384	0.04	.844	0
Educational practitioners do not get the time and the means to use the results of educational research.	1	385	1.47	.227	.004

(continued)

Table 15 (continued)

Comparison of Elementary and Secondary Teachers Regarding Conceptions of a Gap

	ANOVA				
	df	*N*	*F*	*p*	ηp2
#19. Causes that relate to research and the use of research					
Educational practitioners carry out research themselves with great frequency.	1	388	17.66	.000***	.044
Educational practitioners cooperate with researchers.	-	-	-	-	-
There is collaboration on equal terms between educational practitioners, administrators, and researchers.	1	386	21.04	.000***	.052
The desire to cooperate on equal terms exists with educational Practitioners and researchers.	1	389	3.66	.056	.009
There are many facilities for equal cooperation between the educational practitioners and researchers.	1	384	4.80	.029*	.012
Current educational research could contribute much more to the field than is generally assumed.	1	388	1.4	.238	0.004
Educational research contributes much less to the field than is generally assumed, even when it continues to develop and the results are used optimally.	-	-	-	-	-

Note. A dash (-) represents a violation of the equality-of-variance assumption. Survey items based on concepts from Broekkamp, H., & van Hout-Wolters, B. (2007). The gap between educational research and practice: A literature review, symposium, and questionnaire. *Educational Research and Evaluation, 13(3),* 203-220.
*= $p < .05$. **= $p < .01$. ***= $p < .001$.

On items related to question #16, conceptions reported by elementary teachers and secondary teachers differed significantly: (a) whether educational practitioners have a low opinion of educational research, (b) whether educational practitioners apply the results of research, and (c) whether educational practitioners use research haphazardly and irresponsibly; on all three items elementary teachers indicated more positive conceptions. On items related to question #18, conceptions reported by elementary teachers and secondary teachers differed significantly: (a) whether national educational policy is based on research, (b) whether teaching materials are based on research, and (c) whether consulting educational research is standard with educational practitioners; on all three items elementary teachers reported more positive conceptions than secondary teachers. On items related to question #19, conceptions reported by elementary teachers and secondary teachers differed significantly: (a) whether educational practitioners carry out research themselves with great frequency, (b) whether there is collaboration on equal terms between educational practitioners, administrators, and researchers, and (c) whether there are many facilities for equal cooperation between the educational practitioners and researchers; on all three items elementary teachers reported more positive conceptions. Depending on the particular item, the strength of relationship between grade level and conceptions of a gap, as assessed by ηp^2, accounted for anywhere between 1.2% and 5.4% of the variance of the dependent variable. For instance, the ANOVA for the relationship between grade level and conceptions that there are many facilities for equal cooperation between educational practitioners and researchers was statistically significant, $F(1, 384) = 4.80$, $p = .029$, and accounted for 1.2% of the variance in conceptions. The ANOVA for the relationship between grade level and conceptions that

consulting educational research is standard with educational practitioners was also statistically significant, $F(1, 382) = 21.98$, $p < .001$, accounting for 5.4% of the variance in conceptions.

An exploratory multiple regression model containing variables related to grade level, years of experience, post-graduate degrees, and recency of coursework was used to explore additional aspects of the research questions.

$$GAP_i = ß_0 + ß_1GLE_i + ß_2EXP_i + ß_3POSTGRAD_i + ß_4RECCW_i + {}_i\,(\varepsilon_i)$$

These aforementioned variables were initially collected as categorical data based on the survey item type. Therefore, the variables were dummy coded and a reference variable was excluded for years of experience, post-graduate degree, and recency of coursework, resulting in an exploratory model containing 12 predictor variables. One of the predictors (*POSTGRADNONE*) had zero responses; it was dropped from the analyses, resulting in an exploratory model with 11 predictor variables.

$$GAP_i = ß_0 + ß_1GL_i + ß_2EXP5\text{-}9_i + ß_3EXP10\text{-}19_i + ß_4EXP20+_i + ß_5POSTGRADSO_i + ß_6POSTGRADMA_i + ß_7POSTGRADPH_i + ß_8RECCW1_i + ß_9RECCW2\text{-}3_i + ß_{10}RECCW4\text{-}5_i + ß_{11}RECCW5+_i\,(\varepsilon_i)$$

The outcome variable of interest associated with assessing educational research in this model is ***gap*** (GAP). Gap is defined as the perceptions of the relationship between theory and practice (i.e. problems that constitute a research gap, causes that relate to research, causes that relate to the use of research, and causes that relate to research and the use of research). This outcome variable was scored based on teachers' responses. The survey response data were used to provide teachers' perception data regarding agreement level on a 7-point Likert scale across 24 items. Each of the 24 items was coded from 1 to

7 (with 1 corresponding to Strongly Disagree, 2 corresponding to Disagree, 3 corresponding to Somewhat Disagree, 4 corresponding to Neutral, 5 corresponding to Somewhat Agree, 6 corresponding to Agree, and 7 corresponding to Strongly Agree).

Seven of the most commonly accepted assumptions related to multiple regression were used to check the overall results. Two of the variables (10-19 years of experience and 20+ years of experience) had high collinearity according to the variance inflation factor (VIF greater than 10). I ran the analysis dropping each of the highly collinear variables respectively. Dropping 10-19 years of experience resulted in fewer violations of the assumptions; therefore, the 10-19 years of experience predictor variable was dropped from the analysis, resulting in a final exploratory model with 10 predictor variables.

$$GAP_i = ß_0 + ß_1GL_i + ß_2EXP5\text{-}9_i + ß_3EXP20+_i + ß_4POSTGRADSO_i + ß_5POSTGRADMA_i + ß_6POSTGRADPH_i + ß_7RECCW1_i + ß_8RECCW2\text{-}3_i + ß_9RECCW4\text{-}5_i + ß_{10}RECCW5+_i (\varepsilon_i)$$

After dropping the aforementioned variable, I re-ran 24 multiple regression analyses, checking for violations of the normality assumption using the normality of residuals P-P plots. Of the 24 analyses, 21 violated the assumption (see Table 16 and Figure 1.0). The results for all analyses, including the statistically significant findings, are detailed in Table 17.

Table 16

Multiple Regression Analysis Results for Overall Sample Regarding Perceptions of Gap Between Research and Practice

	Regression Model Summary				ANOVA			
Dependent Variable	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*F*	*dfregression*	*dfresidual*	*p*
Problems that constitute a research-practice gap								
Educational research has produced important scientific knowledge.	-	-	-	-	-	-	-	-
Educational research has produced practical applications.	-	-	-	-	-	-	-	-
Educational practitioners have a low opinion of educational research.	0.22	0.05	0.02	1.53	1.98	10	378	.034*
Educational practitioners apply the results of research.	-	-	-	-	-	-	-	-
Educational practitioners use research haphazardly and irresponsibly.	-	-	-	-	-	-	-	-

(continued)

Table 16 (continued)

Multiple Regression Analysis Results for Overall Sample Regarding Perceptions of Gap Between Research and Practice

	Regression Model Summary							
					ANOVA			
Dependent Variable	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*F*	*dfregression*	*dfresidual*	*p*
Causes that relate to research								
Educational research can yield useful results even though education is complex.	-	-	-	-	-	-	-	-
There is far too little educational research.	-	-	-	-	-	-	-	-
Educational research does ask the right questions.	-	-	-	-	-	-	-	-
There is no connection to speak of between the various studies on education.	-	-	-	-	-	-	-	-
The scientific quality of educational research is usually excellent.	-	-	-	-	-	-	-	-
Reports on educational research are inaccessible.	-	-	-	-	-	-	-	-

(continued)

Table 16 (continued)

Multiple Regression Analysis Results for Overall Sample Regarding Perceptions of Gap Between Research and Practice

	Regression Model Summary							
					ANOVA			
Dependent Variable	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*F*	*dfregression*	*dfresidual*	*p*
Causes that relate to the use of research								
National educational policy is based on research.	-	-	-	-	-	-	-	-
Teacher training colleges base their curricula on research.	-	-	-	-	-	-	-	-
Teaching materials (textbooks, online courses, etc.) are based on research.	-	-	-	-	-	-	-	-
Consulting educational research is standard With educational practitioners.	-	-	-	-	-	-	-	-
Virtually no one within the educational Practitioner community has the skills to apply scientific results.	-	-	-	-	-	-	-	-
Educational practitioners do not get the time and the means to use the results of educational research.	-	-	-	-	-	-	-	-

(continued)

Table 16 (continued)

Multiple Regression Analysis Results for Overall Sample Regarding Perceptions of Gap Between Research and Practice

	Regression Model Summary							
					ANOVA			
Dependent Variable	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*F*	*df regression*	*df residual*	*p*
Causes that relate to research and the use of research.								
Educational practitioners carry out research themselves with great frequency.	-	-	-	-	-	-	-	-
Educational practitioners cooperate With researchers.	-	-	-	-	-	-	-	-
There is collaboration on equal terms between educational practitioners, administrators, and researchers.	-	-	-	-	-	-	-	-
The desire to cooperate on equal terms exists with educational practitioners and researchers.	0.22	0.05	0.02	1.41	1.87	10	378	.047*

(continued)

Table 16 (continued)

Multiple Regression Analysis Results for Overall Sample Regarding Perceptions of Gap Between Research and Practice

	Regression Model Summary							
					ANOVA			
Dependent Variable	*R*	*R Square*	*Adjusted R Square*	*Std. Error of the Estimate*	*F*	*df regression*	*df residual*	*p*
There are many facilities for equal cooperation between the educational practitioners and researchers.	-	-	-	-	-	-	-	-
Current educational research could contribute much more to the field than is generally assumed.	-	-	-	-	-	-	-	-
Educational research contributes much less to the field than is generally assumed, even when it continues to develop and the results are used optimally.	0.2	0.04	0.02	1.31	1.61	10	377	.101

Note. A dash (-) represents a violation of the normality of residual assumption. *= $p < .05$

Figure 1.0

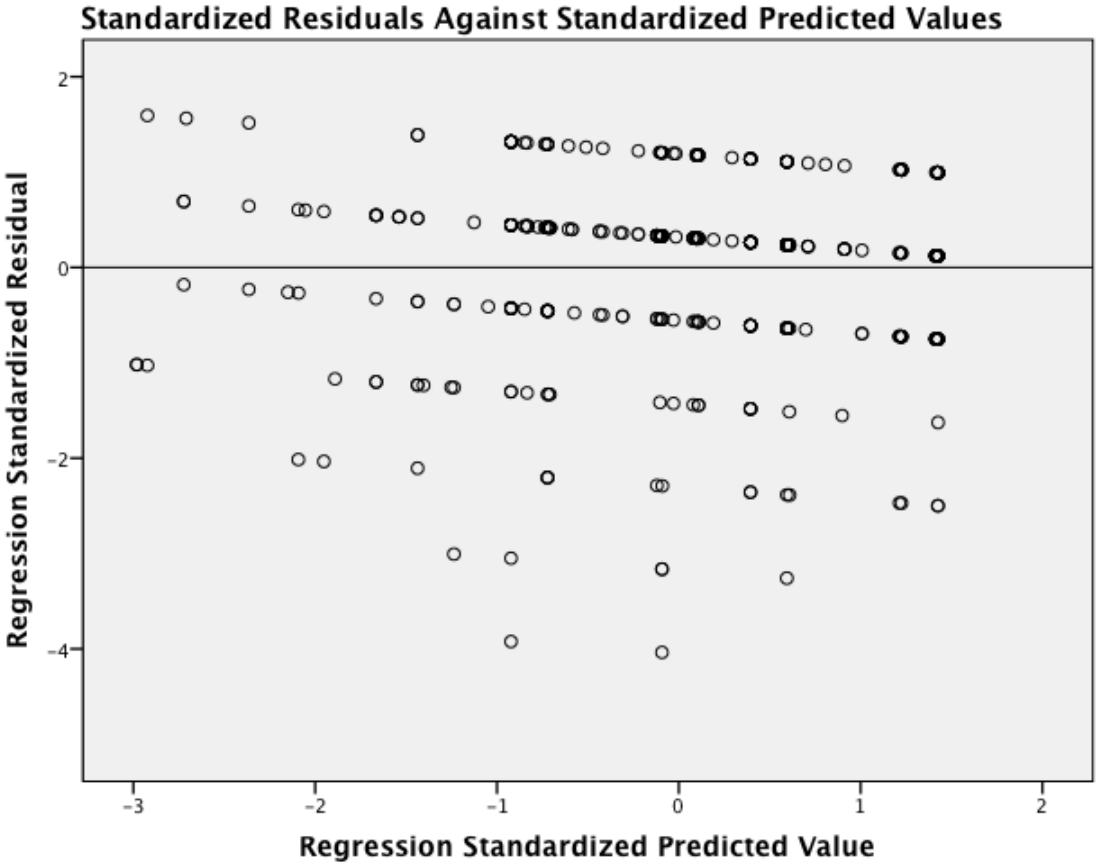

Figure 1: Responses represent participants' perceptions regarding the following statement: "Educational research has produced important scientific knowledge."

Table 17

Statistically Significant Multiple Regression Coefficients for Overall Sample Regarding Perceptions of Gap Between Research and Practice

Dependent Variable	Regression Model Summary										
	Constant	Grade Level	Experience 5-9 Years	Experience 20+ Years	Highest Degree Some Coursework	Highest Degree Master's Degree	Highest Degree Doctoral Degree	Courses Past Year	Courses Past 2-3 Years	Courses Past 4 Years	Courses Past 5+ Years
Problems that constitute a research-practice gap											
Educational practitioners have a low opinion of educational research.	4.531	0.44**	-0.227	0.03	-0.208	-0.104	0.525	-0.619	-0.527	-0.954	-0.547
Causes that relate to research and the use of research											
The desire to cooperate on equal terms exists with educational practitioners and researchers.	3.825	-0.227	0.409	0.183	0.148	0.138	-0.584	0.181	0.29	0.436	-0.081

Note. **= $p < .01$.

There were two multiple regression analyses that yielded statistically significant results. In the first analysis, the linear relationship between perceptions that educational practitioners have a low opinion of educational research and the predictor variables was statistically significant, $F(10,378) = 1.98$, $p<.05$. Approximately 5% of the variance in perceptions was accounted for by the linear relationship with the predictors, $R^2 = .05$, adjusted $R^2 = .02$. The coefficient for grade level, $b_1 = 0.44$, was significant, $s_{b1} = .164$, $t(378) = 2.707$, $p<.01$. Holding all other predictors constant, secondary teachers are slightly more inclined to agree that practitioners have a low opinion of educational research.

In the second analysis, the linear relationship between perceptions that the desire to cooperate on equal terms exists with educational practitioners and researchers and the predictor variables was statistically significant, $F(10,378) = 1.87$, $p<.05$. Approximately 5% of the variance in perceptions was accounted for by the linear relationship with the predictors, $R^2 = .05$, adjusted $R^2 = .02$. None of the coefficients were statistically significant, however.

Use of Educational Research.

Research Question 3: What types of educational research do pre-K-12 U.S. elementary teachers and secondary teachers use, including types of literature and factors that prevent as well as motivate use?

There were four survey questions related to types of literature and factors for use (Shkedi, 1998). Results indicate that across all respondents in the sample, the majority of educators seek out educational research on a monthly (30.75%) or quarterly basis (22.50%) (see Table 18).

A two-way contingency table analysis was conducted to evaluate whether grade level influenced the frequency with which educators seek out educational research. The two variables were grade level (elementary and secondary) and frequency with seven levels (daily, weekly, bi-weekly, monthly, quarterly, annually, and other). Grade level and frequency with which educators seek out educational research were not found to be significantly related, Pearson $\chi^2(6, N = 392) = 4.95$, $p = .550$, Cramér's $V = .112$.

According to all respondents, teachers read subject-matter literature most often (74.50%) and pedagogic literature second most often (65.5%). This pattern remains relatively consistent for elementary and secondary teacher groups respectively (71.7%, 67.50% and 78.90%, 63.80%) (see Table 19). Of all respondents in the sample, 4% indicated use of a type of literature other than what was listed in the survey. For instance, respondents indicated "fiction," "internet articles," "book studies," and "magazines specifically for educators" (e.g., NSTA or NEA Today) as other types of literature.

The results regarding factors that prevent educators from reading educational research suggest that not having enough time is the number one barrier (88.3%). Over a fifth of all respondents in the sample selected "hard to search" as the second highest barrier (23.0%), and just under a fifth selected "not available" as the third highest barrier (18.3%) (see Table 20).

Table 18

Descriptive Statistics for Frequency with Which Elementary and Secondary Teachers Seek Out Educational Research

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Daily	13	5.42	6	3.90	19	4.75
Weekly	42	17.50	23	15.10	65	16.25
Bi-Weekly	14	5.83	8	5.30	22	5.50
Monthly	75	31.25	47	30.90	123	30.75
Quarterly	51	21.25	34	22.40	90	22.50
Annually	34	14.17	19	12.50	55	13.75
Other	11	4.58	15	9.90	26	6.50
Missing	0	0.00	0	0.00	0	0.00
Total	240	100.00	152	100.00	400	100.00

Table 19

Descriptive Statistics for Types of Literature Teachers Read

	Elementary				Secondary				All Respondents			
	Frequency		Percent		Frequency		Percent		Frequency		Percent	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Didactic	150	90	62.50	37.50	72	80	47.40	52.60	227	173	56.80	43.30
Pedagogic	162	78	67.50	32.50	97	55	63.80	36.20	262	138	65.50	34.50
Case	128	112	53.30	46.70	59	93	38.80	61.20	192	208	48.00	52.00
Subject-Matter	172	68	71.70	28.30	120	32	78.90	21.10	298	102	74.50	25.50
General Education	89	151	37.10	62.90	45	107	29.60	70.40	136	264	34.00	66.00
Research	103	137	42.90	57.10	76	76	50.00	50.00	182	218	45.50	54.50
General News Media	159	81	66.30	33.80	91	61	59.90	40.10	255	145	63.80	36.30
None of the Above	1	239	0.40	99.60	3	149	2.00	98.00	4	396	1.00	99.00
Other	6	234	2.50	97.50	10	142	6.60	93.40	16	384	4.00	96.00

Note. Respondents could select "yes" or "no" for each purpose of educational research. Survey items based on concept from Shkedi, A. (1998). Teachers' attitudes towards research: A challenge for qualitative researchers. *Qualitative Studies in Education, 2(4),* 559-577.

Table 20

Descriptive Statistics for Factors That Prevent Teachers from Reading Educational Research

	Elementary					Secondary				
	Frequency			Percent		Frequency			Percent	
	Yes	No	NA[a]	Yes	No	Yes	No	NA	Yes	No
Not Useful	18	220	2	7.50	91.70	21	129	2	13.80	84.90
Not Enough Time	210	28	2	87.50	11.70	136	14	2	89.50	9.20
Lack of Trust in Studies	33	205	2	13.80	85.40	31	119	2	20.40	78.30
Lack of Understanding	32	206	2	13.30	85.80	8	142	2	5.30	93.40
Not Available	46	192	2	19.20	80.00	26	124	2	17.10	81.60
Hard to Search	50	188	2	20.80	78.30	40	110	2	26.30	72.40
Other	10	228	2	4.20	95.00	6	144	2	3.90	94.70

(continued)

Table 20 (continued)

Descriptive Statistics for Factors That Prevent Teachers from Reading Educational Research

	All Respondents				
	Frequency			Percent	
	Yes	No	NA[a]	Yes	No
Not Useful	39	357	4	9.80	89.30
Not Enough Time	353	43	4	88.30	10.80
Lack of Trust in Studies	65	331	4	16.30	82.80
Lack of Understanding	42	354	4	10.50	88.50
Not Available	73	323	4	18.30	80.80
Hard to Search	92	304	4	23.00	76.00
Other	17	379	4	4.30	94.80

Note. Respondents could select "yes" or "no" for each purpose of educational research. Survey items based on concept from Shkedi, A. (1998). Teachers' attitudes towards research: A challenge for qualitative researchers. *Qualitative Studies in Education, 2(4),* 559-577.
[a]NA represents the number of missing response

The results regarding factors that motivate educators to read educational research suggest that the interest in expanding professional knowledge is the number one reason with 83.5% of all respondents in the sample selecting this as a factor. 66.8% of all respondents in the sample indicated that course requirements for a degree are not a factor that motivates reading nor are job requirements for professional development (60.5%) (see Table 21).

Table 21

Descriptive Statistics for Factors That Motivate Teachers to Read Educational Research

	Elementary					Secondary				
	Frequency			Percent		Frequency			Percent	
	Yes	No	NA[a]	Yes	No	Yes	No	NA	Yes	No
Course requirements for a degree	80	159	1	33.30	66.30	48	103	1	31.60	67.80
Interested in expanding professional knowledge	206	33	1	85.80	13.80	122	29	1	80.30	19.10
Interested in solving a professional challenge	144	95	1	60.00	39.60	86	65	1	56.60	42.80
Job requirements for professional development	98	141	1	40.80	58.80	54	97	1	35.50	63.80
Other	6	233	1	2.50	97.10	8	143	1	5.30	94.10

(continued)

Table 21 (continued)

Descriptive Statistics for Factors That Motivate Teachers to Read Educational Research

	All Respondents				
	Frequency			Percent	
	Yes	No	NA[a]	Yes	No
Course requirements for a degree	131	267	2	32.80	66.80
Interested in expanding professional knowledge	334	64	2	83.50	16.00
Interested in solving a professional challenge	235	163	2	58.80	40.80
Job requirements for professional development	156	242	2	39.00	60.50
Other	15	383	2	3.80	95.80

Note. Respondents could select "yes" or "no" for each purpose of educational research. Survey items based on concept from Shkedi, A. (1998). Teachers' attitudes towards research: A challenge for qualitative researchers. *Qualitative Studies in Education, 2(4),* 559-577.

[a]NA represents the number of missing responses

Attitudes Towards Research: Impact

Research Question 4: What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' perceptions regarding the impact of educational research?

There were four survey questions related to the impact of educational research (Everton, Galton, & Pell, 2002; Torbay, 2005). Results regarding the first of these survey questions indicate that across all respondents in the sample, the majority of educators consider educational research "occasionally" (57.75%) with another third (31.00%) seeking it out frequently (see Table 22).

Table 22

Descriptive Statistics for Extent To Which Elementary and Secondary Teachers Consider Educational Research

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Never	1	0.40	2	1.30	4	1.00
Hardly Ever	12	5.00	18	11.80	30	7.50
Occasionally	142	59.20	84	55.30	231	57.75
Frequently	77	32.10	46	30.30	124	31.00
Always	7	2.90	2	1.30	9	2.25
Missing	1	0.40	0	0.00	2	0.50
Total	240	100.00	152	100.00	400	100.00

Note. Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

A two-way contingency table analysis was conducted to evaluate whether grade level influenced the frequency with which educators considered educational research. The two variables were grade level (elementary and secondary) and frequency with five levels (never, hardly ever, occasionally, frequently, and always). Grade level and frequency with which educators seek out educational research were not found to be significantly related, Pearson $\chi^2(4, N = 391) = 8.05$, $p = .090$, Cramér's $V = .143$.

For the second of the questions related to impact (e.g., in the open-ended response question), educators were asked to list the researchers and/or research findings that had influenced them for the better as an educator. Eight distinct categories emerged (see Table 23). A total of 23.00% skipped this question; and 5.75% indicated they could not remember a researcher at the time, or that this question was not applicable. The remaining respondents entered 165 researchers by name. Of those that responded, the most frequently named researcher was Marzano (35 mentions), followed by Kagan (9 mentions), and Bloom (6 mentions). The most researchers named by any single respondent was 19 (case number 311). In all, respondents named 165 unique researchers.

