SIGNIFICANCE

The Problem of Knowledge Utilization

The problem of knowledge utilization is complex. It has an important history, both in research and applications, with rapid and critical advancements in recent years. Foundational work in the field focused on the underutilization of social science research in social policy by exploring barriers to use in policymaking and local decision processes, and weak ties between researchers and practitioners (Backer, 1993; Broekkamp & Hout-Walters, 2007; Davies & Nutley, 2008; Landry, 2001). This historical line of research plays out in more contemporary dialogue around evidence-based practice and evidence-based decision-making in education, where policies to hold schools accountable for performance demand an increased role for scientific research in improvement efforts (Farley-Ripple, 2010; Hood, 2003).

In the 1970s and early 1980s, the National Institute of Education sponsored significant initiatives to bridge the gap between research-based knowledge and school practice, including the Expansion of ERIC and the Pilot State Dissemination Project, the National Diffusion Network, the Research Development, Dissemination and Utilization Project, and investigations of the dissemination and use of knowledge generated by the Regional Educational Laboratories. In the later 1980s and 1990s, however, much of this emphasis disappeared from federal priorities. Then, beginning with the *No Child Left Behind Act* of 2001 (NCLB) and reinforced by the *Education Sciences Reform Act* of 2002 (ESRA), the federal government established explicit expectations for the role of research in informing decisions about education programs, policies, and practice, and it also specified new expectations for what constituted research knowledge that was worth using. NCLB legislation went so far as to include in its definition of scientifically-based research "a preference for random-assignment experiments" in impact evaluations of programs or policies. Following this, ESRA established the Institute of Education Sciences (IES) which, under the leadership of Russ Whitehurst, began pushing the research community (i.e., through grants and contracts) to do more randomized experiments (Viadero, 2004). In 2002, IES established the What Works Clearinghouse (WWC), which reviews, critiques, and synthesizes evidence of impacts of education interventions. Although the WWC got off to a slow start (Viadero, 2006), it now includes hundreds of Intervention Reports and Practice Guides based on reviews of more than 6,000 studies. Now, IES is more than a decade into its effort to transform education research, and there are clear indications that the education research produced today is quite different from that of twenty years ago (NBES, 2008). Unfortunately, we don't know much about whether these changes have actually led schools to make better and more frequent use of research to inform their decisions.

Of course, the federal legislation did not focus solely on the production of published research; NCLB called for marked changes in school and district policies and practices. For example, the U.S. Department of Education's federal data reporting guidelines note that, "the accountability provisions included in the *No Child Left Behind Act* of 2001 (NCLB) significantly increased the urgency for states, local school district central offices, and schools to produce accurate, reliable, high-quality educational data."[1] Under NCLB, the use of scientifically based

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[1] http://www.ed.gov/policy/elsec/guid/standardsassessment/nclbdataguidance.doc

research should inform instructional decision-making as well as decisions about programs for school reform. Districts are expected to search for and interpret evidence about program effectiveness and select programs and practices that have been "clearly demonstrated to be effective through rigorous scientific research" (US DOE, 2002). In total, *NCLB* includes more than 100 references to the use of research (Hood, 2003).

Policy efforts to mandate research use are based on the premise that research can be used to support evidence-based practices, which in turn will improve education outcomes for students and ultimately, advance our communities and the nation. Although this theory of action has a clear logic, it is based on problematic assumptions about the nature of both research and decision-making. First, research as a form of evidence is not "value free" (Hood, 2003), but rather is valued and interpreted differently by different stakeholders in different contexts (e.g. Coburn, Toure, & Yamashita, 2009; Finnigan & Daly, 2014b; March, 1994). Complicating this further, research is often inconclusive or even contradictory: different studies produce disparate findings and there is often insufficient accumulation of evidence across contexts to determine the generalized effectiveness of a given solution (Broekkamp & Hout-Walters, 2007; Burkhardt & Schoenfeld, 2003; Davies & Nutley, 2008; Hood, 2003). Furthermore, there is evidence from previous studies that research is not "useable" without additional development and active efforts to disseminate it through active professional and interpersonal networks (Lindblom & Cohen, 1979; Havelock, et al., 1969; Louis & Dentler, 1988). Simply publishing an article in an academic journal is unlikely to transfer knowledge to practitioners. To do so requires results to be expressed in a form and a forum that will actually reach practitioners. As Burkhardt and Schoenfeld (2003) note, "Translating research into practice is a decidedly nontrivial task" (p. 4). And not only is the dissemination of research a problem, but the process of decision-making in education is complex—problems may be ill-structured; decision-makers may have varied goals; and participants may value forms of evidence other than research.

Thus the problem of knowledge utilization is not productively conceptualized as simply a problem of dissemination, nor a problem of merely increasing practitioner uptake. Rather, Lavis (2003) describes the challenge as developing a "decision-relevant culture" among researchers and a "research-attuned culture" among decision-makers. That is, the problem of knowledge utilization is dualistic in nature and must be addressed from two perspectives: that of researchers and that of practitioners.

The Center for Research Use in Education

To realize the potential for education research to improve teaching and learning, we need a better understanding of the activities that constitute research use as well as the factors and conditions that influence the practices of and connections between researchers and practitioners. We need to understand the process that flows ideally from problems of practice, to research, to incorporation of research into practice in order to identify the malleable factors (i.e., the potential points of intervention) that can be manipulated to improve the use of research in education practice. In response to the RFA for a research center on knowledge utilization, we propose the Center for Research Use in Education (CRUE). This Center will engage in a series of research studies that will (a) understand the nature and depth of research use in schools, (b) identify the factors in both the research and school communities and the relationships between them that hinder or facilitate research use, and (c) develop strategies to make more meaningful and impactful connections between research-based evidence and classroom practice. To spur these future efforts, the Center will also conduct a number of leadership and outreach activities to

engage research and practice communities, along with other relevant stakeholders, in efforts to promote the use of these tools in order to move research knowledge into practice.

The ultimate goal of the proposed Center is to expand the study of knowledge utilization and produce a more holistic picture of what drives research use, from the production of knowledge by researchers, to the application of research knowledge in local decision-making processes. To understand whether education research through the work and products of IES, its affiliated centers (e.g., the WWC), and its grantees and contractors is informing decisions at the school-level, we need to study the school-based **practitioner community,** the **research community** and the **connections between them**.

It is important to note that research conducted by CRUE will include local data use; however, the primary focus will be on research that is scientifically-based as defined by NCLB and research that meets the National Research Council's recommendations for principles for scientific inquiry in education (NRC, 2002). This does not imply a focus exclusively on experiments or even impact evaluations. On the contrary, our focus will be on all forms of scientifically-based research that "involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs" (NCLB, 2002, Title IX, Sec. 9101.37.A). As such, we may find that local data use is a prevalent, perhaps dominant form of scientifically based research used by schools. But that leaves in question the value of knowledge produced by the research community. Are the efforts and investments in independent education research (i.e., that conducted by academic researchers, think-tanks, etc.) failing to influence practice? If so, where are the disconnects?

The core