Table 23

Qualitative Responses for Influential Researchers or Research

	All Respondents	
	Frequency	Example
Categories Named By Educators		
Specific Topic of Research	215	Differentiated Instruction
Specific Researcher(s)	166	Marzano
Specific Journal or Entity	18	NCTM
"Not familiar" or "Can't name"	16	Cannot really think of one
Not Applicable or "Don't use"	11	I don't really use this
Own Research	4	I conducted my own research
Specific Article or Study	4	The National Reading Panel's Study
Bibliographic Citation	1	Teach like a champion. San Francisco: Jossey-Bass. Marzano, R. J. & Arredondo, D. E. (May, 1986)

Note. There were 95 non-responses or missing responses for this question. Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

Educators were also asked to describe at least one observable change they made to their practice that was a direct result of educational research. Eight distinct categories emerged in the qualitative responses (see Table 24). The implementation of new strategies was the type of action most often reported by educators (n = 105), followed by specific, observable, and measurable changes to practice (n = 100) (see Table 24). Over 10% of the total survey sample responded with a statement that indicated some belief about the relationship to the research and personal practice (e.g., “My daily classroom interactions with students and the ability to monitor student progress have been greatly improved” or “Sometimes as you read educational research you do

not purposefully try something but when the teaching moment occurs you are into it because of the opportunity").

Table 24

Qualitative Responses for Observable Change(s) to Practice as a Result of Influential Researcher(s) or Research Findings

	All Respondents	
	Frequency	Example
Categories Named By Educators		
Implemented Strategies[a]	105	Connected writing with reading more consistently.
Changes to Practice	100	Now I teach letter sounds before I teach the letter name
Not Specific[b]	65	I have added several new activities using their concepts and ideas.
Comments Reflecting Attitude or Belief[c]	50	Students have many different problems such as worrying about their next meal…. if we don't have someone the student can go talk to then they can't let it out and do their best in school.
None	13	"Can't think of any" or "none"
Changes to Planning	7	When planning my classes, I do different assignments depending on my students.
Data/Assessments[d]	6	I am much more conscientious about using the data from all of our assessments, and making changes based on it.
Messaging/Communication Action	3	Tell parents that it is good to speak their native language at home.

Note. There were 91 non-responses or missing responses for this question. Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

[a] Strategies were coded as techniques or actions that could be observed in the classroom whereas changes to practice could be observed and measured.

[b] Not specific indicates a response too general to observe or measure.

[c] Comments reflecting attitude or belief indicate a response that reflects an educator's perception of change.

[d] Data/Assessments refers to any comment that indicated the use of data to inform instruction or the use of formative/summative assessments.

The results regarding activities in which educators engage after reading educational research indicate that the respondents in the sample (72%) tend to self-evaluate or reflect on practice (n = 288). A large number of both secondary teacher and elementary teacher respondents indicated that they modify lesson plans after reading educational research (69.70% and 69.20% respectively). Elementary teachers indicated that keeping a journal is the activity in which they engage with the least frequency after reading educational research (5.40%), whereas secondary teachers indicated that the activity in which they engage with the least frequency is posting to a blog or an online community (see Table 25).

Table 25

Descriptive Statistics for Activities in Which Teachers Engage After Reading Educational Research

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Initiate discussion with other staff	162	67.50	89	58.60	254	63.50
Co-plan with other teachers	96	40.00	46	30.30	143	35.80
Modify lesson plans	166	69.20	106	69.70	277	69.30
Redesign instruction	132	55.00	86	56.60	220	55.00
Collect new types of assessment data	64	26.70	41	27.00	107	26.80
Grade student work differently	59	24.60	42	27.60	102	25.50
Self-evaluate or reflect on practice	176	73.30	106	69.70	288	72.00
Keep a journal	13	5.40	9	5.90	23	5.80
Post to a blog or an online community	14	5.80	7	4.60	22	5.50
Design professional development	25	10.40	26	17.10	51	12.80
Purchase new materials	71	29.60	44	28.90	119	29.80
Discuss findings with parents	40	16.70	14	9.20	54	13.50
None of the above	3	1.30	7	4.60	10	2.50

Note. Survey items based on concepts from Torbay Council. (2005). *Approaches to measuring the impact of professional development*. Retrieved from http://www.torbay.gov.uk/approaches-to-measuring-the-impact-of-pd-july05.pdf

Attitudes Towards Research: Value

Research Question 5: What topics do pre-K-12 U.S. elementary teachers and secondary teachers select as important and valuable in educational research?

There were three survey questions related to the value and importance of educational research (Everton, Galton, & Pell, 2002). Survey question #29 asked educators what issues they would like to see undergo systematic investigation (or focused research) in the near future. Results indicate that across all respondents in the sample, educators selected effective teaching of specific subjects, improving motivation/tackling disengagement, and strategies for teaching different ability groups effectively with the greatest frequency (see percentage results in Table 26). Elementary teachers selected strategies for teaching different ability groups effectively most frequently (56.30%), followed by improving motivation/tackling disengagement (53.30%) and effective teaching of specific subjects (52.90%). Secondary teachers selected subject knowledge and effective teaching most frequently (60.50%), followed by effective teaching of subjects (59.20%) and improving motivation/tacking disengagement (57.20%). Elementary teachers selected understanding power relationships within the classroom with the least frequency (11.30%), whereas secondary teachers selected improving classroom language with the least frequency (7.20%). Topics such as information and communication technology and pedagogy (19.30%) and management of children's learning performance (19.30%) were selected in the bottom fifth of topics.

Survey question #30 asked educators to rate their top three priorities for most urgent issues (see rank order listed in Table 26). Elementary and secondary teachers rated the most urgent issues differently. Elementary teachers ranked research regarding literacy as the most

urgent priority, whereas secondary teachers ranked research regarding subject knowledge and effective teaching as the most urgent priority.

Educators were also presented with a series of statements about educational research and the teacher's role. Respondents were asked to rate the value to teachers on a 5-point scale (ranging from a 5, which represented "essential," to a 1, which represented "of no value") (see Table 27). Across all respondents in the sample, evidence of research related to the demonstration of effective teaching and learning was selected as the most valuable (M = 4.42, SD = .72); this result was relatively consistent with the responses for the elementary and secondary teacher groups respectively (M = 4.48, SD = .67; M = 4.32, SD = .78). The respondents in both elementary and secondary groups and across all respondents in the sample indicated that every type of evidence listed as an option in the survey question was at a minimum "helpful."

Table 26

Comparison of Elementary and Secondary Teachers' Attitudes Regarding Topics of Interest and Importance for Educational Research

	Elementary			Secondary			All Respondents		
	N	%	Rank	*N*	%	Rank	*N*	%	Rank
Identifying learning objectives	55	22.90	9	34	22.40	8	91	22.80	12
Literacy	109	45.40	**1**	50	32.90	**2**	160	40.00	**1**
Numeracy	84	35.00	4	19	12.50	7	105	26.30	7
Gender	31	12.90	11	16	10.50	8	47	11.80	13
Subject knowledge and effective teaching	116	48.30	5	**92**	**60.50**	**1**	213	53.30	**3**
Effective teaching of specific subjects	**127**	**52.90**	6	**90**	**59.20**	5	**222**	**55.50**	6
Information and Communications Technology and Pedagogy	45	18.80	11	32	21.10	8	77	19.30	13
Pupil / teacher interaction	74	30.80	10	60	39.50	10	136	34.00	14
Comparison of different teaching strategies	101	42.10	7	61	40.10	8	166	41.50	9
Models of effective classroom teacher behavior	104	43.30	8	64	42.10	9	172	43.00	11
Effective whole class teaching	86	35.80	9[a]	43	28.30	8	131	32.80	12
Improving questioning techniques	96	40.00	8	53	34.90	8	152	38.00	10
Improving classroom language	50	20.80	12	11	7.20		62	15.50	16
Effective use of classroom support	74	30.80	10	31	20.40	9	108	27.00	13
Strategies for teaching different ability groups effectively	**135**	**56.30**	**2**	76	50.00	6	**216**	**54.00**	4

(continued)

Table 26 (continued)

Comparison of Elementary and Secondary Teachers' Attitudes Regarding Topics of Interest and Importance for Educational Research

	Elementary			Secondary			All Respondents		
	N	%	Rank	*N*	%	Rank	*N*	%	Rank
Improving motivation / tackling disengagement	**128**	**53.30**	**3**	**87**	**57.20**	**3**	**219**	**54.80**[b]	**2**
Understanding power relations within classrooms	27	11.30	12	18	11.80	10	45	11.30	15
Developing learning in manageable steps	47	19.60	12	16	10.50		63	15.80	16
Management of children's learning performance	58	24.20	10	17	11.20		77	19.30	14
Helping pupils to work effectively with others	85	35.40	8	45	29.60		131	32.80	12
Helping pupils hypothesize	52	21.70	11	41	27.00	8	93	23.30	15
Helping pupils to conceptualize	78	32.50	7	60	39.50	8	142	35.50	8
Developing creative thinking	119	49.60	6	85	55.90	4	208	52.00	5
Helping pupils to handle information	69	28.80	12	54	35.50	10	124	31.00	15
Other	11	4.60		11	7.20		23	5.80	

Note. Rank is based on the percentage of first place rankings. Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.
[a]Numbers with the same rank had the same percentage of first place rankings and are treated as a tie.
[b]Bold font is used to indicate the first, second, and third place rankings in each group.

One-way analysis of variance was conducted to evaluate the relationship between grade level of teaching and perceptions of value for types of evidence. The independent variable (grade level) included two levels: elementary teachers and secondary teachers. The dependent variable in each case was a particular characteristic of the educational research (e.g., research focused on teacher beliefs or research showing teachers how to assess themselves effectively). Across all analyses, there were five results that were statistically significant (see Table 27).

Perceptions of value for various types of research evidence differed between elementary teachers and secondary teachers significantly. In all five instances, elementary teachers reported more positive perceptions than secondary teachers on the extent to which the evidence of research is of value: (a) if it demonstrates effective teaching and learning, (b) if it focuses on classroom actions, (c) if it focuses on the details of teacher-pupil interaction, (d) if it focuses on teacher subject knowledge, and (e) if it provides clear examples of teachers and pupils at work in classrooms. The strength of relationship between grade level and perceptions of value for types of evidence, as assessed by ηp^2, accounted for anywhere between 1.1% and 2.8% of the variance of the dependent variable. For instance, the ANOVA for the relationship between grade level and perceptions that the evidence of research is of value if it provides clear examples of teachers and pupils at work in classrooms was statistically significant, $F(1, 390) = 4.43$, $p = .036$, and accounted for 1.1% of the variance in perceptions. The ANOVA for the relationship between grade level and perceptions that the evidence of research is of value if it focuses on classroom actions was also statistically significant, $F(1, 390) = 11.10$, $p = .001$, accounting for 2.8% of the variance in perceptions.

Table 27

Comparison of Elementary and Secondary Teachers Regarding Perceptions of Value for Educational Research

	Elementary		Secondary		All Respondents		ANOVA				
The evidence of research is of value to teachers if…	*M*	*SD*	*M*	*SD*	*M*	*SD*	*df*	*N*	*F*	*p*	ηp2
It demonstrates effective teaching and learning	4.48	0.67	4.32	0.78	4.42	0.72	1	384	4.64	.032*	.012
It focuses on classroom actions	4.11	0.84	3.80	0.98	3.98	0.95	1	390	11.10	.001**	.028
It focuses on the details of teacher pupil interaction	3.93	0.88	3.66	0.97	3.81	0.94	1	390	7.54	.006**	.019
It tackles specific aspects of teaching and learning	4.17	0.84	4.05	0.86	4.11	0.87	1	390	1.87	.172	.005
It focuses on teacher subject knowledge	3.79	0.96	3.49	1.17	3.67	1.07	1	390	7.66	.006**	.019
It focuses on teacher beliefs	3.24	0.97	3.06	1.06	3.17	1.00	1	380	2.96	.086	.008
It provides clear examples of teachers and pupils at work in classrooms	4.12	0.97	3.90	1.02	4.03	0.99	1	390	4.43	.036*	.011
It makes clear that teachers will need to interpret findings in the context of their own situation	3.75	0.94	3.66	0.85	3.71	0.90	1	386	0.89	.347	.002
It is subject specific	3.64	0.93	3.82	0.91	3.71	0.93	1	385	3.52	.061	.009
It is capable of being generalized	3.51	0.87	3.42	0.92	3.48	0.89	1	383	0.86	.354	.002
It provides evidence of learning gain	4.18	0.74	4.05	0.79	4.14	0.76	1	383	2.88	.090	.007

(continued)

Table 27 (continued)

Comparison of Elementary and Secondary Teachers Regarding Perceptions of Value for Educational Research

	Elementary		Secondary		All Respondents		ANOVA				
The evidence of research is of value to teachers if…	*M*	*SD*	*M*	*SD*	*M*	*SD*	*df*	*N*	*F*	*p*	ηp2
It shows teachers how to assess themselves effectively	3.92	0.85	3.99	0.75	3.95	0.81	-	-	-	-	-
Teachers, themselves, helped identify the research questions	3.66	0.91	3.68	0.82	3.67	0.88	1	384	0.06	.810	.000
Teachers, themselves, have adequate research skills	3.40	0.93	3.39	0.91	3.39	0.93	1	383	0.01	.925	.000
Teachers, themselves, helped design the research project	3.52	0.95	3.43	0.92	3.48	0.94	1	386	0.74	.391	.002
Teachers, themselves, helped interpret the research data	3.62	0.89	3.45	0.92	3.56	0.91	1	387	3.27	.071	.008
Teachers, themselves, helped interpret the findings	3.66	0.89	3.55	0.90	3.62	0.90	1	379	1.40	.237	.004
Teachers, themselves, helped prepare the research summaries	3.46	0.96	3.32	0.90	3.40	0.94	1	384	2.10	.148	.005

Note. A dash (-) represents a violation of the equality-of-variance assumption. Mean scores are based on a Likert scale were 1= "Of No Value", 2= "Not Important", 3= "Helpful", 4= "Important", 5= "Essential". Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

*= $p < .05$. **= $p < .01$. ***= $p < .001$.

Educational Research Results and Dissemination.

Research Question 6: What are the primary sources pre-K-12 U.S. elementary teachers and secondary teachers use to access educational research and what are their perceptions of access and credibility?

There were eleven survey questions related to the communication of educational research results and dissemination of educational research (Everton, Galton, & Pell, 2002; Kemp, 2007). Survey question #36 asked the educators to rank each of the nine pre-identified sources of educational research according to ease-of-access on a scale of 1 to 5 (wherein 1 represented "difficult to access" and 5 represented "easy to access") (see Table 28). Across all of the respondents in the sample, respondents indicated that websites were the easiest to access (M = 4.65, SD = .66) and research journals and courses for further study were the most difficult to access (M = 3.37, SD = 1.10; M = 3.34, SD = 1.10 respectively).

One-way analysis of variance was conducted to evaluate the relationship between grade level of teaching and perceptions of ease-of-access. The independent variable (grade level) included two levels: elementary teachers and secondary teachers. The dependent variable was the source of the educational research and had nine levels: newspapers, television, books, research journals, in-service trainings, courses for further study, other teachers, websites, and support materials from educational products. Across all analyses, there were two results that were statistically significant (see Table 28). The ANOVA for the relationship between grade level and perceptions regarding the ease-of-access for in-service trainings was statistically significant, $F(1, 382) = 7.26$, $p = .007$,

accounting for 1.9% of the variance in perceptions, and suggesting that elementary teachers are more likely than secondary teachers to perceive in-service trainings as easier to access. The ANOVA for the relationship between grade level and perceptions regarding the ease-of-access to other teachers was also statistically significant, $F(1, 380) = 4.40$, $p = .037$, accounting for 1.1% of the variance in perceptions, again suggesting that elementary teachers are more likely than secondary teachers to perceive other teachers as easier to access as a source of educational research.

Table 28

Descriptive Statistics and Comparison of Elementary and Secondary Teachers Regarding Ease-of-Access for Sources of Educational Research

	Elementary Teachers		Secondary Teachers		All Respondents		ANOVA				
	M	*SD*	*M*	*SD*	*M*	*SD*	*df*	*N*	*F*	*p*	ηp2
Newspapers	4.33	1.06	4.39	0.90	4.36	0.99	1	383	0.40	.529	.001
Television	4.30	1.11	4.38	0.98	4.34	1.06	1	384	0.47	.492	.001
Books	4.32	0.84	4.22	0.79	4.29	0.82	1	381	1.44	.231	.004
Research Journals	3.42	1.09	3.34	1.12	3.37	1.10	1	385	0.51	.478	.001
In-Service Trainings	3.71	1.10	3.41	1.04	3.59	1.09	1	382	7.26	.007**	.019
Courses for Further Study	3.41	1.08	3.25	1.12	3.34	1.10	1	376	1.90	.169	.005
Other Teachers	4.37	0.85	4.18	0.85	4.30	0.86	1	380	4.40	.037**	.011
Websites	4.67	0.65	4.65	0.64	4.65	0.66	1	388	0.09	.766	.000
Support Materials from Educational Products	3.76	0.99	3.68	1.05	3.73	1.02	1	386	0.64	.423	.002

Note. A dash (-) represents a violation of the equality-of-variance assumption.
Mean scores are based on a Likert scale were 1 = Difficult to Access, 2= Somewhat Difficult to Access, 3 = Neutral, 4 = Somewhat Easy to Access, 5 = Easy to Access.
*= $p < .05$. **= $p < .01$. ***= $p < .001$.

Further, questions #37 through #45 asked the educators to rate each of the same nine sources according to three aspects of credibility (i.e. expertise, trustworthiness, and intent) on a scale of 1 to 5 (in which 1 represented "strongly disagree" and 5 represented "strongly agree") (see Tables 29 through 31).

On the three questions related to expertise, the group containing all respondents indicated research journals were the most qualified, expert, and knowledgeable with mean scores ranging between 4.23 and 4.39 whereas newspapers and television had the lowest mean scores ranging between 1.77 and 2.50. The elementary and secondary groups reported this same pattern respectively.

On the three questions related to trustworthiness, the group containing all respondents indicated research journals were the most likely to provide reliable, factual and unbiased information with mean scores ranging from 3.52 to 4.22, whereas television was the least likely to provide trustworthy information (with mean scores ranging from 1.83 to 2.24). Both elementary and secondary groups reported this same pattern respectively.

On the three questions of intent, elementary teachers and secondary teachers both indicated research journals were most concerned with the state of public education, whereas television was the least concerned. Elementary and secondary teachers both agreed that television was concerned with making profits, whereas elementary teachers indicated that research journals were least interested in profits ($M = 3.00$, $SD = 1.05$), and secondary teachers indicated other teachers were the least concerned with making profits ($M = 2.04$, $SD = .90$).

Finally, when participants were asked to indicate the most frequently relied upon sources of educational research, elementary teachers indicated in-service trainings (61.70%), whereas secondary teachers indicated research journals (63.20%). Both elementary teachers and secondary teachers indicated they rely upon television least frequently (2.50% and 2.00% respectively).

Table 29

Descriptive Statistics for Elementary Teachers' Perceptions Regarding Credibility of Sources of Educational Research

	Newspapers		Television		Books	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	2.56	0.98	2.49	0.94	3.92	0.62
This source is an EXPERT in educational research.	1.82	0.87	1.80	0.87	3.33	0.91
I believe this source is KNOWLEDGEABLE about educational research.	2.34	9.98	2.29	0.98	3.59	0.76
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	2.41	0.96	2.32	0.86	3.70	0.70
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	2.20	0.96	2.17	0.91	3.47	0.80
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	1.92	0.96	1.86	0.89	2.62	0.87
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	3.12	1.18	3.02	1.21	3.55	0.80
This source is CONCERNED with MAKING PROFITS.	4.27	0.92	4.36	0.90	4.12	0.80
I believe this source has SOMETHING TO GAIN about educational research.	3.08	1.14	3.10	1.14	3.74	0.79

(continued)

Table 29 (continued)

Descriptive Statistics for Elementary Teachers' Perceptions Regarding Credibility of Sources of Educational Research

	Research Journals		In-Service Trainings		Courses for Further Study	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	4.39	0.75	3.99	0.79	4.13	0.74
This source is an EXPERT in educational research.	4.25	0.69	3.66	0.79	3.82	0.77
I believe this source is KNOWLEDGEABLE about educational research.	4.27	0.62	3.86	0.64	3.97	0.65
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	4.21	0.64	3.83	0.73	3.97	0.71
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	4.22	0.62	3.75	0.69	3.91	0.68
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	3.45	0.95	2.93	0.96	3.12	0.94
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	4.07	0.81	3.89	0.80	3.83	0.81
This source is CONCERNED with MAKING PROFITS.	3.00	1.05	3.36	1.08	3.47	1.00
I believe this source has SOMETHING TO GAIN about educational research.	3.77	0.95	3.77	0.86	3.75	0.88

(continued)

Table 29 (continued)

Descriptive Statistics for Elementary Teachers' Perceptions Regarding Credibility of Sources of Educational Research

	Other Teachers		Websites		Support Materials from Educational Products	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	3.67	0.83	3.50	0.76	3.59	0.88
This source is an EXPERT in educational research.	3.47	0.88	3.07	0.85	3.34	0.88
I believe this source is KNOWLEDGEABLE about educational research.	3.60	0.72	3.33	0.72	3.56	0.83
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	3.48	0.76	3.26	0.72	3.41	0.87
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	3.48	0.84	3.12	0.80	3.35	0.87
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	2.80	0.94	2.55	0.81	2.47	1.03
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	4.22	0.84	3.42	8.54	3.53	0.93
This source is CONCERNED with MAKING PROFITS.	2.13	0.96	3.47	0.97	4.37	0.84
I believe this source has SOMETHING TO GAIN about educational research.	3.46	1.06	3.57	0.82	3.84	0.87

Note. Mean scores are based on a Likert scale were 1 = Strongly Disagree, 2 = Disagree,3 = Neutral, 4 = Agree, 5 = Strongly Agree. Survey items based on concepts from Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Table 30

Descriptive Statistics for Secondary Teachers' Perceptions Regarding Credibility of Sources of Educational Research

	Newspapers		Television		Books	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	2.35	1.04	2.24	0.93	3.81	0.72
This source is an EXPERT in educational research.	1.70	0.80	1.72	0.81	3.21	0.91
I believe this source is KNOWLEDGEABLE about educational research.	2.09	0.99	2.05	1.00	3.47	0.81
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	2.22	1.02	2.11	0.94	3.60	0.78
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	2.00	0.94	1.96	0.90	3.36	0.83
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	1.86	0.95	1.78	0.92	2.78	1.02
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	3.06	1.16	2.95	1.16	3.47	0.87
This source is CONCERNED with MAKING PROFITS.	4.44	0.78	4.54	0.72	4.02	0.85
I believe this source has SOMETHING TO GAIN about educational research.	3.11	1.09	3.12	1.13	3.66	0.84

(continued)

Table 30 (continued)

Descriptive Statistics for Secondary Teachers' Perceptions Regarding Credibility of Sources of Educational Research

	Research Journals		In-Service Trainings		Courses for Further Study	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	4.38	0.76	3.77	0.79	4.00	0.74
This source is an EXPERT in educational research.	4.19	0.68	3.40	0.81	3.66	0.79
I believe this source is KNOWLEDGEABLE about educational research.	4.26	0.65	3.68	0.66	3.76	0.71
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	4.24	0.73	3.53	0.73	3.85	0.69
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	4.18	0.68	3.48	0.70	3.70	0.68
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	3.58	1.05	2.85	0.89	3.12	0.88
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	3.92	0.87	3.84	0.76	3.72	0.84
This source is CONCERNED with MAKING PROFITS.	2.92	1.08	3.38	1.15	3.58	1.03
I believe this source has SOMETHING TO GAIN about educational research.	3.82	0.88	3.70	0.83	3.78	0.83

(continued)

Table 30 (continued)

Descriptive Statistics for Secondary Teachers' Perceptions Regarding Credibility of Sources of Educational Research

	Other Teachers		Websites		Support Materials from Educational Products	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	3.53	0.70	3.47	0.63	3.45	0.83
This source is an EXPERT in educational research.	3.17	0.79	2.88	0.82	3.13	0.86
I believe this source is KNOWLEDGEABLE about educational research.	3.30	0.68	3.18	0.70	3.38	0.76
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	3.33	0.73	3.17	0.78	3.32	0.86
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	3.33	0.73	2.98	0.79	3.19	0.91
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	2.72	0.91	2.57	0.83	2.32	0.93
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	4.22	0.74	3.29	0.77	3.30	0.96
This source is CONCERNED with MAKING PROFITS.	2.04	0.90	3.35	0.96	4.46	0.71
I believe this source has SOMETHING TO GAIN about educational research.	3.28	1.01	3.44	0.83	3.84	0.86

Note. Mean scores are based on a Likert scale were 1 = Strongly Disagree, 2 = Disagree,3 = Neutral, 4 = Agree, 5 = Strongly Agree.
Survey items based on concepts from Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Table 31

Descriptive Statistics for All Respondents in the Sample: Perceptions Regarding Credibility of Sources of Educational Research

	Newspapers		Television		Books	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	2.50	1.02	2.40	0.95	3.88	0.67
This source is an EXPERT in educational research.	1.77	0.86	1.77	0.86	3.29	0.90
I believe this source is KNOWLEDGEABLE about educational research.	2.25	1.01	2.19	1.00	3.55	0.78
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	2.35	0.99	2.24	0.90	3.66	0.73
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	2.13	0.97	2.09	0.92	3.44	0.81
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	1.90	0.96	1.83	0.91	2.68	0.94
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	3.10	1.18	2.99	1.19	3.52	0.83
This source is CONCERNED with MAKING PROFITS.	4.34	0.87	4.43	0.84	4.07	0.82
I believe this source has SOMETHING TO GAIN about educational research.	3.10	1.13	3.11	1.14	3.71	0.81

(continued)

Table 31 (continued)

Descriptive Statistics for All Respondents in the Sample: Perceptions Regarding Credibility of Sources of Educational Research

	Research Journals		In-Service Trainings		Courses for Further Study	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	4.39	0.75	3.90	0.80	4.08	0.74
This source is an EXPERT in educational research.	4.23	0.69	3.56	0.81	3.76	0.78
I believe this source is KNOWLEDGEABLE about educational research.	4.27	0.63	3.79	0.65	3.90	0.68
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	4.22	0.67	3.72	0.75	3.93	0.70
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	4.22	0.64	3.65	0.71	3.84	0.68
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	3.52	0.99	2.91	0.94	3.13	0.91
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	4.02	0.84	3.86	0.80	3.78	0.84
This source is CONCERNED with MAKING PROFITS.	2.95	1.06	3.36	1.11	3.51	1.01
I believe this source has SOMETHING TO GAIN about educational research.	3.80	0.93	3.75	0.85	3.77	0.86

(continued)

Table 31 (continued)

Descriptive Statistics for All Respondents in the Sample: Perceptions Regarding Credibility of Sources of Educational Research

	Other Teachers		Websites		Support Materials from Educational Products	
	M	*SD*	*M*	*SD*	*M*	*SD*
Expertise						
This source is QUALIFIED to provide information about educational research.	3.62	0.79	3.48	0.72	3.52	0.86
This source is an EXPERT in educational research.	3.34	0.86	2.98	0.85	3.25	0.88
I believe this source is KNOWLEDGEABLE about educational research.	3.48	0.72	3.27	0.72	3.50	0.81
Trustworthiness						
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	3.42	0.75	3.22	0.74	3.37	0.87
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	3.42	0.80	3.05	0.81	3.28	0.88
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	2.77	0.93	2.56	0.82	2.41	1.00
Intent						
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	4.22	0.80	3.36	0.83	3.44	0.96
This source is CONCERNED with MAKING PROFITS.	2.09	0.94	3.42	0.96	4.41	0.79
I believe this source has SOMETHING TO GAIN about educational research.	3.39	1.05	3.52	0.82	3.85	0.87

Note. Mean scores are based on a Likert scale were 1 = Strongly Disagree, 2 = Disagree,3 = Neutral, 4 = Agree, 5 = Strongly Agree. Survey items based on concepts from Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Table 32

Comparison of Elementary and Secondary Teachers Regarding Credibility of Sources of Educational Research

	Newspapers					Television				
	df	*N*	*F*	*p*	ηp2	*df*	*N*	*F*	*p*	ηp2
Expertise										
This source is QUALIFIED to provide information about educational research.	1	376	3.93	.048*	.010	1	371	6.19	.013*	.016
This source is an EXPERT in educational research.	1	379	1.95	.164	.005	1	379	0.80	.373	.002
I believe this source is KNOWLEDGEABLE about educational research.	1	381	5.76	.017*	.015	1	381	5.58	.019*	.014
Trustworthiness										
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	1	379	3.45	.064	.009	1	380	4.93	.027*	.013
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	1	376	4.10	.044*	.011	1	376	4.85	.028*	.013
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	1	383	0.26	.611	.001	1	383	0.74	.392	.002
Intent										
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	1	378	0.24	.623	.001	1	378	0.30	.582	.001
This source is CONCERNED with MAKING PROFITS.	1	381	3.54	.061	.009	-	-	-	-	-
I believe this source has SOMETHING TO GAIN about educational research.	1	369	0.08	.776	.000	1	370	0.04	.843	.000

(continued)

Table 32 (continued)

Comparison of Elementary and Secondary Teachers Regarding Credibility of Sources of Educational Research

	Books					Research Journals				
	df	*N*	*F*	*p*	ηp2	*df*	*N*	*F*	*p*	ηp2
Expertise										
This source is QUALIFIED to provide information about educational research.	-	-	-	-	-	1	380	0.02	.878	.000
This source is an EXPERT in educational research.	1	375	1.40	.237	.004	1	381	0.70	.404	.002
I believe this source is KNOWLEDGEABLE about educational research.	1	377	2.23	.136	.006	1	384	0.05	.820	.000
Trustworthiness										
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	1	377	1.63	.203	.004	-	-	-	-	-
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	1	372	1.71	.191	.005	1	375	0.35	.554	.001
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	1	379	2.54	.112	.007	1	386	1.61	.205	.004
Intent										
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	1	370	0.74	.390	.002	1	377	3.10	.079	.008
This source is CONCERNED with MAKING PROFITS.	1	376	1.23	.267	.003	1	374	0.49	.484	.001
I believe this source has SOMETHING TO GAIN about educational research.	1	366	0.78	.377	.002	1	370	0.23	.629	.001

(continued)

Table 32 (continued)

Comparison of Elementary and Secondary Teachers Regarding Credibility of Sources of Educational Research

	In-Service Trainings					Courses for Further Study				
	df	*N*	*F*	*p*	ηp2	*df*	*N*	*F*	*p*	ηp2
Expertise										
This source is QUALIFIED to provide information about educational research.	1	377	7.37	.007**	.019	1	378	2.83	.093	.007
This source is an EXPERT in educational research.	1	380	9.52	.002**	.024	1	383	3.54	.061	.009
I believe this source is KNOWLEDGEABLE about educational research.	-	-	-	-	-	-	-	-	-	-
Trustworthiness										
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	1	379	15.26	.000***	.039	1	381	2.88	.090	.008
This source can be TRUSTED to PRESENT RELIABLE INFORMATIO about educational research.	1	378	13.35	.000***	.034	-	-	-	-	-
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	1	381	0.69	.406	.002	1	386	.000	.996	.000
Intent										
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	1	377	0.34	.562	.001	1	379	1.65	.200	.004
This source is CONCERNED with MAKING PROFITS.	1	378	0.03	.860	.000	1	379	1.05	.306	.003
I believe this source has SOMETHING TO GAIN about educational research.	1	373	0.64	.424	.002	1	371	0.1	.756	.000

(continued)

Table 32 (continued)

Comparison of Elementary and Secondary Teachers Regarding Credibility of Sources of Educational Research

	Other Teachers					Websites				
	df	*N*	*F*	*p*	ηp2	*df*	*N*	*F*	*p*	ηp2
Expertise										
This source is QUALIFIED to provide information about educational research.	1	377	2.86	.092	.008	-	-	-	-	-
This source is an EXPERT in educational research.	-	-	-	-	-	1	381	4.87	.028*	.013
I believe this source is KNOWLEDGEABLE about educational research.	1	383	16.63	.000***	.042	-	-	-	-	-
Trustworthiness										
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	1	378	3.31	.070	.009	1	383	1.36	.244	.004
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	-	-	-	-	-	1	375	2.88	.090	.008
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	1	387	0.64	.424	.002	1	384	0.05	818	.000
Intent										
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	1	376	0.00	.989	.000	1	375	2.18	.140	.006
This source is CONCERNED with MAKING PROFITS.	1	376	0.87	.352	.002	1	377	1.31	.254	.003
I believe this source has SOMETHING TO GAIN about educational research.	1	372	2.54	.112	.007	1	368	2.31	.130	.006

(continued)

Table 32 (continued)

Comparison of Elementary and Secondary Teachers Regarding Credibility of Sources of Educational Research

	Support Materials from Educational Products				
	df	*N*	*F*	*p*	ηp2
Expertise					
This source is QUALIFIED to provide information about educational research.	1	375	2.37	.125	.006
This source is an EXPERT in educational research.	1	380	5.13	.024*	.013
I believe this source is KNOWLEDGEABLE about educational research.	1	382	4.65	.032*	.012
Trustworthiness					
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.	1	383	1.01	.316	.003
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.	1	375	2.74	.099	.007
I believe this source PROVIDES UNBIASED INFORMATION about educational research.	-	-	-	-	-
Intent					
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.	1	373	5.13	.024*	.014
This source is CONCERNED with MAKING PROFITS.	1	379	1.32	.252	.003
I believe this source has SOMETHING TO GAIN about educational research.	1	371	0.00	.993	.000

Note. A dash (-) represents a violation of the homogeneity-of-variance assumption. Mean scores are based on a Likert scale were 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Survey items based on concepts from Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Table 33

Descriptive Statistics for Elementary and Secondary Teachers Regarding Most Frequently Relied Upon Sources of Educational Research

	Elementary Teachers		Secondary Teachers		All Respondents	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Newspapers	7	2.90	11	7.20	20	5.00
Television	6	2.50	3	2.00	11	2.80
Books	98	40.80	46	30.30	145	36.30
Research Journals	143	59.60	96	63.20	243	60.80
In-Service Trainings	148	61.70	81	53.30	236	59.00
Courses for Further Study	77	32.10	55	36.20	132	33.00
Other Teachers	98	40.80	60	39.50	162	40.50
Websites	116	48.30	67	44.10	185	46.30
Support Materials from Educational Products	54	22.50	33	21.70	89	22.30
Other	5	2.10	8	5.30	13	3.30

Note. Survey items based on concepts from Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

Chapter 4

Discussion

Overview

As an organizational support to the reader, this final chapter begins with a re-articulation of the context for the study and the research questions, as well as a review of the methods used in the study. The remainder of the chapter presents a summary of the key findings and a discussion of the results, including recommendations for future research (Glathorn, 1998).

In an increasingly digital age, in which the impact on teaching and learning and the broader education ecosystem is standing on the edge of a "digital ocean"—"the emerging reality of ubiquitous and unobtrusive data generated from the use of digital devices in daily life "—that can be analyzed through learning analytics (Behrens, 2013, p. 4), there are relatively few studies that investigate the perceptions of purpose, conceptions, use, impact, and dissemination of educational research from the perspective of key stakeholders (Biddle & Saha, 2005; Gore & Gitlin, 2004). In an era when data are being utilized as an input and output of policy-making, as an input and output of instructional practice, and as an input and output of assessments (for both teachers and students), it is advisable to inquire directly from educators about their perceptions regarding critical aspects of educational research (Biddle & Saha, 2005; Gore & Gitlin, 2004).

As previously explained in Chapter 1, the primary purpose of this survey study was to investigate the perceptions of grades pre-K through 12 teachers in the United

States regarding the multiple dimensions of educational research. A final sample of 400 teachers (representing 40 states and all grade levels pre-K through 12) responded to a survey that included an IRB consent form and 47 questions regarding six aspects of educational research: (1) purpose, (2) the relationship between research and practice, (3) factors that prevent and motivate use, (4) impact, (5) important and valuable topics, and (6) access and credibility of sources. As this was an exploratory study; the survey items primarily relied upon works of scholarship and/or existing studies from the last 35 years, ranging between publication in 1974 and 2010. The present study was designed to identify similarities and differences between elementary and secondary teachers and the extend of what is known about the current state of teachers' perceptions.

Prior to deployment, the draft survey was revised based on feedback from cognitive interviews conducted with four participants representative of the target audience. The study participants were recruited from an existing research database at the world's largest education company and sent a series of reminder emails. All respondents submitted responses via an online survey over a three-week period during the spring of 2013, and all respondents were eligible for a $25 honorarium and entry into a randomized drawing for an iPod.

Exploratory data analysis was used to investigate important features of the data set. Demographic data were reported for nine variables across personal and professional characteristics of the respondents, ANOVA was utilized to analyze continuous variables, and two-way contingency table analysis was used to analyze categorical variables. Multiple regression was utilized to analyze data related to 24 different aspects of

perceptions about the relationship between educational research and practice, and a select set of qualitative data was analyzed using coding methods proposed by Boyatzis (1998).

Summary of Findings and Discussion of Results

Purpose of Educational Research.

Research Question 1: Given the five objectives of educational research (as defined by Johnson and Christiansen and Gall et al.), how do K-12 U.S. elementary teachers and secondary teachers rank these relative aims?

There are three key findings related to the questions about the purpose of educational research. First, the majority of the teachers in the overall sample selected "improvement" as an essential aim of educational research, and when asked to rank the aims of research, more than 40% of all respondents ranked "improvement" as the most important purpose. Second, according to mean scores, elementary and secondary teachers ranked exploration and improvement/influence as the top two most important purposes of educational research (and ranked prediction as least important). Third, when asked about the most compelling method of research, the majority of the teachers in the overall sample indicated "mixed method" was the most compelling.

Given the exploratory nature of this study, there are few previously conducted studies to help contextualize these results. However, there are some indicators in the literature that teachers are indeed most interested in research that focuses on classroom practice, practical implementation, and student interactions (Ekiz, 2006; Gore & Gitlin, 2004; Shkedi, 1998; Zeuli,1994). Thus, additional research on the taxonomy related to

purpose is recommend (perhaps interview studies and professional symposiums) to ascertain the degree to which (a) the five aims are exhaustive, (b) the aims are a useful construct for enabling teachers to target, access, and utilize research they find relevant, (c) there is an impact on teaching and research practice when there is a transparent and explicit understanding of the commonly prioritized aims of research within the education community, and (d) there is a way to perhaps bridge the methodology debate between quantitative and qualitative research (Biddle & Saha, 2005; Pring, 2000).

Other suggestions for additional research include studies that seek to (a) identify predictors of overall interest in research, treating overall interest as an outcome variable that might be influenced through treatment, (b) refine the definitions for the aims of research, including language that is both researcher and teacher friendly, and (c) collect actual usage data related to educator 'downloads' to triangulate perceptions of most compelling methodologies.

Conceptions of Educational Research.

Research Question 2: What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' conceptions regarding the relationship between educational research and practice?

On questions related to a perceived gap between educational research and practice there are many similarities between the findings from the 2007 study published by Broekkamp and van-Hout Wolters conducted in the Netherlands and this present U.S.-based study (even given substantial differences in methodology, target audience, question phrasing, and sample size). Even though the sample in the study conducted by

Broekkamp and van-Hout Wolters included a broader array of educational stakeholders (e.g., researchers, teacher-trainers, and policy-makers) than this present study, there were many common trends in the responses related to perceptions of a gap between educational research and practice. Respondents across both studies were neutral in their opinion about whether educational practitioners have a low opinion of educational research, about whether educational practitioners apply the results of research, and about the extent to which educational research does or does not ask the right questions.

Both respondents in the present study, as well as those in the previous study, seem skeptical that national policy is based on research, indicated neutrality when asked if teacher training colleges base curricula on research, and responded "somewhat agree" to the notion that educators do not get the time and the means to use the results of educational research.

Finally, respondents in both studies also agree on many causes of a gap that relate to research and the use of research. For example, both study findings indicate that respondents "somewhat disagree" that educational practitioners carry out research themselves with great frequency and "somewhat agree" that education research could contribute much more to the field than is generally assumed.

There are also some differences across the two studies. Respondents in the Netherlands-based study "somewhat agree" that educational practitioners use research haphazardly and irresponsibly, whereas respondents in this U.S.-based study "somewhat disagree" (Broekkamp & van-Hout Wolters, 2007). The U.S. respondents are also more positive when it comes to certain statements about causes of the gap that relate to

research. Respondents in this present study "somewhat disagree" that there are no connections to speak of between the various studies on education; respondents in the Netherlands were neutral. Respondents in this U.S. study "somewhat disagree" that reports on educational research are inaccessible; respondents in the Netherlands were neutral. Respondents in this study "disagree" that virtually no one within the educational practitioner community has the skills to apply scientific results; respondents in the Netherlands were neutral.

Between the elementary and secondary respondent groups in the present study, there were nine statistically significant differences across all statements related to the gap wherein grade level accounted for 1.2% and 5.4% of the variance. In all nine instances, the elementary teachers tended to be more positive than were the secondary teachers, which is consistent with study findings across other areas of the literature wherein elementary teachers had more positive attitudes about professional development (Torff & Sessions, 2008) and toward inclusion (Monsen & Frederickson, 2002; Winzer, Altierri, & Larsson, 2000).

As previously stated, there were two multiple regression analyses related to perceptions of a gap between research and practice that yielded statistically significant results. In the first instance, the coefficient for grade level was significant, indicating that secondary teachers are slightly more inclined to agree that practitioners have a low opinion of educational research. In the second instance, the overall model was statistically significant, indicating a relationship between the desire to cooperate on equal

terms with educational researchers and the set of predictor variables (i.e. grade level, years of experience, and recency of coursework).

Therefore, it might be fruitful to explore other possible predictor variables that can influence teachers' perceptions, or even to design experiments involving coursework related to educational research as a treatment, exploring any subsequent changes in perceptions. Suggestions for additional research include studies that seek to (a) identify characteristics and markers of educational materials that have strong proof-points related to research, (b) explore stakeholders' self-identified suggestions for greater transfer between research and practice, and (c) focus on models of interaction that help close the perceived gap (Broekkamp & van-Hout Wolters, 2007) or increase the level of frequency and proficiency of transfer between research and practice (Gore & Gitlin, 2004).

Use of Educational Research.

Research Question 3: What types of educational research do pre-K-12 U.S. elementary teachers and secondary teachers use, including types of literature and factors that prevent as well as motivate use?

The majority of respondents in the overall sample for this study indicated that they either seek out the results of educational research monthly (30.75%) or quarterly (22.50%,) and in doing so most respondents seek out subject-matter literature (74.50%).

The frequency with which teachers seek out the results of educational research is possibly in contrast to findings in previous studies. In the qualitative case survey and case study involving forty-seven Israeli teachers published by Shkedi in 1998, seeking out

educational research was more episodic. Shkedi (1998) reported that "while several teachers noted that they refer to research in order to expand their professional knowledge, these references [were] random and not part of their personal or professional routines" (p. 570).

In this present study, elementary teachers most frequently read subject-matter literature (e.g., primary source information); the second most frequently read type of literature is pedagogic (e.g., articles containing implications for the field); the same is true for secondary teachers. The type of literature teachers did tend to seek out in at least one previous study included subject-matter literature, with "several teachers" describing this type of research (Shkedi, 1998, p. 565). Shkedi (1998) goes on to hypothesize that the actual demands of teaching "require all the teachers to read this type of literature," citing one example in which a teacher describes reading books related to science in order to "build a lesson out of it" (p. 565).

Respondents selected "time" as the number one barrier preventing educators from reading research and interest in expanding professional knowledge as the number one motivator—a trend also reported in *The Untested Accusation* (Biddle & Saha, 2005). Time is cited in the previous study, with principals noting lack of time as a problem associated with the use of "research knowledge" (Biddle & Saha, 2005, p. 104). Shkedi (1998) also reports teachers describing "lack of time" as a barrier, pointing to "hassles of the job, the house, or their own children" (p. 567). Similarly, Vanderlinde & van Braak (2010) report teachers expressing the need for more time to "read and use research," as well as to internalize the research by embedding it into long-term repertoire and practice

(p. 307). Both elementary and secondary teachers in this present study indicated that the second most common barrier was the "hard to search" nature of educational research, which may be at least a partial consequence of a "wider array of documents" being included in the design of ERIC (Biddle & Saha, 2005, p. 14).

Respondents in this present study selected interest in expanding professional knowledge as the number one motivator for reading research. Personal learning is cited as a motivator for reading research in other studies as well. For example, in *The Untested Accusation* most respondents cite professional growth as a common use of research (Biddle & Saha, 2005, p. 101). Both elementary and secondary teachers in this present study selected course requirements for a degree and job requirements for professional development least frequently as the motivator for reading research. This is in contrast to the findings of the Shkedi (1998) study in which "professional problems hardly motivate teachers to turn to research" and most "encounters with research literature are primarily in the context of requirements for academic study" (p. 570).

Future research focused on the collection and implementation of strategies (e.g., professional learning communities) to enable shared reading of educational research (Biddle & Saha, 2005), school-based intermediaries responsible for translating complex findings into succinct briefs and implications for practice (Vanderlinde & van Braak, 2010), and methods for making research easier to find and access could extend what is known about the intrinsic and extrinsic motivators for reading educational research.

Additional suggestions for research also include studies that seek to (a) identify search terms and article types that enhance database searches relevant to stakeholder

interests, and (b) desirable options for ongoing post-graduation access to research databases.

Attitudes Towards Research: Impact.

Research Question 4: What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' perceptions regarding the impact of educational research?

There are four key findings related to the impact of educational research. First, the majority of respondents in the overall sample in the present study tend to consider educational research "occasionally" or "frequently." Only 7.50% reported hardly ever seeking out educational research. Everton, Galton, and Pell conducted two consecutive survey studies (Everton, Galton, & Pell, 2000; Everton, Galton, & Pell, 2002) that when combined have a total sample of 572 respondents, including teaching assistants, teachers, department chairs, and deputy and head principals (Everton et al., 2002). From this combined sample, 90.6% of respondents indicated that they had seriously considered educational research since qualifying as a teacher (Everton et al., 2000; Everton et al., 2002). Even though the sample respondent profiles in the Everton et al. studies are different than that of respondents in the present study (and the nature of the question posed in the Everton et al. studies focused more on depth of consideration for research), the overall responses of teachers in this study are similar in percentage. For example, in the present study, a combined total of 8.50% of the teachers "hardly ever" or "never" consider research (which could be labeled as indicating a lack of serious consideration for educational research). Simple arithmetic then illustrates that 91.50% have at some point

considered educational research (the extent to which—seriously or not—is not explicitly comparable). Therefore, future research studies could combine items related to (a) the frequency with which educators seek out research with items related to (b) the depth of which educators consider research, and (c) across types of research or research traditions (Biddle & Saha, 2005).

On the other hand, the second key finding related to the impact of research is that 71.25% of respondents in the U.S. actually named a researcher or research tradition that influenced them for the better. A combined total of 28.75% either skipped the question (23.00%) or indicated (5.75%) they could not remember a researcher at the time or this question was not applicable. The respondents entered 165 researchers by name, and, of those that responded, the most frequently named researcher was Marzano (35 mentions), followed by Kagan (9 mentions), and Bloom (6 mentions). The most researchers named by any single respondent was 19 (case number 311). In the Biddle and Saha (2005) interview study, 22% of the U.S. participants "discussed investigators but gave no further detail" (p. 143). Similarly, in Everton et al.(2002) studies, 66.3% of respondents indicated that educational research had influenced their teaching for the better. These respondents named 557 research topics across nine themes with "aspects of learning" (e.g., multiple intelligences) being the most frequently named topic (Everton et al., 2002, p. 381). Everton et al. (2002) observed that the references to the research or researchers seemed related to publications in the 1980's (p. 382).

Future research to ascertain if a lag exists between research publication and permeation in the educator community could improve the understanding of how to more

quickly transfer and apply knowledge from research to practice through dissemination and diffusion (Everton, Galton, & Pell, 2002). Additionally, future research focused on ascertaining and/or replicating predictors of research knowledge (i.e., self-reported reading of trade books, highest level of education, highest level of post-graduate certification) and impact in the U.S. is recommended (Biddle & Saha, 2005).

Third, educators in this survey study were asked to describe observable changes they made to practice, based on the influence of educational research. Implementation of new strategies was the most frequently self-reported action taken by educators, whereas the use of data to inform instruction and specific communication tactics were the least frequently taken actions. Additionally, a little over 10% of the participants reported a change in attitude or belief due to the research, and more than 10% of respondents described a change to practice that was too general to classify, observe, or measure. This finding can be compared with those of the Everton et al. (2002) study in which a third of the responses about the effect of the research on practice were clear enough to code, resulting in a set of 197 responses that indicated over half of the respondents had changed an existing view of education based on the research.

Fourth, U.S. respondents in the present study select self-reflection as the most common action taken in general after reading educational research. Over two-thirds of both elementary and secondary teachers indicated that they also modify lesson plans. Both elementary and secondary teachers indicated that after reading educational research, the third most common action they take is to initiate discussion with other staff members (67.50% and 58.60% respectively). In the Biddle & Saha (2005) study with principals in

the U.S. and Australia, more than "three-fourths of [the] respondents described applications" for examples of research knowledge; approximately "half explained how [the] event had been influenced by research-generated knowledge"; and "more than half provided details of applications for one or more of [the] topics" (p. 216), implying that "applications of research knowledge in today's schools is likely to take various form and to involve many different research topics" (p. 217). Participants in the present study were provided a list of options from which to select the most frequently taken actions post-research engagement. The items in the list were based on previous scholarship regarding best practice on dimensions of impact to consider following professional development (Torbay, 2005).

Future research that engages educators in an open-ended discussion about typical post-reading activities, or even studies that track actions through a combination of observation and self-reporting, could extend the array of proposed activities and increase the precision regarding the measurement of transfer. Even studies that design scenarios in which specific research topics via the integration of educational research into staff development could be helpful to determine high-impact transfer protocols and to ask the question "does our work have the desired impact on the thinking and practice of these various groups?" (Gardner, 2011, p. 547).

Further suggestions for research include studies that seek to (a) identify reasonable success objectives for the transfer between research and practice (and vice versa) and (b) explore the variance of impact on research and practice of different application scenarios (Moutafidou, 2012).

Attitudes Towards Research: Value.

Research Question 5: What topics do pre-K-12 U.S. elementary teachers and secondary teachers select as important and valuable in educational research?

There are three important findings related to the value and importance of educational research as perceived by pre-K through 12 educators in the U.S. Overall, educators in the United States selected effective teaching of specific subjects, tackling disengagement, and strategies for teaching different ability groups as the top three topics of interest for research in the near future. These results differ from those of the Everton et al. (2002) study in two ways: (1) the topic selected most frequently as the issue most educators would like to see studied in the near future was the "comparison of different teaching strategies" (by 55.9% of the teachers), and (2) the order of the second and third issues were the opposite of those found in this U.S. study—strategies for teaching different ability groups was second and tackling disengagement was third (p. 383).

Second, elementary teachers in the present study selected literacy as the most important topic in need of urgent attention, whereas secondary teachers selected subject knowledge and effective teaching as the most important topics. In contrast, Everton et al. (2002) reported that primary and secondary teachers agreed on the top priority when asked to rank the topics by importance: tackling disengagement. Nonetheless, Everton et al. (2002) did find a statistically significant different "between primary and secondary teachers mentioning an issue together with their respective ranking in order of importance" (p. 384). For example, primary teachers mentioned numeracy more often than did secondary teachers and ranked it higher in importance (Everton et al., 2002).

Third, when asked to indicate which types of evidence were most valuable, overall, the teachers in the present study indicated that evidence that demonstrates effective teaching and learning is the most valuable, followed by evidence of learning gain and evidence that tackles specific aspects of teaching and learning. Two of the top three statements of value in the present study were also in the top three in the Everton et al. study; both tackling specific aspects of teaching and demonstrating effective learning were selected as priorities (2002, p. 387). Given the relative dearth of studies that "empirically investigate how the different people involved perceive and value educational research," future studies that longitudinally track the perceptions of value across diverse stakeholder groups in education could further enhance dissemination, diffusion, and utilization of findings (Vanderlinde & van Braak, 2010, p. 304).

Suggestions for additional research include studies that seek to (a) identify differences in topics of interest amongst local education agencies (LEA), including differences between countries, (b) explore whether LEA goals, years of experience, highest-post graduate degree, and/or pedagogical stance are predictors of, or even correlated with, the most valued topics of educational research, and (c) investigate the extent to which stakeholders associate educational technology with information and communication technology and pedagogy or associate data with management of student learning performance.

Educational Research Results and Dissemination.

Research Question 6: What are the primary sources pre-K-12 U.S. elementary teachers and secondary teachers use to access educational research and what are their perceptions of access and credibility?

There are five key findings related to the teachers' perceptions of the sources of research results and the dissemination of findings. Based on types of sources outlined by Everton et al. (2002), the respondents in this present U.S.-based study indicated that websites are the source that is easiest to access for educational research, and that journals are the most difficult to access. Biddle and Saha (2005) explored the sources cited for research knowledge in their study with principals, indicating that the administrators in the U.S. had most frequently encountered professional journals.

On questions related to credibility of sources, there are three basic findings that suggest research journals hold the most perceived power to provide trustworthy information. When it comes to perceptions of expertise, both elementary and secondary teachers agreed that research journals were the most qualified, expert, and knowledgeable. When it comes to perceptions of trustworthiness, both elementary and secondary teachers agreed that research journals provided the most reliable, factual, and unbiased information. When it comes to perceptions of intent, both elementary and secondary teachers agreed that research journals were the most concerned with the state of public education.

There were no studies at the time the present study was conducted that seemed to address the issue of credibility regarding educational research sources with similar

theory, making any comparisons an over-extrapolation. In fact, the items were adapted from a study regarding the effects of public information campaigns, using examples related to health information (Kemp, 2007). Thus, although the relationship to the previous study findings have been articulated for the sake of transparency, it is advisable to regard the data with caution due to the substantive differences in the circumstances in which these items were deployed. However, there are some references to credibility and credible evidence in the literature that may be helpful for future research on credibility and authority. For instance, Levin and O'Donnell (1999) link credible evidence to credible research and "methodological precepts" including intervention and non-intervention constructs, replicability, causality or correlation, and control (p. 190). Although cautioning against a "template" for ensuring the impact of educational research, Gardner (2011) suggested a short list of impact facilitators that include credibility and authoritativeness (p. 555). Gardner (2011) distinguishes credibility from authoritativeness, arguing that authoritativeness of sources requires more than the "perspective of the audience"; authoritativeness "should imply that the research is methodologically and conceptually sound, and carried out to the highest standards," requiring knowledge of the standards and competence assessing the standards (p. 556).

Finally, when asked which sources educators rely on most frequently for educational research (although websites were easiest to access), elementary teachers selected in-service training sessions and secondary teachers selected research journals, providing some evidence that educators are willing to commit additional time and effort to seek out what they perceive to be more reliable sources of educational research.

Interestingly, in-service training sessions were the most frequently relied upon source in the Everton et al. (2002) combined study sample.

Suggestions for additional research include studies that seek to (a) identify critical elements of credibility for educational research, and (b) the extent to which stakeholders for educational research share a set of standards and/or professional discourse to assess authoritative sources (Bartels, 2003; Gore & Gitlin, 2004; Levin & O'Donnell, 1999).

Implications

There are enough similarities and differences across existing studies related to the dimensions of educational research to warrant a systematic approach to said dimensions. In other words, drawing upon the existing constructs it makes sense for the field of educational research to establish a framework that allows educators to explore the efficacy of research. Therefore, drawing upon the six dimensions across the literature, as previously discussed in this dissertation, I have constructed and propose an educational research inquiry model (see Figure 2.0).

Dimension #1 is purpose. This dimension seeks to establish a structure for discussing the aspects of educational research and educational practice, including knowledge and tools related to "the structures, processes, products, and persons" (Broekkamp & van Hout-Wolters, 2007, p. 205). There are five elements related to the dimension of purpose: (1) exploration, (2) description, (3) prediction, (4) improvement/influence, and (5) explanation.

Dimension #2 is conceptions. This dimension seeks to a establish a structure for investigating the relationship between educational research and educational practice, including perceptions related to issues that support and detract from the reciprocal flow of knowledge and action between researchers and educators. There are four elements related to the dimension of conceptions: (1) relationship between research and practice, (2) issues of research, (3) issues of use, and (4) issues of research and use.

Dimension #3 is use. This dimension seeks to establish a structure for investigating the transfer and application between research and practice and has four related elements: (1) frequency, (2) types of literature, (3) barriers, and (4) facilitators.

Dimension #4 is impact and value. This dimension seeks to establish a structure for investigating the importance and application of educational research, including five elements: (1) consideration, (2) knowledge of researchers, (3) changes to practice based on research, (4) reflective actions due to influential research, and (5) topics of interest for further research.

Dimension #5 is dissemination. This dimension seeks to establish a structure for investigating the process by which sources of educational research are shared and the overall impressions of the findings. Dissemination has four elements: (1) the sources of educational research, (2) the perceived ease-of-access of the sources, (3) credibility of the sources, and (4) authority of the sources.

Both the dimensions and elements of the model are not necessarily exhaustive, and future research is suggested to add to, subtract from, and refine this proposed model to provide an interdisciplinary lens. However, the strength of the model is that the field

could potentially have a framework to employ to assess impact and efficacy, including to establish common expectations for the professional engagement with research, evidence, and data. For example, Researcher A could choose to focus on one dimension— purpose, attempting to describe and define through an experimental study design the most important characteristics of managing cognitive load for early literacy instruction. In contrast, Researcher B could choose to focus on a subset of dimensions—conceptions, use, and dissemination, attempting to ascertain through an observational study the perceptions of practitioners about the best way to enable practitioners to access and apply results related to the integration of mobile devices into the classroom to support second language learning. The model is intended to enable many combinations and permutations of the dimensions and elements and serve as a starting point for investigating efficacy, a model for what constitutes good work in educational research—excellent alignment between research and practice, ethical considerations for impact, and engaged communities of educators (Gardner, Csikszentmihalyi, & Damon, 2001). Further, the framework is intended to prompt a transparent dialogue about the relationship between research and practice, which, as Gore and Gitlin (2004) suggest, requires the education community to more "sufficiently consider what it means to have an impact on classroom practice by producing knowledge that can be utilized within the confines of the school context" (p. 54) as well as to "educate teachers about research and not simply *train* them" (p. 52).

Figure 2.0 Educational Research Inquiry Model

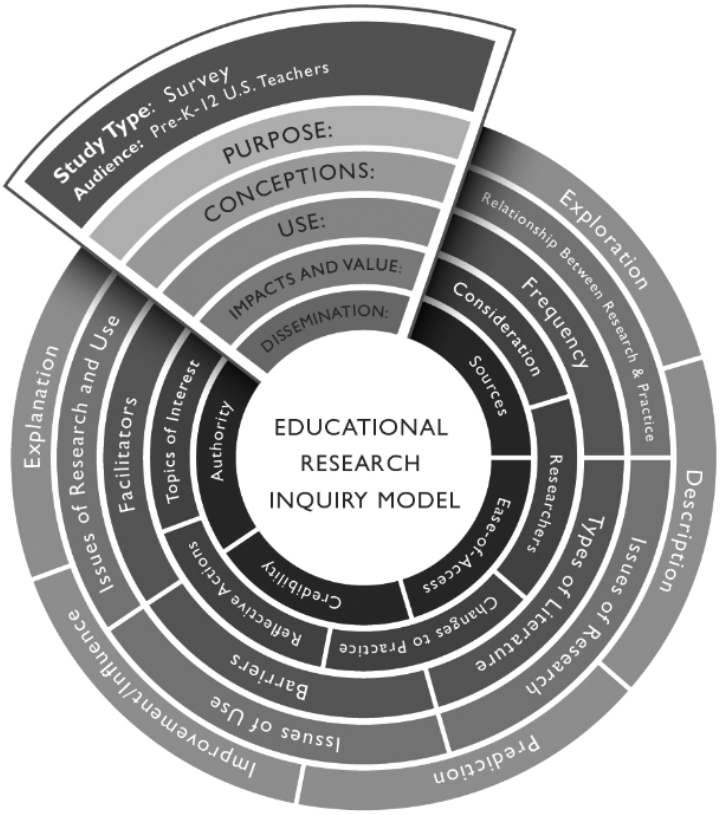

Figure 2.0. A new model for investigating various individual dimensions or combinations of dimensions of educational research. The primary dimensions are labeled in the slice and the factors within each dimension are indicated in the concentric circles.

In addition to the proposed model serving as a framework for ongoing research and investigation regarding critical dimensions of educational research, one can envision specific implications and avenues of exploration for educators could that will improve the overall state of educational research and practice:

- One fifth of the overall sample of teachers is extremely interested in research. This provides an opportunity to capitalize on interest to refine the reciprocity between researchers and educators and extend the impact of research (Gore & Gitlin, 2004). Proposed action: Engagements such as brown bag 'lunch and learn' sessions co-sponsored by districts, schools, and teacher colleges could create a space for unifying a discourse and common language for mutually interesting and meaningful areas of investigation.
- Explanation is regarded by teachers as the most essential and important purpose of educational research. Coupled with a high interest in educational research overall, literature, and articles focusing on the translation of research to practice that can explain helpful classroom and instructional practices holds much promise. Proposed action: Articles and work (tailored to specific areas of interest at the local level), such as findings related to the interleaving and blocking practice in mathematics (i.e. clustering concepts that are similar versus problems that are mixed) (Rorher, 2012; Taylor & Rorher, 2010).
- Teachers indicated not having enough time is the greatest barrier to reading research, followed by the fact that research is challenging to search, yet when they do search, it is for specific topics and strategies. There seems to be an opportunity to refine search capabilities, including more broadly linking metadata to common search terms used by teachers (not just academics). Proposed action: Cultivating a library for local education agencies tailored to specific interests and pedagogical philosophies could be helpful. In addition,

in-perpetuity access to databases post-degree attainment might increase access.

- Elementary teachers indicated that the most urgent issue is literacy, whereas secondary teachers indicated that the most urgent issue is subject knowledge. Paired with the fact that elementary teachers are more likely to perceive in-service training and other teachers as easy to access, there seems to be an opportunity to leverage professional learning communities (PLC) and professional development as an avenue focused on the relationship between research and practice. Proposed action: Tailoring routines for local PLC sessions to areas of research and incorporating sharing protocols after a transfer or application scenario could be helpful.

Study Limitations

As always, there are certain constraints and trade-offs related to any research study. The exploratory nature of this study inherently involves particular limitations. The following section describes considerations for future studies that can address these constraints and improve research on this topic moving forward.

Sampling.

First, it is important to reiterate that the sample was one of convenience and therefore may be a biased sample (Fink, 2009; Johnson & Christiansen, 2008). The fact that non-random sampling techniques were utilized means that the findings may not be extrapolated beyond this study, and may not generalize to the broader population (Johnson & Christiansen, 2008). Due to practical constraints and issues of feasibility, the

sample of convenience was employed for this initial exploratory study. The researcher attempted to adequately describe the sample characteristics, including potential biases of the volunteers (e.g., a positive predisposition to research). Although there are few comparable studies that enable sample comparisons, this study does provide a best attempt to include participants with a range of age, gender, years of experience, geographic location of employment, and highest post-graduate degree. Thus, as previously stated, this is an initial exploratory study and the results should be contextualized accordingly, requiring caution when determining the degree to which the sample is a representation of the wider population. Future survey studies could employ a stratified random sampling technique as a way to overcome some of these limitations (Johnson & Christiansen, 2008).

As in other areas of educational research that attempt to engage instructors, educators, and faculty, there seem to be few mechanisms for systematically recruiting a representative sample (Chacón, 2009). Working from the existing database as a sample of convenience may have resulted in a sample that is inherently more positive or interested in educational research. Future studies could seek to establish a more fully developed infrastructure for contacting pre-K through 12 teachers in the U.S.

Reliability and Validity.

There are three considerations relevant to the present study worthy of discussion.

First, survey research itself may create potential threats to reliability and validity. The instrument itself could be improved by conducting a large-scale pilot study coupled with a heuristic review, assessing measurement error related that might be due to question

wording. Therefore, future studies that focus on the development of a standardized instrument for study replication, including factor analysis, may help mitigate this concern.

Second, participants were offered a minimal incentive to participate in this study. The sample may have included an overrepresentation of individuals who are externally motivated, which could have a correlation with some responses related to "motivators". Future research should make every effort to expand the sample, including teachers, policy-makers, administrators, and researchers to obtain a more representative sample, as well as to conduct parallel studies that do not offer incentives, in order to compare response patterns.

Finally, there is some risk that individuals will provide answers that are socially desirable, in an attempt to bolster impressions of the profession (Dillman, 2007; Mangione, 1995). In the present study, individuals were notified that all responses would remain anonymous and the nature of the online survey format meant that individuals could maintain confidentiality and anonymity during actual response and submission. It is possible still, however, that some non-responses might be attributable to this phenomenon. Some suggestions for future research include forced-choice items, randomized response techniques, and indirect questioning (Fisher & Tellis, 1998; Nederhof, 1985).

Recommendations for Future Research

There are several areas of inquiry that would benefit the field and the proposed model, contributing to a broader (perhaps more precise) and more inclusive approach to educational research.

#1: What instruments are needed to adequately and accurately assess the efficacy of educational research?

It is important to have a robust, valid, and reliable instrument to support all dimensions and elements of the proposed model. Research and studies focused on the validation, extension, and modification of a survey instrument (as well as other tools) that support a robust suite of options for educational research inquiry is recommended. It is also recommended that the instrumentation be further refined and tested to see if responses change and/or the reliability of the survey can be increased when the phrasing (using positive or negatives) is adapted.

#2: What is the most commonly held belief about the most essential aim of educational research and does that belief impact the transfer to practice?

It would be beneficial to understand more deeply how the definitions of each type of research map to actual published work. A study that provides an array of articles to teachers and to researchers and requires both to label the studies with the purpose (i.e. description versus improvement) might help create a taxonomy and set of characteristics that are commonly understood amongst researchers and teachers. Another approach might be to (like the study published in 1994 by Zeuli) ask teachers and researchers to read articles, describe their reading process, and compare and contrast how the different

types of evidence found credible may (or may not) differ between teachers and researchers. The goal of such research would be to extend beyond the quantitative data provided in the present study that describes aspects of "what" educators think about educational research and move towards qualitative insights related to "why" they hold particular perspectives and "how" to continuously improve the dialogue, as well as aspirations between research and practice.

#3: What are the internationally shared practices and aspirations regarding the relationship between research and practice, and how does local context affect expectations?

It would be interesting to redeploy the survey in a global context to ascertain differences and similarities across countries, regions, and cities. One can imagine an annually administered global educational research impact survey that provides insight into variances amongst stakeholder groups, particularly given changes in policy year-over-year in specific educational communities. Moreover, the stakeholder groups for the annual survey could be expanded to include policy-makers, researchers, administrators, paraprofessionals, as well as higher education stakeholders and adult learning settings. It may also be valuable to compare responses of individuals in teacher preparation programs to those currently teaching to see if one group is more or less positive about extent to which curriculum is based on research and forecast trends for future practitioners.

#4: What are the markers of excellent, ethical, and engaged professionalism for educational research?

Many professions have commonly held codes of conduct that outline the expectations not just for the domain itself but that may guide public expectations writ large. In fact, many fields within educational research (i.e. instructional design) and otherwise have codes of conduct (Slavin, 2000). Yet it seems as though there is an opportunity to further explore the idea of commonly held aspirations and expectations for all professionals regarding the creation, use, and application of educational research (Behrens, 2013). Indeed, some teachers, educational systems, non-profit organizations, and even for-profit organizations have done this on an individual basis. Further research that could probe levers to increase collaboration, create space for shared inquiry, encourage a rhetorical reset from the "gap" or deficit language towards an intentional bridge between research and practice, establish strategies and provide evidence to assess the benefits of impact would be valuable. The goal of such studies would be to create a commitment to tighter alignment between research and practice, capitalize on some of the currently identified barriers, and establish actions for overcoming those barriers. There is an opportunity to study and extend existing lighthouse models. There is an opportunity for researchers and educators to elevate the conversation, including making a transparent and explicit commitment to explore educational research and practice jointly to positively impact lives through learning.

Final Reflections, Connections, and a Call to Action

Over the course of my career in education, I have served as a classroom teacher and district curriculum specialist, as an instructional designer for digital and adaptive product development, and (at the time of this study) as the leader of a team responsible

for product design research and evaluation. This means that during the course of my daily work, I regularly have conversations with educators about the problems they are trying to solve related to learning, the principles of instructional design embedded in the instructional resources, and the results from a range of educational evaluation studies of instructional programs. Therefore, I tend to view things through a practitioner, designer, and research lens – a balance between design and research for the purpose of improving learning.

Perhaps not surprisingly then, at the start of this line of inquiry, I was actually interested in designing a study to investigate how the visual format of results (particularly for educational technology interventions) influenced credibility of results with educators. Yet, studies along these lines did not readily exist in the literature. There were a handful of studies investigating how the format of results affected comprehension of data (for teachers versus parents, for example) and how data display preference affected teacher accuracy of use for the purpose of programmatic decisions, but nothing per se about the relationship between results, credibility, and educator engagement with research (Alverson, 2008; Hojnoski et al., 2009). So, I had to backwards engineer from my original research question (e.g., *How does the visual design of results influence credibility and teachers' perceptions of instructional technology effectiveness?*) to the overarching query in the present study (e.g., *How do teachers engage with and perceive educational research in general?*).

Based on the results of this study and the affordances offered by educational technology, as well as the power to harness the power of the "digital ocean" to collect,

analyze, and interpret data, there are several immediate actions that the educational community can take to both increase the reciprocity between educational research and practice, as well as focus on learner outcomes through the use of actionable data (Behrens, 2013) (see Figure 3.0). In essence, this survey instrument can become one tool to measure the impact of the dissemination of educational research, and it holds the potential to be one ongoing source of data to inform future continuous improvement between the research and practice domain.

Additionally, the survey instrument in the present study can be considered one approach and one set of data for an audience analysis, respectively. For example, one can imagine instructional designers (or even faculty) responsible for graduate education courses using the results of this study to establish baseline objectives for offerings related to educational research credits. Moreover, this instrument could easily be utilized to serve as one consistent tool for audience analysis data collection during the systematic instructional design process for future endeavors (Dick, Carey, & Carey, 2005). The data from the survey could be utilized to ascertain existing knowledge of educational research, as well as establish required skills for mastery.

Figure 3.0 Call to Action

	Suggestion	Result	Why?	Data Collection
For Practitioners	Participate in research	Bridge Research and Practice	Unify Discourse	• Purpose: Number of Teacher Collaborations • Impact: Overall Interest Scores
	Identify topics for self (or peer) study	Increase Awareness and Knowledge	Leverage Existing PD Infrastructure	• Conceptions: Research Expertise Index • Impact: Recency of Publication Dates Cited
For Designers	Link research to interventions	Translate Research to Practice	Serve as Mediator	• Credibility: Perceptions of Interventions
	Use survey as audience analysis	Scaffold Novice to Expert	Build Pre-Requisite Courses for Teacher Preparation Programs	• Impact: Educational Research Knowledge Scores
For Researchers	Write popular briefs/publish video clips to accompany research	Increase Access to Findings	Facilitate Transfer to Practice	• Dissemination: Download Analytics for Deep Links to Most Popular References
	Adopt partner school	Translate Practice to Research	Help Solve High-Priority Learning Objectives	• Use: Change to Practice and Learning Outcomes

Figure 3.0. A proposed set of actions for three critical stakeholder groups responsible for understanding, applying, and refining educational research to improve learner outcomes. The data collection column contains suggestions for the types of digital (quantitative and qualitative) evidence to collect as part of establishing and measuring success metrics.

Conclusion

What should be our commonly held aspirations for the essential aims of educational research and do these belief impact the transfer to practice?

There are few studies that have intentionally and deliberately sought to engage key stakeholders in education to describe the perceptions of, or measure the actual impact on the practice of, educational research (Biddle & Saha, 2005). There is an opportunity to shift the debate in the literature from one of a gap or divide between research and practice to a discussion and action regarding a bridge between research and practice (Broekkamp & van Hout-Wolters, 2007; Shkedi, 1998; Vanderlinde & van Braak, 2010). There is an opportunity to move from a theoretical and rhetorical model of engagement that functions on deficits and is defined by lack, to an applied and tactical model of engagement that functions on dialogue, collaboration, and action.

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APPENDIX A

COGNITIVE INTERVIEW PROTOCOL

Taken from Dillman, D.A., Smyth, J.D., & Christian, L.M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method* (3rd ed.). Hoboken, NJ: John Wiley & Sons, Inc.

A. Welcome, Introductions, and Overview

1. Interviewer: Hello [INSERT NAME]. Thank you for taking the time to meet with me. Did you find the office OK?

2. Interviewer: Great. I'd like to take a few moments to introduce myself, explain a bit about the overall study, and how today's session fits into this process. My name is [INSERT NAME]. I am a member of the Pearson School Research team responsible for helping to collect data, which will paint a picture of the overall outcomes of our instructional solutions. I am also a Ph.D. candidate in the Educational Technology program at Arizona State University. The overall study is a survey study that is focused on questions about the relationship between research and practice in K-12 education. We are preparing to deploy the survey. So, today's session is to obtain feedback that will ensure the optimal experience for individuals taking the survey in the future. The basic question is: How can we improve the survey to make it easy to use and comprehensible for teachers? *What questions do you have about this context?

3. Now, we'd like to explain a bit about our process today and describe the rough agenda. My intention is to ask inquiry questions about certain aspects of the survey that will increase our overall understanding of how to improve it as a data collection tool and increase the likelihood that teachers who start the survey will complete it in its entirety. This session will have four basic parts:

   *This overview
   *Confirmation of completed forms
   *The survey
   *Closure

4. The most important thing to remember is that "All information is helpful". If there is something you like about the survey—that is good to know. If there is something you dislike about the survey or find confusing—that is good to know. Any challenges are due to the survey design itself and are exactly what we are trying to improve, so please be frank and honest about your feedback.

5. Therefore, although you will have quiet time to take the survey in its entirety, there will be certain points where I will be asking all types of questions along different dimensions of the survey, including clarifying questions and for specific examples so that we can accurately represent your point of view.

6. We will be taking notes during our conversation (so you may hear the click of the keyboard). And I would like to record the session. The recording will only be used by me for the purposes of backing up my real-time notes. *Are you comfortable with me recording and starting that now?

7. It's important to note that all of your feedback and quotations will be anonymous for the purposes of reporting.

What, if any, questions do have for me before we move on to Part II, collecting the signed forms?

B. Confirmation of Forms

1. I need to make sure I collect your Incentive Release Form and your W-9, but first let me reiterate a few principles:
    - This session is completely voluntary. Everything you share will be confidential. The only people who will review the information you provide will be me and possibly my university advisor. We will only use the information to improve the survey instrument.
    - Do you have the forms with you?
    - Do you have any questions about either of them?
    - I will also initial the Incentive Release Form at the bottom since I am the person conducting the session and I want to assure you in writing of my promise to keep all of your information confidential.
    - Excellent. I'll set these aside and we'll come back to them at the end of our session as well.

What, if any, questions do have for me before we move on to Part III, the survey itself?

C. Pre-Test Survey

1. Version A, Version B
- Which do you prefer? Why?

2. OK. Now I'd like to practice the think-aloud process I'll be asking you to use while you take the survey.
- We'll practice with two items.
- I will be asking you to complete the survey in a particular way called a cognitive walk-through or in education what is often called a "think aloud." I would like you to talk out loud about your reactions to the form as you read questions and fill it out. I would like to know everything you think about it. Talking out loud about these sorts of things may seem a little unusual, so before we start the actual survey, I have two really short practice items. When I give it to you, please tell

me everything you are thinking as you look at the question and start deciding how to answer them. I would like to know any thoughts you have about whether the questions strike you in a favorable or unfavorable way, whether it is clear about what to do or not do, navigation, etc.

- Hand participant questions on slip and say: Okay, please read the question out loud and tell me everything you are thinking about while you fill it out.
- Give positive reinforcement: Good, that's what I need to know.

How many residences have you lived in since you were born? _____ number of residences	• In the research we find that some people start counting from birth, some make an estimate, some think about cities, and some think about specific residences. • When I learn that people interpret the question differently, it tells me that the question needs to be improved, and that is why we do interviews of this nature.
How many windows are in your home? _____ number of windows	• ASK…did you count a sliding glass door? How did you address windows that have multiple panes?

- Let's open and focus on your preferred version.
- Please remember to share everything you are thinking about as you read questions aloud and respond. Things you like, dislike, find confusing. You can comment on instructions, wording, question order, visual design, navigation, any aspect of the survey.
- TAKE SURVEY
- Additional probing questions:
    - *What are you thinking right now?*
    - *Remember to read aloud for me—it's up to you what you read, but whatever you decide to read please do so out loud so I know what you are looking at.*
    - *Can you tell me more about that?*
    - *Could you describe that for me?*
    - *Don't forget to tell me what you are thinking as you do that.*
    - *How would you suggest revising this for clarity?*

- If participant does not comment…
    - WORDING (w): Were the directions clear? Were the headers helpful?
    - Question ORDER (qo): What was your opinion of the overall sequence of questions? [logical, out of order]

- VISUAL design (vd): What was your opinion of the visual design? How did you know were you were in the survey?
- NAVIGATION (n): What was your experience of the navigation? Anything you'd change? Anything that really worked for you?

- If participant does not comment…
  - #21: How clear are the category labels?
- DISCUSS RECRUITMENT EMAIL
  - If this email arrived in your inbox, how interested do you think you would be in responding?
  - What would help increase your interest?
  - How soon do you think you would respond?
  - What, if anything, would encourage you to respond sooner?

What, if any, questions do have for me before we move on to the final part of our session, closure?

D. Closure and Thank You

2. Interviewer: [INSERT NAME OF PARICIPANT], that concludes our specific survey questions and brings us to Part III, closure.
3. Before we end, there are three final questions we'd like to pose.
   - Overall, how easy or difficult did you feel the form was to complete?
   - If you were in my shoes, what question would you have asked?
   - If you could fix or change 3 things about this session, what would they be and why?

     IF time permits…

   - What would be the one word you use to describe the survey? Why?
   - Is there anything else you think I should know?
   - Would you be open to speaking with me again about this study should we have any clarifying questions? *What is the best form of contact?
   - Are you interested in the results of the full-study once it is complete? *If yes, what would be your preferred form of results distribution?

4. Thank you again for taking the time to meet with me. Again, I will be reviewing the notes, synthesizing your responses in conjunction with many other data points, and crafting an improvement plan for the survey prior to its official deployment.

5. Anything else you'd like to ask or say before we close the session?

6. Excellent. From here, I will be passing the W-9 paperwork to our internal team to process your incentive. If you have any questions at all, please don't hesitate to contact me (and it is likely I will reach back out to you to confirm receipt of payment).

7. Thank you very much. I very much appreciate your time.

Materials and Interview Room Checklist:
*Double-check NDA/Consent
*Double-check W-9
*Give business card
+practice items on paper #1
+hard copy of survey
+computer
+interview protocol/script
+quick eval questions on paper #2
+recruitment email on paper #3

APPENDIX B

RECRUITMENT EMAIL

Subject:
Teacher Input: Please Complete a Survey for an Educational Research Study at Arizona State University (and Receive $25 and the Chance to Win an iPod)

Body:
Hello,

My name is Shawn Mahoney, and I am a Ph.D. student in Educational Technology at Arizona State University (who also happens to work at Pearson). I'm currently working on my **dissertation study** regarding how K-12 U.S. educators perceive, use, and access educational research.

I am looking for teachers like you to **provide your input by completing a survey** (estimated between 30-45 minutes). As a thank you for your participation, the first 300 respondents to complete the survey will receive a $25 gift card and *all* respondents will be entered into a lottery to win a 5th generation iPod.

I am eager to include your perspective in this national survey. Please click on the link below to complete the survey:

http://www.ideainnovationcenter.com/era/educational_research_assessment.htm

If you know another teacher who may be interested in completing the survey or you would like more information, please feel free to contact me at shawn.mahoney@asu.edu.

I value your opinion and thank you in advance for your input.

Regards,
Shawn Mahoney
Ph.D. Student
Educational Technology
Arizona State University

APPENDIX C

SURVEY REMINDERS

Reminder #1:

Subject:
Survey Reminder: Please Complete a Survey for an Educational Research Study at Arizona State University (and Receive $25 and the Chance to Win an iPod)

Hello,

This is a friendly reminder, please complete the survey regarding educational research in the United States.

Please click on the link below to complete the survey:
http://www.ideainnovationcenter.com/era/educational_research_assessment.htm

Regards,
Shawn Mahoney
Ph.D. Student
Educational Technology
Arizona State University

Reminder #2:

Subject:
Reminder #2: Please Complete a Survey for an Educational Research Study at Arizona State University (and Receive $25 and the Chance to Win an iPod)

I value your opinions and experience; I would love to have your point of view represented in this dissertation study regarding educational research in the United States.

Please click on the link below to complete the survey:

http://www.ideainnovationcenter.com/era/educational_research_assessment.htm

Regards,
Shawn Mahoney

Ph.D. Student
Educational Technology
Arizona State University

Final Reminder:

Subject:
FINAL Survey Reminder: Please Complete a Survey for an Educational Research Study at Arizona State University (and Receive $25 and the Chance to Win an iPod)

The deadline for the educational research survey study is approaching. Don't miss this opportunity to shape the knowledge of your field.

Please click on the link below to complete the survey before Friday, March 22, 2013 at 5:00 p.m. EST:

http://www.ideainnovationcenter.com/era/educational_research_assessment.htm

Thank you in advance for your time and consideration,
Shawn Mahoney

Ph.D. Student
Educational Technology
Arizona State University

APPENDIX D

IRB CONSENT AND DISCLOSURE FORM

Educational Research Survey Study
LETTER OF INFORMED CONSENT

Educational Research is a topic of high-interest in the United States, yet little inquiry has been conducted in the U.S. to obtain feedback from educators about important elements. Therefore, I have designed a survey to gather data directly from educators regarding the current perceptions and use of educational research in the United States. The goal is to determine the current perceptions of its effectiveness as well as possible recommendations for how to improve communication of important findings.

I am inviting you to participate in this online survey study. The online survey will consist of several questions, each of which you are asked to answer honestly and according to your personal experience and point of view.

After you complete this section providing your consent, you will be taken to a brief set of demographic questions. Then, the online survey will lead you into a set of questions about different aspects of educational research. The online survey is estimated to require between 30 and 45 minutes to complete.

Your participation in this study is completely voluntary. You may withdraw from the study at any time without penalty. Your responses will be completely confidential. The results of this study may be used in reports, presentations, or publications, but your name will not be used. Although there may be no direct benefit to you, a possible benefit of your participation is the ability to impact policy and communication in the U.S. as well as contribute to more practical application of educational research. There are no foreseeable risks or discomforts related to your participation.

If you have any questions, please email me at shawn.mahoney@asu.edu.

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.

APPENDIX E

ONLINE SURVEY: PARTICIPANT VIEW

Arizona State University

Informed Consent

Educational Research is a topic of high-interest in the United States, yet little inquiry has been conducted in the U.S. to obtain feedback from educators about important elements. Therefore, I have designed a survey to gather data directly from educators regarding the current perceptions and use of educational research in the United States. The goal is to determine the current perceptions of its effectiveness as well as possible recommendations for how to improve communication of important findings.

I am inviting you to participate in this online survey study. The online survey will consist of several questions, each of which you are asked to answer honestly and according to your personal experience and point of view.

After you complete this section providing your consent, you will be taken to a brief set of demographic questions. Then, the online survey will lead you into a set of questions about different aspects of educational research. The online survey is estimated to require between 30 and 45 minutes to complete.

Your participation in this study is completely voluntary. You may withdraw from the study at any time without penalty. Your responses will be completely confidential. The results of this study may be used in reports, presentations, or publications, but your name will not be used. Although there may be no direct benefit to you, a possible benefit of your participation is the ability to impact policy and communication in the U.S. as well as contribute to more practical application of educational research. There are no foreseeable risks or discomforts related to your participation.

If you have any questions, please email me at shawn.mahoney@asu.edu.

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.

1. By typing your name below (although your responses will remain anonymous), you are giving your consent to participate in the study described above.

_____
_____
_____

General Demographic Information

These questions are intended to help us confirm relevant characteristics regarding study participants.

2. **Select your gender.**

- ❑ **Male**
- ❑ **Female**

3. **Select your current age.**

- ❑ **20 - 24 years**
- ❑ **25 - 34 years**
- ❑ **35 - 44 years**
- ❑ **45 - 49 years**
- ❑ **50 - 54 years**
- ❑ **55 - 59 years**
- ❑ **60 - 64 years**
- ❑ **65 years or over**

General Demographic Information

4. **Please select the state in which you currently work.**

- ❑ **Alabama**
- ❑ **Alaska**
- ❑ **Arizona**
- ❑ **Arkansas**
- ❑ **California**
- ❑ **Colorado**
- ❑ **Connecticut**
- ❑ **Delaware**
- ❑ **District of Columbia**
- ❑ **Florida**
- ❑ **Georgia**
- ❑ **Hawaii**
- ❑ **Idaho**
- ❑ **Illinois**
- ❑ **Indiana**
- ❑ **Iowa**
- ❑ **Kansas**
- ❑ **Kentucky**
- ❑ **Louisiana**
- ❑ **Maine**
- ❑ **Maryland**
- ❑ **Massachusetts**
- ❑ **Michigan**
- ❑ **Minnesota**
- ❑ **Mississippi**
- ❑ **Missouri**
- ❑ **Montana**
- ❑ **Nebraska**

- ❑ Nevada
- ❑ New Hampshire
- ❑ New Jersey
- ❑ New Mexico
- ❑ New York
- ❑ North Carolina
- ❑ North Dakota
- ❑ Ohio
- ❑ Oklahoma
- ❑ Oregon
- ❑ Pennsylvania
- ❑ Rhode Island
- ❑ South Carolina
- ❑ South Dakota
- ❑ Tennessee
- ❑ Texas
- ❑ Utah
- ❑ Vermont
- ❑ Virginia
- ❑ Washington
- ❑ Washington, DC
- ❑ West Virginia
- ❑ Wisconsin
- ❑ Wyoming

5. **Please type your actual job title (ex: 3rd Grade Teacher, High School Biology Teacher, etc.). Please list all.**

_____
_____
_____
_____
_____
_____
_____
_____
_____

Teacher Demographic Information

6. **Select your highest completed post-graduate qualification.**

- ❑ None
- ❑ Bachelor's Degree
- ❑ Some additional graduate coursework completed

- ❑ **Master's Degree**
- ❑ **Doctoral Degree**

6.a. **Please list any special endorsements you currently hold on your certificate:**

_____
_____
_____

7. **Select the number of years of teaching experience.**

- ❑ **0 - 4 years**
- ❑ **5 - 9 years**
- ❑ **10 - 19 years**
- ❑ **20 or more years**

Teacher Demographic Information

8. **Select the grades for which you have taught at least one year, not including student teaching.** ***(Check all that apply.)***

- ❑ **Pre- Kindergarten**
- ❑ **Kindergarten**
- ❑ **First Grade**
- ❑ **Second Grade**
- ❑ **Third Grade**
- ❑ **Fourth Grade**
- ❑ **Fifth Grade**
- ❑ **Sixth Grade**
- ❑ **Seventh Grade**
- ❑ **Eighth Grade**
- ❑ **Ninth Grade**
- ❑ **Tenth Grade**
- ❑ **Eleventh Grade**
- ❑ **Twelfth Grade**

Teacher Demographic Information

9. **Select the grade(s) you are currently teaching.** ***(Check all that apply.)***

- ❑ **Pre- Kindergarten**
- ❑ **Kindergarten**
- ❑ **First Grade**
- ❑ **Second Grade**
- ❑ **Third Grade**
- ❑ **Fourth Grade**
- ❑ **Fifth Grade**
- ❑ **Sixth Grade**

- ❑ **Seventh Grade**
- ❑ **Eighth Grade**
- ❑ **Ninth Grade**
- ❑ **Tenth Grade**
- ❑ **Eleventh Grade**
- ❑ **Twelfth Grade**

Teacher Demographic Information

10. **Select the statement that best describes your experience.**

- ❑ **The majority of my years of teaching are in elementary grades (pre-K through grade 8).**
- ❑ **My teaching experience is evenly split between elementary grades and secondary grades.**
- ❑ **The majority of my years of teaching are in secondary grades (grade 9 through grade 12).**

11. **Select your area of major teaching responsibility.**

- ❑ **Mathematics**
- ❑ **Science**
- ❑ **Social Studies**
- ❑ **English / Language Arts**
- ❑ **Special Education**
- ❑ **ELL**
- ❑ **Other**

11.a. **Please specify 'Other':**

_____
_____
_____

12. **In what subject area(s) do you feel you have the most teaching expertise? *(Check all that apply.)***

- ❑ **Mathematics**
- ❑ **Science**
- ❑ **Social Studies**
- ❑ **English / Language Arts**
- ❑ **Special Education**
- ❑ **ELL**
- ❑ **Other**

12.a. **Please specify 'Other':**

_____

Purpose of Research

13. **Select all of the purposes of educational research that you consider to be essential.**

- ❑ **Exploration (research to generate new ideas)**
- ❑ **Description (research to define characteristics of phenomenon)**
- ❑ **Prediction (research to forecast a phenomenon or future event)**
- ❑ **Improvement or Influence (research to make certain outcomes occur or increase effectiveness)**
- ❑ **Explanation (research to show how and why a phenomenon operates)**

Purpose of Research

Please rank the purposes of educational research from one to five according to your beliefs about importance (1 being MOST important and 5 being LEAST important). ***(Note: You can only use each number once in your ranking.)***

14.a.	**Exploration (research to generate new ideas)**	_____
14.b.	**Description (research to define characteristics of phenomenon)**	_____
14.c.	**Prediction (research to forecast a phenomenon or future event)**	_____
14.d.	**Improvement or Influence (research to make certain outcomes occur or increase effectiveness)**	_____
14.e.	**Explanation (research to show how and why a phenomenon operates)**	_____

Purpose of Research

15. **What, in your opinion, is the most compelling research method?**

- ❑ **Quantitative - data containing numeric descriptions**
- ❑ **Qualitative - data containing narrative descriptions**
- ❑ **Mixed - data containing BOTH numeric and narrative descriptions**

15.a. **Explain why:**

_____
_____
_____
_____
_____
_____
_____
_____

Research and Practice

These questions are intended to help better understand the relationship between educational research and practice.

Please select your level of agreement with each the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
16.a.	Educational research has produced important scientific knowledge.	❑	❑	❑	❑	❑	❑	❑
16.b.	Educational research has produced practical applications.	❑	❑	❑	❑	❑	❑	❑
16.c.	Educational practitioners have a low opinion of educational research.	❑	❑	❑	❑	❑	❑	❑
16.d.	Educational practitioners apply the results of research.	❑	❑	❑	❑	❑	❑	❑
16.e.	Educational practitioners use research haphazardly and irresponsibly.	❑	❑	❑	❑	❑	❑	❑

Research and Practice

Please select your level of agreement with each the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
17.a.	Educational research can yield useful results even though education is complex.	❑	❑	❑	❑	❑	❑	❑
17.b.	There is far too little educational research.	❑	❑	❑	❑	❑	❑	❑
17.c.	Educational research does ask the right questions.	❑	❑	❑	❑	❑	❑	❑
17.d.	There is no connection to speak of between the various studies on education.	❑	❑	❑	❑	❑	❑	❑
17.e.	The scientific quality of educational research is usually excellent.	❑	❑	❑	❑	❑	❑	❑
17.f.	Reports on educational research are inaccessible.	❑	❑	❑	❑	❑	❑	❑

Research and Practice

Please select your level of agreement with each the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
18.a.	National educational policy is based on research.	❑	❑	❑	❑	❑	❑	❑
18.b.	Teacher training colleges base their curricula on research.	❑	❑	❑	❑	❑	❑	❑
18.c.	Teaching materials (textbooks, online courses, etc.) are based on research.	❑	❑	❑	❑	❑	❑	❑
18.d.	Consulting educational research is standard with educational practitioners.	❑	❑	❑	❑	❑	❑	❑
18.e.	Virtually no one within the educational practitioner community has the skills to apply scientific results.	❑	❑	❑	❑	❑	❑	❑
18.f.	Educational practitioners do not get the time and the means to use the results of educational research.	❑	❑	❑	❑	❑	❑	❑

Research and Practice

Please select your level of agreement with each the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
19.a.	Educational practitioners carry out research themselves with great frequency.	❑	❑	❑	❑	❑	❑	❑
19.b.	Educational practitioners cooperate with researchers.	❑	❑	❑	❑	❑	❑	❑
19.c.	There is collaboration on equal terms between educational practitioners, administrators, and researchers.	❑	❑	❑	❑	❑	❑	❑

19.d.	**The desire to cooperate on equal terms exists with educational practitioners and researchers.**	❑	❑	❑	❑	❑	❑	❑
19.e.	**There are many facilities for equal cooperation between the educational practitioners and researchers.**	❑	❑	❑	❑	❑	❑	❑
19.f.	**Current educational research could contribute much more to the field than is generally assumed.**	❑	❑	❑	❑	❑	❑	❑
19.g.	**Educational research contributes much less to the field than is generally assumed, even when it continues to develop and the results are used optimally.**	❑	❑	❑	❑	❑	❑	❑

Use of Educational Research

These questions are intended to help us better understand different aspects of how educators use educational research results.

20. **Please select the option that most accurately describes the frequency with which you seek out educational research.**

- ❑ **Daily**
- ❑ **Weekly**
- ❑ **Bi-weekly**
- ❑ **Monthly**
- ❑ **Quarterly**
- ❑ **Annually**
- ❑ **Other**

20.a. **Please specify 'Other':**

_____
_____
_____

21. **Mark each type of literature you read.**

- ❑ **Didactic Literature (ex: teaching strategies from commercial publications)**
- ❑ **Pedagogic Literature (ex: articles containing implications for the field)**
- ❑ **Case Literature (ex: vignette of teacher or student experience)**
- ❑ **Subject-Matter Literature (ex: primary source information)**
- ❑ **General Education Literature (ex: psychology)**

- ❑ Research Literature (ex: academic journal)
- ❑ General News Media (ex: newspapers)
- ❑ None of the above
- ❑ Other

21.a. Please specify 'Other':

_____
_____
_____

Use of Educational Research

22. Select all of the factors that prevent you from reading educational research.

- ❑ Not useful
- ❑ Not enough time
- ❑ Lack of trust in studies
- ❑ Lack of understanding
- ❑ Not available
- ❑ Hard to search
- ❑ Other

22.a. Please specify 'Other':

_____
_____
_____

23. **Select all of the factors that motivate you to read educational research.**

- ❑ Course requirements for a degree
- ❑ Interested in expanding professional knowledge
- ❑ Interested in solving a professional challenge
- ❑ Job requirements for professional development
- ❑ Other

23.a. **Please specify 'Other':**

_____
_____
_____

Use of Educational Research

24. **When was the last time you took a course in educational research, measurement, or statistics?**

- ❑ Never
- ❑ Within the past year
- ❑ 2 - 3 years ago
- ❑ 4 - 5 years ago
- ❑ More than five years ago

25. **When was the last time you participated in a research study of any kind?**

- ❑ Never
- ❑ Within the past year
- ❑ 2 - 3 years ago
- ❑ 4 - 5 years ago
- ❑ More than five years ago

Use of Educational Research

26. **What role(s) did you play in the research in which you did participate? *(Check all that apply.)***

- ❑ Consumer: I acted as an interested user, seeking information in the research literature.
- ❑ Participant: I acted as a participant in a study (e.g., interview, focus group, survey, etc.).
- ❑ Initiator: I acted as a primary investigator, lead researcher, or research team member.

Use of Educational Research

27. What is your level of interest in designing and executing an educational research study?

- ❑ Not interested at all
- ❑ Somewhat interested
- ❑ Extremely interested

28. What is your level of interest in working with a researcher to design and execute an educational study?

- ❑ Not interested at all
- ❑ Somewhat interested
- ❑ Extremely interested

Use of Educational Research

29. Which issues would you like to see researched in the near future?

- ❑ Identifying learning objectives
- ❑ Literacy
- ❑ Numeracy
- ❑ Gender
- ❑ Subject knowledge and effective teaching
- ❑ Effective teaching of specific subjects
- ❑ Information and Communications Technology and Pedagogy
- ❑ Pupil / teacher interaction
- ❑ Comparison of different teaching strategies
- ❑ Models of effective classroom teacher behavior
- ❑ Effective whole class teaching
- ❑ Improving questioning techniques
- ❑ Improving classroom language
- ❑ Effective use of classroom support
- ❑ Strategies for teaching different ability groups effectively
- ❑ Improving motivation / tackling disengagement
- ❑ Understanding power relations within classrooms
- ❑ Developing learning in manageable steps
- ❑ Management of children's learning performance
- ❑ Helping pupils to work effectively with others
- ❑ Helping pupils hypothesize
- ❑ Helping pupils to conceptualize
- ❑ Developing creative thinking
- ❑ Helping pupils to handle information
- ❑ Other

29.a. **Please specify 'Other':**

_____
_____
_____

Use of Educational Research

Which do you rate as the most urgent issue? *(Rate only your top 3 priorities. Note: You can only use each number once in your ranking.)*

30.a.	Identifying learning objectives	_____
30.b.	Literacy	_____
30.c.	Numeracy	_____
30.d.	Gender	_____
30.e.	Subject knowledge and effective teaching	_____
30.f.	Effective teaching of specific subjects	_____
30.g.	Information and Communications Technology and Pedagogy	_____
30.h.	Pupil / teacher interaction	_____
30.i.	Comparison of different teaching strategies	_____
30.j.	Models of effective classroom teacher behavior	_____
30.k.	Effective whole class teaching	_____
30.l.	Improving questioning techniques	_____
30.m.	Improving classroom language	_____
30.n.	Effective use of classroom support	_____
30.o.	Strategies for teaching different ability groups effectively	_____
30.p.	Improving motivation / tackling disengagement	_____
30.q.	Understanding power relations within classrooms	_____
30.r.	Developing learning in manageable steps	_____
30.s.	Management of children's learning performance	_____
30.t.	Helping pupils to work effectively with others	_____
30.u.	Helping pupils hypothesize	_____
30.v.	Helping pupils to conceptualize	_____
30.w.	Developing creative thinking	_____
30.x.	Helping pupils to handle information	_____

Value and Impact of Educational Research

31. **To what extent do you consider the findings of any research?**

- ❑ **Never**
- ❑ **Hardly Ever**
- ❑ **Occasionally**
- ❑ **Frequently**
- ❑ **Always**

Value and Impact of Educational Research

32. **Please briefly list the researchers and / or research findings that have influenced you for the better as an educator.**

_____
_____
_____
_____
_____
_____
_____
_____

33. **Please describe at least one observable change you made to your practice that was a direct result of this educational research.**

_____
_____
_____
_____
_____
_____
_____
_____

Value and Impact of Educational Research

34. **In which of the following activities do you engage after reading educational research?**

- ❑ **Initiate discussion with other staff**
- ❑ **Co-plan with other teachers**

- ❑ Modify lesson plans
- ❑ Redesign instruction
- ❑ Collect new types of assessment data
- ❑ Grade student work differently
- ❑ Self-evaluate or reflect on practice
- ❑ Keep a journal
- ❑ Post to a blog or an online community
- ❑ Design professional development
- ❑ Purchase new materials
- ❑ Discuss findings with parents
- ❑ None of the above

Value and Impact of Educational Research

Here are some statements about educational research and the teacher's role. Please give your opinion by selecting the best description of value.

The evidence of research is of value to teachers if...

		Essential	Important	Helpful	Not Important	Of No Value
35.a.	It demonstrates effective teaching and learning	❑	❑	❑	❑	❑
35.b.	It focuses on classroom actions	❑	❑	❑	❑	❑
35.c.	It focuses on the details of teacher-pupil interaction	❑	❑	❑	❑	❑
35.d.	It tackles specific aspects of teaching and learning	❑	❑	❑	❑	❑
35.e.	It focuses on teacher subject knowledge	❑	❑	❑	❑	❑
35.f.	It focuses on teacher beliefs	❑	❑	❑	❑	❑
35.g.	It provides clear examples of teachers and pupils at work in classrooms	❑	❑	❑	❑	❑
35.h.	It makes clear that teachers will need to interpret findings in the context of their own situation	❑	❑	❑	❑	❑
35.i.	It is subject specific	❑	❑	❑	❑	❑
35.j.	It is capable of being generalized	❑	❑	❑	❑	❑
35.k.	It provides evidence of learning gain	❑	❑	❑	❑	❑

35.l.	It shows teachers how to assess themselves effectively	❑	❑	❑	❑	❑
35.m.	Teachers, themselves, helped identify the research questions	❑	❑	❑	❑	❑
35.n.	Teachers, themselves, have adequate research skills	❑	❑	❑	❑	❑
35.o.	Teachers, themselves, helped design the research project	❑	❑	❑	❑	❑
35.p.	Teachers, themselves, helped interpret the research data	❑	❑	❑	❑	❑
35.q.	Teachers, themselves, helped interpret the findings	❑	❑	❑	❑	❑
35.r.	Teachers, themselves, helped prepare the research summaries	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

The next ten screens all contain questions related to credibility, trustworthiness, and qualifications.

Please rate each source of educational research according to EASE-OF-ACCESS.

		Easy to Access	Somewhat Easy to Access	Neutral	Somewhat Difficult to Access	Difficult to Access
36.a.	Newspapers	❑	❑	❑	❑	❑
36.b.	Television	❑	❑	❑	❑	❑
36.c.	Books	❑	❑	❑	❑	❑
36.d.	Research Journals	❑	❑	❑	❑	❑
36.e.	In-Service Trainings	❑	❑	❑	❑	❑
36.f.	Courses for Further Study	❑	❑	❑	❑	❑
36.g.	Other Teachers	❑	❑	❑	❑	❑
36.h.	Websites	❑	❑	❑	❑	❑
36.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
This source is QUALIFIED to provide information about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
37.a.	Newspapers	❑	❑	❑	❑	❑
37.b.	Television	❑	❑	❑	❑	❑
37.c.	Books	❑	❑	❑	❑	❑
37.d.	Research Journals	❑	❑	❑	❑	❑
37.e.	In-Service Trainings	❑	❑	❑	❑	❑
37.f.	Courses for Further Study	❑	❑	❑	❑	❑
37.g.	Other Teachers	❑	❑	❑	❑	❑
37.h.	Websites	❑	❑	❑	❑	❑
37.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
38.a.	Newspapers	❑	❑	❑	❑	❑
38.b.	Television	❑	❑	❑	❑	❑
38.c.	Books	❑	❑	❑	❑	❑
38.d.	Research Journals	❑	❑	❑	❑	❑
38.e.	In-Service Trainings	❑	❑	❑	❑	❑
38.f.	Courses for Further Study	❑	❑	❑	❑	❑
38.g.	Other Teachers	❑	❑	❑	❑	❑
38.h.	Websites	❑	❑	❑	❑	❑
38.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
39.a.	Newspapers	❑	❑	❑	❑	❑
39.b.	Television	❑	❑	❑	❑	❑
39.c.	Books	❑	❑	❑	❑	❑
39.d.	Research Journals	❑	❑	❑	❑	❑
39.e.	In-Service Trainings	❑	❑	❑	❑	❑
39.f.	Courses for Further Study	❑	❑	❑	❑	❑
39.g.	Other Teachers	❑	❑	❑	❑	❑
39.h.	Websites	❑	❑	❑	❑	❑
39.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
This source is an EXPERT in educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
40.a.	Newspapers	❑	❑	❑	❑	❑
40.b.	Television	❑	❑	❑	❑	❑
40.c.	Books	❑	❑	❑	❑	❑
40.d.	Research Journals	❑	❑	❑	❑	❑
40.e.	In-Service Trainings	❑	❑	❑	❑	❑
40.f.	Courses for Further Study	❑	❑	❑	❑	❑
40.g.	Other Teachers	❑	❑	❑	❑	❑
40.h.	Websites	❑	❑	❑	❑	❑
40.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
41.a.	Newspapers	❑	❑	❑	❑	❑
41.b.	Television	❑	❑	❑	❑	❑
41.c.	Books	❑	❑	❑	❑	❑
41.d.	Research Journals	❑	❑	❑	❑	❑
41.e.	In-Service Trainings	❑	❑	❑	❑	❑
41.f.	Courses for Further Study	❑	❑	❑	❑	❑
41.g.	Other Teachers	❑	❑	❑	❑	❑
41.h.	Websites	❑	❑	❑	❑	❑
41.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
This source is CONCERNED with MAKING PROFITS.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
42.a.	Newspapers	❑	❑	❑	❑	❑
42.b.	Television	❑	❑	❑	❑	❑
42.c.	Books	❑	❑	❑	❑	❑
42.d.	Research Journals	❑	❑	❑	❑	❑
42.e.	In-Service Trainings	❑	❑	❑	❑	❑
42.f.	Courses for Further Study	❑	❑	❑	❑	❑
42.g.	Other Teachers	❑	❑	❑	❑	❑
42.h.	Websites	❑	❑	❑	❑	❑
42.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
I believe this source PROVIDES UNBIASED INFORMATION about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
43.a.	Newspapers	❑	❑	❑	❑	❑
43.b.	Television	❑	❑	❑	❑	❑
43.c.	Books	❑	❑	❑	❑	❑
43.d.	Research Journals	❑	❑	❑	❑	❑
43.e.	In-Service Trainings	❑	❑	❑	❑	❑
43.f.	Courses for Further Study	❑	❑	❑	❑	❑
43.g.	Other Teachers	❑	❑	❑	❑	❑
43.h.	Websites	❑	❑	❑	❑	❑
43.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
I believe this source is KNOWLEDGEABLE about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
44.a.	Newspapers	❑	❑	❑	❑	❑
44.b.	Television	❑	❑	❑	❑	❑
44.c.	Books	❑	❑	❑	❑	❑
44.d.	Research Journals	❑	❑	❑	❑	❑
44.e.	In-Service Trainings	❑	❑	❑	❑	❑
44.f.	Courses for Further Study	❑	❑	❑	❑	❑
44.g.	Other Teachers	❑	❑	❑	❑	❑
44.h.	Websites	❑	❑	❑	❑	❑
44.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Please rate your level of agreement with this statement:
I believe this source has SOMETHING TO GAIN about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
45.a.	Newspapers	❑	❑	❑	❑	❑
45.b.	Television	❑	❑	❑	❑	❑
45.c.	Books	❑	❑	❑	❑	❑
45.d.	Research Journals	❑	❑	❑	❑	❑
45.e.	In-Service Trainings	❑	❑	❑	❑	❑
45.f.	Courses for Further Study	❑	❑	❑	❑	❑
45.g.	Other Teachers	❑	❑	❑	❑	❑
45.h.	Websites	❑	❑	❑	❑	❑
45.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

46. **What source do you RELY ON MOST FREQUENTLY for educational research? *(Check all that apply.)***

- ❑ **Newspapers**
- ❑ **Television**
- ❑ **Books**
- ❑ **Research Journals**
- ❑ **In-Service Trainings**
- ❑ **Courses for Further Study**
- ❑ **Other Teachers**
- ❑ **Websites**
- ❑ **Support Materials from Educational Products**
- ❑ **Other**

46.a. **Please specify 'Other':**

_____
_____
_____

47. **What is your overall level of interest in educational research?**

- ❑ **Extremely interested**
- ❑ **Moderately interested**
- ❑ **Neutral**
- ❑ **Slightly interested**
- ❑ **Not interested at all**

Contact Information

Although your responses will remain anonymous, it is necessary for us to collect preferred and accurate contact information in the event you qualify for the honorarium. Individuals who fill out the survey will be randomly entered to receive a gift card for $25 or to win an iPod.

If, under state or local law or the policies of your employer, you are unable to receive an honorarium as described above, or if you wish not to receive such an honorarium in any event, you may leave this information blank. In that case your responses to the survey will still be tabulated, and we thank you for your participation, but you will be ineligible for the honorarium. By completing the contact information below, you certify that your receipt of the honorarium described above will not violate any government ethics or other applicable laws or regulations or any policy of your employer.

Please provide:

48.a.	**First Name**	_____
48.b.	**Last Name**	_____
48.c.	**Street Address**	_____
48.d.	**Apartment Number or P.O. Box**	_____
48.e.	**City**	_____
48.f.	**State**	_____
48.g.	**Zip Code**	_____
48.h.	**E-mail Address**	_____
48.i.	**Phone Number**	_____

Thank you very much for taking our survey. Press the 'Submit' arrow to send your response and please be patient while the survey processes.

APPENDIX F

ONLINE SURVEY: ALIGNED TO REFERENCES

Arizona State University

Informed Consent

Educational Research is a topic of high-interest in the United States, yet little inquiry has been conducted in the U.S. to obtain feedback from educators about important elements. Therefore, I have designed a survey to gather data directly from educators regarding the current perceptions and use of educational research in the United States. The goal is to determine the current perceptions of its effectiveness as well as possible recommendations for how to improve communication of important findings.

I am inviting you to participate in this online survey study. The online survey will consist of several questions, each of which you are asked to answer honestly and according to your personal experience and point of view.

After you complete this section providing your consent, you will be taken to a brief set of demographic questions. Then, the online survey will lead you into a set of questions about different aspects of educational research. The online survey is estimated to require between 30 and 45 minutes to complete.

Your participation in this study is completely voluntary. You may withdraw from the study at any time without penalty. Your responses will be completely confidential. The results of this study may be used in reports, presentations, or publications but your name will not be used. Although there may be no direct benefit to you, a possible benefit of your participation is the ability to impact policy and communication in the U.S. as well as contribute to more practical application of educational research. There are no foreseeable risks or discomforts related to your participation.

If you have any questions, please email me at shawn.mahoney@asu.edu.

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the Office of Research Integrity and Assurance, at (480) 965-6788.

1. By typing your name below (although your responses will remain anonymous), you are giving your consent to participate in the study described above.

_____
_____
_____

General Demographic Information

These questions are intended to help us confirm relevant characteristics regarding study participants.

2. Select your gender.

- ❑ **Male**
- ❑ **Female**

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

3. Select your current age.

- ❑ **20 - 24 years**
- ❑ **25 - 34 years**
- ❑ **35 - 44 years**
- ❑ **45 - 49 years**
- ❑ **50 - 54 years**
- ❑ **55 - 59 years**
- ❑ **60 - 64 years**
- ❑ **65 years or over**

General Demographic Information

4. Please select the state in which you currently work.

- ❑ **Alabama**
- ❑ **Alaska**
- ❑ **Arizona**
- ❑ **Arkansas**
- ❑ **California**
- ❑ **Colorado**
- ❑ **Connecticut**
- ❑ **Delaware**
- ❑ **District of Columbia**
- ❑ **Florida**
- ❑ **Georgia**
- ❑ **Hawaii**
- ❑ **Idaho**
- ❑ **Illinois**
- ❑ **Indiana**
- ❑ **Iowa**
- ❑ **Kansas**
- ❑ **Kentucky**
- ❑ **Louisiana**
- ❑ **Maine**

- ❑ **Maryland**
- ❑ **Massachusetts**
- ❑ **Michigan**
- ❑ **Minnesota**
- ❑ **Mississippi**
- ❑ **Missouri**
- ❑ **Montana**
- ❑ **Nebraska**
- ❑ **Nevada**
- ❑ **New Hampshire**
- ❑ **New Jersey**
- ❑ **New Mexico**
- ❑ **New York**
- ❑ **North Carolina**
- ❑ **North Dakota**
- ❑ **Ohio**
- ❑ **Oklahoma**
- ❑ **Oregon**
- ❑ **Pennsylvania**
- ❑ **Rhode Island**
- ❑ **South Carolina**
- ❑ **South Dakota**
- ❑ **Tennessee**
- ❑ **Texas**
- ❑ **Utah**
- ❑ **Vermont**
- ❑ **Virginia**
- ❑ **Washington**
- ❑ **Washington, DC**
- ❑ **West Virginia**
- ❑ **Wisconsin**
- ❑ **Wyoming**

5. Please type your actual job title (ex: 3rd Grade Teacher, High School Biology Teacher, etc.). Please list all.

_____
_____
_____
_____
_____
_____
_____
_____

Teacher Demographic Information

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

6. **Select your highest completed post-graduate qualification.**

- ❑ None
- ❑ Bachelor's Degree
- ❑ Some additional graduate coursework completed
- ❑ Master's Degree
- ❑ Doctoral Degree

6.a. **Please list any special endorsements you currently hold on your certificate:**

_____
_____
_____

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

7. **Select the number of years of teaching experience.**

- ❑ 0 - 4 years
- ❑ 5 - 9 years
- ❑ 10 - 19 years
- ❑ 20 or more years

Teacher Demographic Information

8. **Select the grades for which you have taught at least one year, not including student teaching. *(Check all that apply.)***

- ❑ Pre- Kindergarten
- ❑ Kindergarten
- ❑ First Grade
- ❑ Second Grade
- ❑ Third Grade
- ❑ Fourth Grade
- ❑ Fifth Grade
- ❑ Sixth Grade
- ❑ Seventh Grade
- ❑ Eighth Grade
- ❑ Ninth Grade
- ❑ Tenth Grade
- ❑ Eleventh Grade
- ❑ Twelfth Grade

Teacher Demographic Information

9. **Select the grade(s) you are currently teaching. *(Check all that apply.)***

- ❑ **Pre- Kindergarten**
- ❑ **Kindergarten**
- ❑ **First Grade**
- ❑ **Second Grade**
- ❑ **Third Grade**
- ❑ **Fourth Grade**
- ❑ **Fifth Grade**
- ❑ **Sixth Grade**
- ❑ **Seventh Grade**
- ❑ **Eighth Grade**
- ❑ **Ninth Grade**
- ❑ **Tenth Grade**
- ❑ **Eleventh Grade**
- ❑ **Twelfth Grade**

Teacher Demographic Information

10. **Select the statement that best describes your experience.**

- ❑ **The majority of my years of teaching are in elementary grades (pre-K through grade 8).**
- ❑ **My teaching experience is evenly split between elementary grades and secondary grades.**
- ❑ **The majority of my years of teaching are in secondary grades (grade 9 through grade 12).**

Short, B.G., & Szabo, M. (1974). Secondary school teachers' knowledge of and attitudes toward educational research. *The Journal of Experimental Education, 43(1),* 75-78.

11. **Select your area of major teaching responsibility.**

- ❑ **Mathematics**
- ❑ **Science**
- ❑ **Social Studies**
- ❑ **English / Language Arts**
- ❑ **Special Education**
- ❑ **ELL**
- ❑ **Other**

11.a. **Please specify 'Other':**

_____
_____
_____

12. **In what subject area(s) do you feel you have the most teaching expertise? *(Check all that apply.)***

- ❑ **Mathematics**
- ❑ **Science**
- ❑ **Social Studies**
- ❑ **English / Language Arts**
- ❑ **Special Education**
- ❑ **ELL**
- ❑ **Other**

12.a. **Please specify 'Other':**

_____
_____
_____

Purpose of Research

Gall, M.D., Gall, J.P., & Borg, W.R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson Education. Inc.

Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches.* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

13. **Select all of the purposes of educational research that you consider to be essential.**

- ❑ **Exploration (research to generate new ideas)**
- ❑ **Description (research to define characteristics of phenomenon)**
- ❑ **Prediction (research to forecast a phenomenon or future event)**
- ❑ **Improvement or Influence (research to make certain outcomes occur or increase effectiveness)**
- ❑ **Explanation (research to show how and why a phenomenon operates)**

Purpose of Research

Gall, M.D., Gall, J.P., & Borg, W.R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson Education. Inc.

Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches.* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Please rank the purposes of educational research from one to five according to your beliefs about importance (1 being MOST important and 5 being LEAST important). ***(Note: You can only use each number once in your ranking.)***

14.a. **Exploration (research to generate new ideas)** _____

14.b. **Description (research to define characteristics of phenomenon)** _____

14.c. **Prediction (research to forecast a phenomenon or future event)** _____

14.d. **Improvement or Influence (research to make certain outcomes occur or increase effectiveness)** _____

14.e. **Explanation (research to show how and why a phenomenon operates)** _____

Purpose of Research

Gall, M.D., Gall, J.P., & Borg, W.R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson Education. Inc.

Johnson, B., & Christensen, L. (2008). *Educational research: Quantitative, qualitative, and mixed approaches.* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

15. **What, in your opinion, is the most compelling research method?**

- ❑ **Quantitative - data containing numeric descriptions**
- ❑ **Qualitative - data containing narrative descriptions**
- ❑ **Mixed - data containing BOTH numeric and narrative descriptions**

15.a. **Explain why:**

_____
_____
_____
_____
_____
_____
_____
_____
_____

Research and Practice

Broekkamp, H., & van Hout-Wolters, B. (2007). The gap between educational research and practice: A literature review, symposium, and questionnaire. *Educational Research and Evaluation, 13(3),* 203-220.

These questions are intended to help better understand the relationship between educational research and practice.

Please select your level of agreement with each the following statements.

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
16.a. Educational research has produced important scientific knowledge.	❑	❑	❑	❑	❑	❑	❑

16.b.	**Educational research has produced practical applications.**	❑	❑	❑	❑	❑	❑	❑
16.c.	**Educational practitioners have a low opinion of educational research.**	❑	❑	❑	❑	❑	❑	❑
16.d.	**Educational practitioners apply the results of research.**	❑	❑	❑	❑	❑	❑	❑
16.e.	**Educational practitioners use research haphazardly and irresponsibly.**	❑	❑	❑	❑	❑	❑	❑

Research and Practice

Broekkamp, H., & van Hout-Wolters, B. (2007). The gap between educational research and practice: A literature review, symposium, and questionnaire. *Educational Research and Evaluation, 13(3),* 203-220.

Please select your level of agreement with each the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
17.a.	**Educational research can yield useful results even though education is complex.**	❑	❑	❑	❑	❑	❑	❑
17.b.	**There is far too little educational research.**	❑	❑	❑	❑	❑	❑	❑
17.c.	**Educational research does ask the right questions.**	❑	❑	❑	❑	❑	❑	❑
17.d.	**There is no connection to speak of between the various studies on education.**	❑	❑	❑	❑	❑	❑	❑
17.e.	**The scientific quality of educational research is usually excellent.**	❑	❑	❑	❑	❑	❑	❑
17.f.	**Reports on educational research are inaccessible.**	❑	❑	❑	❑	❑	❑	❑

Research and Practice

Broekkamp, H., & van Hout-Wolters, B. (2007). The gap between educational research and practice: A literature review, symposium, and questionnaire. *Educational Research and Evaluation, 13(3),* 203-220.

Please select your level of agreement with each the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
18.a.	National educational policy is based on research.	❑	❑	❑	❑	❑	❑	❑
18.b.	Teacher training colleges base their curricula on research.	❑	❑	❑	❑	❑	❑	❑
18.c.	Teaching materials (textbooks, online courses, etc.) are based on research.	❑	❑	❑	❑	❑	❑	❑
18.d.	Consulting educational research is standard with educational practitioners.	❑	❑	❑	❑	❑	❑	❑
18.e.	Virtually no one within the educational practitioner community has the skills to apply scientific results.	❑	❑	❑	❑	❑	❑	❑
18.f.	Educational practitioners do not get the time and the means to use the results of educational research.	❑	❑	❑	❑	❑	❑	❑

Research and Practice

Broekkamp, H., & van Hout-Wolters, B. (2007). The gap between educational research and practice: A literature review, symposium, and questionnaire. *Educational Research and Evaluation, 13(3),* 203-220.

Please select your level of agreement with each the following statements.

		Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
19.a.	Educational practitioners carry out research themselves with great frequency.	❑	❑	❑	❑	❑	❑	❑
19.b.	Educational practitioners cooperate with researchers.	❑	❑	❑	❑	❑	❑	❑
19.c.	There is collaboration on equal terms between educational practitioners, administrators, and researchers.	❑	❑	❑	❑	❑	❑	❑

19.d.	**The desire to cooperate on equal terms exists with educational practitioners and researchers.**	❑	❑	❑	❑	❑	❑	❑
19.e.	**There are many facilities for equal cooperation between the educational practitioners and researchers.**	❑	❑	❑	❑	❑	❑	❑
19.f.	**Current educational research could contribute much more to the field than is generally assumed.**	❑	❑	❑	❑	❑	❑	❑
19.g.	**Educational research contributes much less to the field than is generally assumed, even when it continues to develop and the results are used optimally.**	❑	❑	❑	❑	❑	❑	❑

Use of Educational Research

These questions are intended to help us better understand different aspects of how educators use educational research results.

20. **Please select the option that most accurately describes the frequency with which you seek out educational research.**

- ❑ **Daily**
- ❑ **Weekly**
- ❑ **Bi-weekly**
- ❑ **Monthly**
- ❑ **Quarterly**
- ❑ **Annually**
- ❑ **Other**

20.a. **Please specify 'Other':**

_____
_____
_____

Shkedi, A. (1998). Teachers' attitudes towards research: A challenge for qualitative researchers. *Qualitative Studies in Education, 2(4),* 559-577.

21. **Mark each type of literature you read.**

- ❑ **Didactic Literature (ex: teaching strategies from commercial publications)**
- ❑ **Pedagogic Literature (ex: articles containing implications for the field)**
- ❑ **Case Literature (ex: vignette of teacher or student experience)**

- ❑ **Subject-Matter Literature (ex: primary source information)**
- ❑ **General Education Literature (ex: psychology)**
- ❑ **Research Literature (ex: academic journal)**
- ❑ **General News Media (ex: newspapers)**
- ❑ **None of the above**
- ❑ **Other**

21.a. **Please specify 'Other':**

_____
_____
_____

Use of Educational Research

Shkedi, A. (1998). Teachers' attitudes towards research: A challenge for qualitative researchers. *Qualitative Studies in Education, 2(4),* 559-577.

Vanderlinde, R., & van Braak, J. (2010). The gap between educational research and practice: Views of teachers, school leaders, intermediaries and researchers. *British Eductional Research Journal, 36(2),* 299-316.

22. **Select all of the factors that prevent you from reading educational research.**

- ❑ **Not useful**
- ❑ **Not enough time**
- ❑ **Lack of trust in studies**
- ❑ **Lack of understanding**
- ❑ **Not available**
- ❑ **Hard to search**
- ❑ **Other**

22.a. **Please specify 'Other':**

_____
_____
_____

Shkedi, A. (1998). Teachers' attitudes towards research: A challenge for qualitative researchers. *Qualitative Studies in Education, 2(4),* 559-577.

Vanderlinde, R., & van Braak, J. (2010). The gap between educational research and practice: Views of teachers, school leaders, intermediaries and researchers. *British Eductional Research Journal, 36(2),* 299-316.

23. Select all of the factors that motivate you to read educational research.

- ❑ Course requirements for a degree
- ❑ Interested in expanding professional knowledge
- ❑ Interested in solving a professional challenge
- ❑ Job requirements for professional development
- ❑ Other

23.a. Please specify 'Other':

_____
_____
_____

Use of Educational Research

Short, B.G., & Szabo, M. (1974). Secondary school teachers' knowledge of and attitudes toward educational research. *The Journal of Experimental Education, 43(1),* 75-78.

24. When was the last time you took a course in educational research, measurement, or statistics?

- ❑ Never
- ❑ Within the past year
- ❑ 2 - 3 years ago
- ❑ 4 - 5 years ago
- ❑ More than five years ago

Short, B.G., & Szabo, M. (1974). Secondary school teachers' knowledge of and attitudes toward educational research. *The Journal of Experimental Education, 43(1),* 75-78.

25. When was the last time you participated in a research study of any kind?

- ❑ Never
- ❑ Within the past year
- ❑ 2 - 3 years ago
- ❑ 4 - 5 years ago
- ❑ More than five years ago

Use of Educational Research

26. What role(s) did you play in the research in which you did participate? *(Check all that apply.)*

- ❑ **Consumer: I acted as an interested user, seeking information in the research literature.**
- ❑ **Participant: I acted as a participant in a study (e.g., interview, focus group, survey, etc.).**
- ❑ **Initiator: I acted as a primary investigator, lead researcher, or research team member.**

Use of Educational Research

Ekiz, D. (2006). Primary school teachers' attitudes towards educational research. *Educational Sciences: Theory & Practice, 6(2),* 395-402.

27. What is your level of interest in designing and executing an educational research study?

- ❑ **Not interested at all**
- ❑ **Somewhat interested**
- ❑ **Extremely interested**

Ekiz, D. (2006). Primary school teachers' attitudes towards educational research. *Educational Sciences: Theory & Practice, 6(2),* 395-402.

28. What is your level of interest in working with a researcher to design and execute an educational study?

- ❑ **Not interested at all**
- ❑ **Somewhat interested**
- ❑ **Extremely interested**

Use of Educational Research

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

29. Which issues would you like to see researched in the near future?

- ❑ **Identifying learning objectives**
- ❑ **Literacy**
- ❑ **Numeracy**
- ❑ **Gender**
- ❑ **Subject knowledge and effective teaching**
- ❑ **Effective teaching of specific subjects**

- ❑ **Information and Communications Technology and Pedagogy**
- ❑ **Pupil / teacher interaction**
- ❑ **Comparison of different teaching strategies**
- ❑ **Models of effective classroom teacher behavior**
- ❑ **Effective whole class teaching**
- ❑ **Improving questioning techniques**
- ❑ **Improving classroom language**
- ❑ **Effective use of classroom support**
- ❑ **Strategies for teaching different ability groups effectively**
- ❑ **Improving motivation / tackling disengagement**
- ❑ **Understanding power relations within classrooms**
- ❑ **Developing learning in manageable steps**
- ❑ **Management of children's learning performance**
- ❑ **Helping pupils to work effectively with others**
- ❑ **Helping pupils hypothesize**
- ❑ **Helping pupils to conceptualize**
- ❑ **Developing creative thinking**
- ❑ **Helping pupils to handle information**
- ❑ **Other**

29.a. **Please specify 'Other':**

_____
_____
_____

Use of Educational Research

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

Which do you rate as the most urgent issue? *(Rate <u>only</u> your top 3 priorities. Note: You can only use each number once in your ranking.)*

30.a.	**Identifying learning objectives**	_____
30.b.	**Literacy**	_____
30.c.	**Numeracy**	_____
30.d.	**Gender**	_____
30.e.	**Subject knowledge and effective teaching**	_____
30.f.	**Effective teaching of specific subjects**	_____
30.g.	**Information and Communications Technology and Pedagogy**	_____
30.h.	**Pupil / teacher interaction**	_____
30.i.	**Comparison of different teaching strategies**	_____
30.j.	**Models of effective classroom teacher behavior**	_____

30.k.	**Effective whole class teaching**	_____
30.l.	**Improving questioning techniques**	_____
30.m.	**Improving classroom language**	_____
30.n.	**Effective use of classroom support**	_____
30.o.	**Strategies for teaching different ability groups effectively**	_____
30.p.	**Improving motivation / tackling disengagement**	_____
30.q.	**Understanding power relations within classrooms**	_____
30.r.	**Developing learning in manageable steps**	_____
30.s.	**Management of children's learning performance**	_____
30.t.	**Helping pupils to work effectively with others**	_____
30.u.	**Helping pupils hypothesize**	_____
30.v.	**Helping pupils to conceptualize**	_____
30.w.	**Developing creative thinking**	_____
30.x.	**Helping pupils to handle information**	_____

Value and Impact of Educational Research

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

31. To what extent do you consider the findings of any research?

- ❑ **Never**
- ❑ **Hardly Ever**
- ❑ **Occasionally**
- ❑ **Frequently**
- ❑ **Always**

Value and Impact of Educational Research

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

32. Please briefly list the researchers and / or research findings that have influenced you for the better as an educator.

_____
_____
_____
_____
_____
_____
_____
_____

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

33. Please describe at least one observable change you made to your practice that was a direct result of this educational research.

_____
_____
_____
_____
_____
_____
_____
_____

Value and Impact of Educational Research

Torbay Council. (2005). Approaches to measuring the impact of professional development. Retrieved from http://www.torbay.gov.uk/approaches-to-measuring-the-impact-of-pd-july05.pdf

34. In which of the following activities do you engage after reading educational research?

- ❑ **Initiate discussion with other staff**
- ❑ **Co-plan with other teachers**
- ❑ **Modify lesson plans**
- ❑ **Redesign instruction**
- ❑ **Collect new types of assessment data**
- ❑ **Grade student work differently**
- ❑ **Self-evaluate or reflect on practice**
- ❑ **Keep a journal**
- ❑ **Post to a blog or an online community**
- ❑ **Design professional development**
- ❑ **Purchase new materials**
- ❑ **Discuss findings with parents**
- ❑ **None of the above**

Value and Impact of Educational Research

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

Here are some statements about educational research and the teacher's role. Please give your opinion by selecting the best description of value.

The evidence of research is of value to teachers if...

		Essential	Important	Helpful	Not Important	Of No Value
35.a.	It demonstrates effective teaching and learning	❑	❑	❑	❑	❑
35.b.	It focuses on classroom actions	❑	❑	❑	❑	❑
35.c.	It focuses on the details of teacher-pupil interaction	❑	❑	❑	❑	❑
35.d.	It tackles specific aspects of teaching and learning	❑	❑	❑	❑	❑
35.e.	It focuses on teacher subject knowledge	❑	❑	❑	❑	❑
35.f.	It focuses on teacher beliefs	❑	❑	❑	❑	❑
35.g.	It provides clear examples of teachers and pupils at work in classrooms	❑	❑	❑	❑	❑
35.h.	It makes clear that teachers will need to interpret findings in the context of their own situation	❑	❑	❑	❑	❑
35.i.	It is subject specific	❑	❑	❑	❑	❑
35.j.	It is capable of being generalized	❑	❑	❑	❑	❑
35.k.	It provides evidence of learning gain	❑	❑	❑	❑	❑
35.l.	It shows teachers how to assess themselves effectively	❑	❑	❑	❑	❑
35.m.	Teachers, themselves, helped identify the research questions	❑	❑	❑	❑	❑
35.n.	Teachers, themselves, have adequate research skills	❑	❑	❑	❑	❑
35.o.	Teachers, themselves, helped design the research project	❑	❑	❑	❑	❑
35.p.	Teachers, themselves, helped interpret the research data	❑	❑	❑	❑	❑

35.q.	**Teachers, themselves, helped interpret the findings**	❑	❑	❑	❑	❑
35.r.	**Teachers, themselves, helped prepare the research summaries**	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

The next ten screens all contain questions related to credibility, trustworthiness, and qualifications.

Please rate each source of educational research according to EASE-OF-ACCESS.

		Easy to Access	Somewhat Easy to Access	Neutral	Somewhat Difficult to Access	Difficult to Access
36.a.	**Newspapers**	❑	❑	❑	❑	❑
36.b.	**Television**	❑	❑	❑	❑	❑
36.c.	**Books**	❑	❑	❑	❑	❑
36.d.	**Research Journals**	❑	❑	❑	❑	❑
36.e.	**In-Service Trainings**	❑	❑	❑	❑	❑
36.f.	**Courses for Further Study**	❑	❑	❑	❑	❑
36.g.	**Other Teachers**	❑	❑	❑	❑	❑
36.h.	**Websites**	❑	❑	❑	❑	❑
36.i.	**Support Materials from Educational Products**	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
This source is QUALIFIED to provide information about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
37.a.	**Newspapers**	❑	❑	❑	❑	❑
37.b.	**Television**	❑	❑	❑	❑	❑
37.c.	**Books**	❑	❑	❑	❑	❑
37.d.	**Research Journals**	❑	❑	❑	❑	❑
37.e.	**In-Service Trainings**	❑	❑	❑	❑	❑
37.f.	**Courses for Further Study**	❑	❑	❑	❑	❑

37.g.	**Other Teachers**	❑	❑	❑	❑	❑
37.h.	**Websites**	❑	❑	❑	❑	❑
37.i.	**Support Materials from Educational Products**	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
This source can be TRUSTED to PROVIDE FACTUAL INFORMATION about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
38.a.	**Newspapers**	❑	❑	❑	❑	❑
38.b.	**Television**	❑	❑	❑	❑	❑
38.c.	**Books**	❑	❑	❑	❑	❑
38.d.	**Research Journals**	❑	❑	❑	❑	❑
38.e.	**In-Service Trainings**	❑	❑	❑	❑	❑
38.f.	**Courses for Further Study**	❑	❑	❑	❑	❑
38.g.	**Other Teachers**	❑	❑	❑	❑	❑
38.h.	**Websites**	❑	❑	❑	❑	❑
38.i.	**Support Materials from Educational Products**	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
This source is CONCERNED with the STATE OF PUBLIC EDUCATION.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
39.a.	**Newspapers**	❑	❑	❑	❑	❑
39.b.	**Television**	❑	❑	❑	❑	❑
39.c.	**Books**	❑	❑	❑	❑	❑
39.d.	**Research Journals**	❑	❑	❑	❑	❑
39.e.	**In-Service Trainings**	❑	❑	❑	❑	❑
39.f.	**Courses for Further Study**	❑	❑	❑	❑	❑
39.g.	**Other Teachers**	❑	❑	❑	❑	❑

39.h.	**Websites**	❑	❑	❑	❑	❑
39.i.	**Support Materials from Educational Products**	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
This source is an EXPERT in educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
40.a.	**Newspapers**	❑	❑	❑	❑	❑
40.b.	**Television**	❑	❑	❑	❑	❑
40.c.	**Books**	❑	❑	❑	❑	❑
40.d.	**Research Journals**	❑	❑	❑	❑	❑
40.e.	**In-Service Trainings**	❑	❑	❑	❑	❑
40.f.	**Courses for Further Study**	❑	❑	❑	❑	❑
40.g.	**Other Teachers**	❑	❑	❑	❑	❑
40.h.	**Websites**	❑	❑	❑	❑	❑
40.i.	**Support Materials from Educational Products**	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
This source can be TRUSTED to PRESENT RELIABLE INFORMATION about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
41.a.	**Newspapers**	❑	❑	❑	❑	❑
41.b.	**Television**	❑	❑	❑	❑	❑
41.c.	**Books**	❑	❑	❑	❑	❑
41.d.	**Research Journals**	❑	❑	❑	❑	❑
41.e.	**In-Service Trainings**	❑	❑	❑	❑	❑
41.f.	**Courses for Further Study**	❑	❑	❑	❑	❑
41.g.	**Other Teachers**	❑	❑	❑	❑	❑
41.h.	**Websites**	❑	❑	❑	❑	❑
41.i.	**Support Materials from Educational Products**	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
This source is CONCERNED with MAKING PROFITS.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
42.a.	Newspapers	❑	❑	❑	❑	❑
42.b.	Television	❑	❑	❑	❑	❑
42.c.	Books	❑	❑	❑	❑	❑
42.d.	Research Journals	❑	❑	❑	❑	❑
42.e.	In-Service Trainings	❑	❑	❑	❑	❑
42.f.	Courses for Further Study	❑	❑	❑	❑	❑
42.g.	Other Teachers	❑	❑	❑	❑	❑
42.h.	Websites	❑	❑	❑	❑	❑
42.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
I believe this source PROVIDES UNBIASED INFORMATION about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
43.a.	Newspapers	❑	❑	❑	❑	❑
43.b.	Television	❑	❑	❑	❑	❑
43.c.	Books	❑	❑	❑	❑	❑
43.d.	Research Journals	❑	❑	❑	❑	❑
43.e.	In-Service Trainings	❑	❑	❑	❑	❑
43.f.	Courses for Further Study	❑	❑	❑	❑	❑
43.g.	Other Teachers	❑	❑	❑	❑	❑
43.h.	Websites	❑	❑	❑	❑	❑
43.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
I believe this source is KNOWLEDGEABLE about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
44.a.	Newspapers	❑	❑	❑	❑	❑
44.b.	Television	❑	❑	❑	❑	❑
44.c.	Books	❑	❑	❑	❑	❑
44.d.	Research Journals	❑	❑	❑	❑	❑
44.e.	In-Service Trainings	❑	❑	❑	❑	❑
44.f.	Courses for Further Study	❑	❑	❑	❑	❑
44.g.	Other Teachers	❑	❑	❑	❑	❑
44.h.	Websites	❑	❑	❑	❑	❑
44.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Kemp, D. G. (2007). *Source credibility and public information campaigns: The effect of audience evaluations of organizational sponsors on message acceptance.* (Masters Thesis). Retrieved from http://scholarcommons.usf.edu/etd/2241

Please rate your level of agreement with this statement:
I believe this source has SOMETHING TO GAIN about educational research.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
45.a.	Newspapers	❑	❑	❑	❑	❑
45.b.	Television	❑	❑	❑	❑	❑
45.c.	Books	❑	❑	❑	❑	❑
45.d.	Research Journals	❑	❑	❑	❑	❑
45.e.	In-Service Trainings	❑	❑	❑	❑	❑
45.f.	Courses for Further Study	❑	❑	❑	❑	❑
45.g.	Other Teachers	❑	❑	❑	❑	❑
45.h.	Websites	❑	❑	❑	❑	❑
45.i.	Support Materials from Educational Products	❑	❑	❑	❑	❑

Educational Research Results and Dissemination

Everton, T., Galton, M., & Pell, T. (2002). Educational research and the teacher. *Research Papers in Education, 17(4),* 373-401.

46. **What source do you RELY ON MOST FREQUENTLY for educational research? *(Check all that apply.)***

- ❑ **Newspapers**
- ❑ **Television**
- ❑ **Books**
- ❑ **Research Journals**
- ❑ **In-Service Trainings**
- ❑ **Courses for Further Study**
- ❑ **Other Teachers**
- ❑ **Websites**
- ❑ **Support Materials from Educational Products**
- ❑ **Other**

46.a. **Please specify 'Other':**

_____
_____
_____

47. **What is your overall level of interest in educational research?**

- ❑ **Extremely interested**
- ❑ **Moderately interested**
- ❑ **Neutral**
- ❑ **Slightly interested**
- ❑ **Not interested at all**

Contact Information

Although your responses will remain anonymous, it is necessary for us to collect preferred and accurate contact information in the event you qualify for the honorarium. Individuals who fill out the survey will be randomly entered to receive a gift card for $25 or to win an iPod.

If, under state or local law or the policies of your employer, you are unable to receive an honorarium as described above, or if you wish not to receive such an honorarium in any event, you may leave this information blank. In that case your responses to the survey will still be tabulated, and we thank you for your participation, but you will be ineligible for the honorarium. By completing the contact information below, you certify that your receipt of the honorarium described above will not violate any government ethics or other applicable laws or regulations or any policy of your employer.

Please provide:

48.a. **First Name** _____

48.b. **Last Name** _____

48.c. **Street Address** _____

48.d. **Apartment Number or P.O. Box** _____

48.e. **City** _____

48.f. **State** _____

48.g. **Zip Code** _____

48.h. **E-mail Address** _____

48.i. **Phone Number** _____
_____
_____
_

Thank you very much for taking our survey. Press the 'Submit' arrow to send your response and please be patient while the survey processes.

APPENDIX G

IRB APPROVAL

ASU Knowledge Enterprise Development

Office of Research Integrity and Assurance

To:	Wilhelmina Savenye ED 438E (F
From:	Mark Roosa, Chair Soc Beh IRB
Date:	12/06/2012
Committee Action:	**Exemption Granted**
IRB Action Date:	12/06/2012
IRB Protocol #:	1212008590
Study Title:	Educational Research in the United States: A survey Study of k - 12 Teachers' Perceptions Regardi Conceptions, Use, Impact, and Results

The above-referenced protocol is considered exempt after review by the Institutional Review Board pursuant to Federal regulations, 45 CFR Part 46.101(b)(2) .

This part of the federal regulations requires that the information be recorded by investigators in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects. It is necessary that the information obtained not be such that if disclosed outside the research, it could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.

You should retain a copy of this letter for your records.

APPENDIX H

MATRIX

The following matrix is intended to show the alignment of all elements in the study design. A brief description of each of the nine columns is below:
Survey Section: This column corresponds to the number in the actual participant survey section
Section Title: This column corresponds to the title of the survey section as it appeared to the participant
Survey Question Number: This is the actual number of the item in the participant survey
Survey Question: This is the actual question or prompt in the participant survey
Question Reference: This indicates a reference to the literature when a question is either based upon or copied from previous work
Outcome Variable: This column provides the full name of the variable as referenced in the study
Predictor Variable: This column provides the full name of the variable as referenced in the study
Construct Code: This column provides the code for either the outcome variable or the predictor variable as it was labeled in SPSS
Research Question (RQ): This column aligns the aforementioned columns to the research study questions

Survey Section	Section Title	Survey Question Number	Survey Question	Question Reference	Criterion Variable	Predictor Variable	Construct Code	RQ
I.	Informed Consent	1	By typing your name below (although your responses will remain anonymous), you are giving your consent to participate in the study described above.	N.A.	N.A.	N.A.	N.A.	N.A.
II.	General Demographic Information	2	Select your gender.	N.A.	N.A.	Sex	SEX	ALL
II.	General Demographic Information	3	Select your current age.	Everton, T., Galton, M., & Pell, T. (2002).	N.A.	Age	AGE	ALL
II.	General Demographic Information	4	Please select the state in which you currently work.	N.A.	N.A.	Geographic Location	GEO	ALL
II.	General Demographic Information	5	Please type your actual job title (ex: 3rd Grade Teacher, High School Biology Teacher, etc.). Please list all.	N.A.	N.A.	N.A.	N.A.	ALL
III.	Teacher Demographic Information	6	Select your highest completed post-graduate qualification.	Everton, T., Galton, M., & Pell, T. (2002).	N.A.	Post-Graduate Certification	POSTGRD	ALL
III.	Teacher Demographic Information	7	Select the number of years of teaching experience.	Everton, T., Galton, M., & Pell, T. (2002).	N.A.	Years of Experience	EXP	ALL
III.	Teacher Demographic Information	8	Select the grades for which you have taught at least one year, not including student teaching. (Check all that apply).	N.A.	N.A.	N.A.	N.A.	ALL
III.	Teacher Demographic Information	9	Select the grade(s) you are currently teaching. (Check all that apply).	N.A.	N.A.	Grade Level	N.A.	ALL
III.	Teacher Demographic Information	10	Select the statement that best describes your experience.	N.A.	N.A.	Grade Level	GL	ALL
III.	Teacher Demographic Information	11	Select your area of major teaching responsibility.	Short, B.G., & Szabo, M. (1974).	N.A.	Subject Area Expertise	N.A.	ALL
III.	Teacher Demographic Information	12	In what subject area(s) do you feel have the most teaching expertise? (Check all that apply).	N.A.	N.A.	Subject Area Expertise	SUBJ	ALL

Survey Section	Section Title	Survey Question Number	Survey Question	Question Reference	Outcome Variable	Predictor Variable	Construct Code	RQ
IV.	Purpose of Research	13	Select all of the purposes of educational research that you consider to be essential.	Johnson, B., & Christensen, L. (2008). Gall, M.D., Gall, J.P., & Borg, W.R. (2007).	Purpose	N.A.	AIM	Q1 Given the five objectives of educational research (as defined by Johnson and Christiansen and Gall et al.), how do PRE-K-12 U.S. elementary teachers and secondary teachers rank these relative aims?
IV.	Purpose of Research	14	Please rank the purposes of educational research from one to five according to your beliefs about importance (1 being MOST important and 5 being LEAST important). (Note: You can only use *each number once in your ranking).*	N.A.	Purpose	N.A.	AIM	Q1
IV.	Purpose of Research	15	What, in your opinion, is the most compelling research method?	N.A.	Purpose	N.A.	N.A.	Q1
V.	Research and Practice	16	Please select your level of agreement with each the following statements.	Broekkamp, H., & van Hout-Wolters, B. (2007).	Relationship Between Theory and Practice	N.A.	GAP	Q2 What are the differences among PRE-K-12 U.S. elementary teachers' and secondary teachers' conceptions regarding the relationship between educational research and practice?
V.	Research and Practice	17	Please select your level of agreement with each the following statements.	Broekkamp, H., & van Hout-Wolters, B. (2007).	Relationship Between Theory and Practice	N.A.	GAP	Q2
V.	Research and Practice	18	Please select your level of agreement with each the following statements.	Broekkamp, H., & van Hout-Wolters, B. (2007).	Relationship Between Theory and Practice	N.A.	GAP	Q2
V.	Research and Practice	19	Please select your level of agreement with each the following statements.	Broekkamp, H., & van Hout-Wolters, B. (2007).	Relationship Between Theory and Practice	N.A.	GAP	Q2
VI.	Use of Educational Research	20	Please select the option that most accurately describes the frequency with which you seek out educational research.	N.A.	Use of Educational Research	N.A.	USE FREQ	Q3 What types of educational research do PRE-K-12 U.S. elementary teachers and secondary teachers use, including types of literature and factors that prevent as well as motivate use?

Survey Section	Section Title	Survey Question Number	Survey Question	Question Reference	Criterion Variable	Predictor Variable	Construct Code	RQ
VI.	Use of Educational Research	21	Mark each type of literature you read.	Shkedi, A. (1998).	Use of Educational Research	N.A.	USE TYPE	Q3
VI.	Use of Educational Research	22	Select all of the factors that prevent you from reading educational research.	Shkedi, A. (1998). Vanderlinde & van Braak (2010).	Use of Educational Research	N.A.	USE	Q3
VI.	Use of Educational Research	23	Select all of the factors that motivate you to read educational research.	Shkedi, A. (1998). Vanderlinde & van Braak (2010).	Use of Educational Research	N.A.	USE	Q3
VI.	Use of Educational Research	24	When was the last time you took a course in educational research, measurement, or statistics?	Short, B.G., & Szabo, M. (1974).	N.A.	Recency of Coursework	RECCW	ALL
VI.	Use of Educational Research	25	When was the last time you participated in a research study of any kind?	Short, B.G., & Szabo, M. (1974).	N.A.	Research Involvement	INVOLV REC	Q3
VI.	Use of Educational Research	26	What role(s) did you play in the research in which you did participate? (Check all that apply.)	N.A.	N.A.	Research Involvement	INVOLV ROLE	Q3
VI.	Use of Educational Research	27	What is your level of interest in designing and executing a research study?	Ekiz, D. (2006).	N.A.	Research Involvement	INVOLV	Q3
VI.	Use of Educational Research	28	What is your level of interest in working with a researcher to design and execute a study?	Ekiz, D. (2006).	N.A.	Research Involvement	INVOLV	Q3
VI.	Use of Educational Research	29	Which issues would you like to see researched in the near future?	Everton, T., Galton, M., & Pell, T. (2002).	Topics	INTEREST	INTEREST	Q5 What topics do PRE-K-12 U.S. elementary teachers and secondary teachers select as important and valuable in educational research?
VI.	Use of Educational Research	30	Which do you rate as the most urgent issue? *(Rate only your top 3 priorities. Note: You can only use each number once in your ranking.)*	Everton, T., Galton, M., & Pell, T. (2002).	Topics	IMPORTANCE	IMPORTANCE	Q5 What topics do PRE-K-12 U.S. elementary teachers and secondary teachers select as important and valuable in educational research?

Survey Section	Section Title	Survey Question Number	Survey Question	Question Reference	Outcome Variable	Predictor Variable	Construct Code	RQ
VII.	Value and Impact of Educational Research	31	To what extent do you consider the findings of any research?	Everton, T., Galton, M., & Pell, T. (2002).	Impact of Educational Research	N.A.	IMPACT	Q4 What are the differences among PRE-K-12 U.S. elementary teachers' and secondary teachers' perceptions regarding the impact of educational research?
VII.	Value and Impact of Educational Research	32	Please briefly list the researchers and/or research findings that have influenced you for the better as an educator.	Everton, T., Galton, M., & Pell, T. (2002).	Impact of Educational Research	N.A.	N.A.	Q4
VII.	Value and Impact of Educational Research	33	Please describe at least one observable change you made to your practice that was a direct result of this educational research.	Everton, T., Galton, M., & Pell, T. (2002).	Impact of Educational Research	N.A.	N.A.	Q4
VII.	Value and Impact of Educational Research	34	In which of the following activities do you engage after reading educational research?	Torbay. (2005).	Impact of Educational Research	N.A.	N.A.	Q4
VII.	Value and Impact of Educational Research	35	Here are some statements about educational research and the teacher's role. Please give your opinion by selecting the best description of value. The evidence of research is of value to teachers if...	Everton, T., Galton, M., & Pell, T. (2002).	Value of Educational Research	N.A.	VALUE	Q5 What topics do PRE-K-12 U.S. elementary teachers and secondary teachers select as important and valuable in educational research?
VIII.	Educational Research Results and Dissemination	36	Please rank each source of educational research according to ease-of-access.	N.A.	Access	N.A.	ACCESS	Q6 What are the primary sources PRE-K-12 U.S. elementary teachers and secondary teachers use to access educational research and what are their perceptions of access and credibility?
VIII.	Educational Research Results and Dissemination	37	Please rate your level of agreement with this statement: This source is qualified to provide information about educational research.	Kemp, D.G. (2007).	Credibility (qualified/reliable)	N.A.	CRED	Q6
VIII.	Educational Research Results and Dissemination	38	Please rate your level of agreement with this statement: This source can be trusted to provide factual information about educational research.	Kemp, D.G. (2007).	Credibility (trustworthiness)	N.A.	CRED	Q6
VIII.	Educational Research Results and Dissemination	39	Please rate your level of agreement with this statement: This source is concerned with the state of public education.	Kemp, D.G. (2007).	Credibility (intent)	N.A.	CRED	Q6
VIII.	Educational Research Results and Dissemination	40	Please rate your level of agreement with this statement: This source is an expert in educational research.	Kemp, D.G. (2007).	Credibility (qualified/reliable)	N.A.	CRED	Q6

Survey Section	Section Title	Survey Question Number	Survey Question	Question Reference	Criterion Variable	Predictor Variable	Construct Code	RQ
VIII.	Educational Research Results and Dissemination	41	Please rate your level of agreement with this statement: This source can be trusted to present reliable information about educational research.	Kemp, D.G. (2007).	Credibility (trustworthiness)	N.A.	CRED	Q6
VIII.	Educational Research Results and Dissemination	42	Please rate your level of agreement with this statement: This source is concerned with making profits.	Kemp, D.G. (2007).	Credibility (intent)	N.A.	CRED	Q6
VIII.	Educational Research Results and Dissemination	43	Please rate your level of agreement with this statement: I believe this source provides unbiased information about educational research.	Kemp, D.G. (2007).	Credibility (trustworthiness)	N.A.	CRED	Q6
VIII.	Educational Research Results and Dissemination	44	Please rate your level of agreement with this statement: I believe this source is knowledgeable about educational research.	Kemp, D.G. (2007).	Credibility (qualified/reliable)	N.A.	CRED	Q6
VIII.	Educational Research Results and Dissemination	45	Please rate your level of agreement with this statement: I believe this source has something to gain from publishing this information.	Kemp, D.G. (2007).	Credibility (intent)	N.A.	CRED	Q6
VIII.	Educational Research Results and Dissemination	46	What source do you rely on most frequently for educational research? (Check all that apply.)	Everton, T., Galton, M., & Pell, T. (2002).	Source	N.A.	SOURCE	Q6
VIII.	Educational Research Results and Dissemination	47	What is your overall level of interest in educational research?	N.A.	N.A.	Interest	N.A.	All
IX.	Contact Information	48	Please provide: First Name, Last Name, Street Address, Apartment No. or P.O. Box, City, State, Zip Code, E-mail address, Phone Number	N.A.	N.A.	N.A.	N.A.	N.A.

APPENDIX I

DATA ANALYSIS PLAN

Data Source and Analysis

In order to have a representative sample, data was collected from 49 states and Washington, D.C. Teachers in Texas were not recruited due to restrictions in the state regarding honorariums.

Overall Sample

Data reported will be on four elements:

1. database size (4,998)
2. recruiting emails (3,908)
3. completed surveys (428)
4. final sample size (400)

The data analysis strategy will combine exploratory, descriptive and inferential data analysis. The results for exploratory and descriptive statistics will usually be provided for the whole sample, elementary teachers and secondary teachers.

Exploratory Data Analysis (EDA):

Exploratory data analysis will be used to investigate the important features of the data set by utilizing both graphical and numerical representations. This will be useful to determine the problematic areas such as outliers in the data, source of missing data, and how the distributions of key variables such as years of experience and grade level experience will influence the appropriate analysis related to each research question.

Descriptive Data Analysis (DDA):

The univariate and bivariate analysis will be reported. The univariate analysis will be used to describe the distribution, central tendency and the variability of the sample demographics and the professional characteristics of the respondents. Bivariate analysis will be used to evaluate if demographic variables are useful in predicting outcomes associated with aim, conceptions of a gap, use, impact, and sources.

Demographics information was collected on the following variables:

1. gender (male/female)
2. geographic location (49 states plus Washington, D.C.)
3. age (8 categories) [example categories: 20-24 yrs, 25-34 yrs, 35-44 yrs, 45-49 yrs, 50-54 yrs, 55-59 yrs, 60-64 yrs, 65 or more]

Professional characteristics of respondents are collected on the following variables:

1. years of experience (4 categories)
2. grade level expertise (3 categories)
3. subject-matter expertise (7 categories)
4. post-graduate degrees/certifications (5 categories)
5. recency of coursework related to educational research (5 categories)
6. overall interest in educational research (5 categories)

Research Questions

Six research questions were developed to investigate the perceptions of pre-K through 12 U.S. teachers regarding educational research. The following section outlines planned analyses by each research question.

- Descriptive statistics will generally be presented for three groups: overall sample, elementary teachers, and secondary teachers
- Analysis of variance (ANOVA) methods will be used to compare the mean differences for elementary and secondary level teachers for the variables of interest when the assumptions of ANOVA are met. If the assumptions are not met for ANOVA, we will use two-way contingency table analysis and chi-square tests.
- Multiple linear regression analyses will be used to answer the research questions that are listed above and aforementioned demographic variables will be used as predictors in the model (see immediately below for an example exploratory model and variable descriptions)

Example of Exploratory Model

I will use multiple regression modeling to explore additional aspects of the research questions. I will use multiple regression to account for the unique variance attributable to designated predictor and control variables and assess the correlations with the outcomes.

Outcome variables. One outcome variable of interest associated with assessing educational research in this study is ***gap*** (GAP). Gap will be defined as the perceptions of the relationship between theory and practice (i.e. problems that constitute a research gap, causes that relate to research, cause that relate to the use of research, and causes that relate to research and the use of research). This outcome variable will be scored based on teachers' responses. The survey response data will be used to provide teachers'

perception data regarding agreement level on a 7-point Likert scale across 24 items. Each of the 24 items will be coded from 1 to 7 (with 1 corresponding to Strongly Disagree, 2 corresponding to Disagree, 3 corresponding to Somewhat Disagree, 4 corresponding to Neutral, 5 corresponding to Somewhat Agree, 6 corresponding to Agree, and 7 corresponding to Strongly Agree).

Primary predictor variable. ***Grade level*** (GL) is the primary predictor variable and has two levels, elementary teacher or secondary teacher. Elementary teachers must currently be teaching pre-K through grade 8 and secondary teachers must currently be teaching grade 9 through grade 12. Status as an elementary or secondary teacher will be based on survey question ten (e.g., the majority of years of teaching experience).

Secondary predictor variables. There are three secondary predictor variables associated with assessing educational research in this study:

Years of experience (EXP) will be one of the predictors in my models in order to assess if it significantly affects the outcome variables. Years of experience will be coded from 1 to 4 (with 0 corresponding to 0-4 yrs, 1 corresponding to 5-9 yrs, 32 corresponding to 10-19 yrs, and 3 corresponding to 20+ yrs).

Recency of coursework (RECCW) will be one of the predictors in my models in order to assess if it significantly affects the outcome variables. Recency of coursework will be coded from 1 to 5 (with 1 corresponding to never, 2 corresponding to within the

past year, 3 corresponding to 2-3 years ago, 4 corresponding to 4-5 years ago, and 5 corresponding to more than five years ago).

Post-graduate certification (POSTGRD) will be one of the predictors in my models in order to assess if it significantly affects the outcome variables. No degree will be coded as 1, a Bachelor's degree will be coded as 2, some additional graduate coursework will be coded as a 3, a Master's degree will be coded as a 4, and a Doctoral degree will be coded as a 5.

Given the described outcomes, I plan to utilize a consistent and inclusive approach for studying the effects of the predictor and control variables. For example, for research question number two (i.e. What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' perceptions regarding the relationship between educational research and practice?) the hypothetical regression model is below, where $ß_0$ is the intercept and $ß_1$ represents the effect on perceptions of a gap due to the grade level of the teacher (elementary); $ß_2$ represents the grade level of the teacher (secondary); $ß_3$ represents the years of experience on gap (0-4 years); $ß_4$ represents the years of experience on gap (5-9 years);; $ß_5$ represents the effect of years of experience on gap (10-19); $ß_6$ represents the years of experience on gap (20+ years); $ß_7$ represents the effect of highest post-graduate qualification on gap (none); $ß_8$ represents the effect of highest post-graduate qualification on gap (Bachelor's); $ß_9$ represents the effect of highest post-graduate qualification on gap (some additional coursework); $ß_{10}$ represents the effect of highest post-graduate qualification on gap (Master's); $ß_{11}$ represents the effect of highest post-graduate qualification on gap (PhD); $ß_{12}$ represents the effect of

recency of coursework on gap (never); $ß_{13}$ represents the effect of recency of coursework on gap (within past year); $ß_{14}$ represents the effect of recency of coursework on gap (2-3 years); $ß_{15}$ represents the effect of recency of coursework on gap (within past 4-5 years); $ß_{16}$ represents the effect of recency of coursework on gap (5 or more years ago) and ε_i represents the residual.

$$GAP_i = ß_0 + ß_1 GLE_i + ß_2 GLS_i + ß_3 EXP0\text{-}4_i + ß_4 EXP5\text{-}9_i + ß_5 EXP10\text{-}19_i + ß_6 EXP20+_i + ß_7 POSTGRADNONE_i + ß_8 POSTGRADBAJ_i + ß_9 POSTGRADSO_i + ß_{10} POSTGRADMA_i + ß_{11} POSTGRADPH_i + ß_{12} RECCWNEV_i + ß_{13} RECCW1_i + ß_{14} RECCW2\text{-}3_i + ß_{15} RECCW4\text{-}5_i + ß_{16} RECCW5+_i (\varepsilon_i)$$

Purpose of Educational Research: Research Question 1: Given the five objectives of educational research (as defined by Johnson and Christiansen and Gall et al.), how do pre-K-12 U.S. elementary teachers and secondary teachers rank these relative aims? This research question will be answered using three survey items.

Table A

Survey items that will be used to answer the first research question

Item # in the Survey	Survey Question	Treatment of Variable			
		Categorical/ Continuous	Scale	Number of Categories	Data Analysis Plan
#13	Select all of the purposes of educational research that you consider to be essential.	Categorical	Nominal	5	Descriptives
#14	Please rank the purposes of educational research from one to five according to your beliefs about importance (1 being MOST important and 5 being LEAST important). (Note: You can only use *each number once in your ranking).*	Continuous	Ordinal	5	Descriptives
#15	What, in your opinion, is the most compelling research method?	Categorical	Nominal	3	Descriptives

Conceptions of Educational Research: Research Question 2: What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' perceptions regarding the relationship between educational research and practice? This research question will be answered using four survey items.

Table B

Survey items that will be used to answer the second research question

Survey Item #	Survey Question	Treatment of Variable			
		Categorical/ Continuous	Scale	Number of Categories	Data Analysis Plan
#16	Please select your level of agreement with each the following statements.	Continuous	Ordinal	5 (each on a 7 point Likert Scale)	Descriptives
					ANOVA
					MR
#17		Continuous	Ordinal	5 (each on a 7 point Likert Scale)	Descriptives
					ANOVA
					MR
#18		Continuous	Ordinal	5 (each on a 7 point Likert Scale)	Descriptives
					ANOVA
					MR
#19		Continuous	Ordinal	5 (each on a 7 point Likert Scale)	Descriptives
					ANOVA
					MR

Use of Educational Research: Research Question 3: What types of educational research do pre-K-12 U.S. elementary teachers and secondary teachers use, including types of literature and factors that prevent as well as motivate use? This research question will be answered using four survey items.

Table C

Survey items that will be used to answer the third research question

Survey Item #	Survey Question	Treatment of Variable			
		Categorical/ Continuous	Scale	Number of Categories	Data Analysis Plan
#20	Please select the option that most accurately describes the frequency with which you seek out educational research.	Categorical	Ordinal	10	Descriptives Chi-square
#21	Mark each type of literature you read.	Categorical	Nominal	9	Descriptives
#22	Select all of the factors that prevent you from reading educational research.	Categorical	Nominal	6	Descriptives
#23	Select all of the factors that motivate you to read educational research.	Categorical	Nominal	4	Descriptives

Attitudes Toward Research: Value and Impact Research Question 4: What are the differences among pre-K-12 U.S. elementary teachers' and secondary teachers' perceptions regarding the impact of educational research? This research question will be answered using four survey items.

Table D

Survey items that will be used to answer the fourth research question

Survey Item #	Survey Question	Treatment of Variable			
		Categorical/ Continuous	Scale	Number of Categories	Data Analysis Plan
#31	To what extent do you consider the findings of any research?	Continuous	Ordinal	5	Descriptives Chi-square
#32	Please briefly list the researchers and/or research findings that have influenced you for the better as an educator.	N.A. Qualitative			
#33	Please describe at least one observable change you made to your practice that was a direct result of this educational research.	N.A. Qualitative			
#34	In which of the following activities do you engage after reading educational research?	Categorical	Nominal	13	Descriptives

Attitudes Toward Research: Topics of Interest Research Question 5: What topics do pre-K-12 U.S. elementary teachers and secondary teachers select as important and valuable in educational research? This research question will be answered using three survey items.

Table E

Survey items that will be used to answer the fifth research question

Survey Item #	Survey Question	Treatment of Variable			
		Categorical/ Continuous	Scale	Number of Categories	Data Analysis Plan
#29	Which issues would you like to see researched in the near future?	Categorical	Nominal	25	Descriptives
#30	Which do you rate as the most urgent issue? *(Rate only your top 3 priorities. Note: You can only use each number once in your ranking.)*	Categorical	Nominal	24	Descriptives
#35	Here are some statements about educational research and the teacher's role. Please give your opinion by selecting the best description of value. The evidence of research is of value to teachers if...	Continuous	Ordinal	5	Descriptives ANOVA

Educational Research Results and Dissemination Research Question 6: What are the primary sources pre-K-12 U.S. elementary teachers and secondary teachers use to access educational research and what are their perceptions of access and credibility? This research question will be answered using eleven survey items.

Table F

Survey items that will be used to answer the sixth research question

Survey Item #	Survey Question		Treatment of Variable			
			Categorical/ Continuous	Scale	Number of Categories	Data Analysis Plan
#36	Please rank each source of educational research according to ease-of-access.		Continuous	Ordinal	9	Descriptives ANOVA
#37	Please rate your level of agreement with this statement:	This source is qualified to provide information about educational research.	Continuous	Ordinal	9	Descriptives ANOVA
#38		This source can be trusted to provide factual information about educational research.	Continuous	Ordinal	9	Descriptives ANOVA
#39		This source is concerned with the state of public education.	Continuous	Ordinal	9	Descriptives ANOVA
#40		This source is an expert in educational research.	Continuous	Ordinal	9	Descriptives ANOVA

Table F *continued*

Survey items that will be used to answer the sixth research question

Survey Item #	Survey Question		Treatment of Variable			
			Categorical/ Continuous	Scale	Number of Categories	Data Analysis Plan
#41	Please rate your level of agreement with these statements:	This source can be trusted to present reliable information about educational research.	Continuous	Ordinal	9	Descriptives ANOVA
#42		This source is concerned with making profits.	Continuous	Ordinal	9	Descriptives ANOVA
#43		I believe this source provides unbiased information about educational research.	Continuous	Ordinal	9	Descriptives ANOVA
#44		I believe this source is knowledgeable about educational research.	Continuous	Ordinal	9	Descriptives ANOVA
#45		I believe this source has something to gain from publishing this information.	Continuous	Ordinal	9	Descriptives ANOVA
#46	What source do you rely on most frequently for educational research? (Check all that apply.)		Categorical	Nominal	9	Descriptives ANOVA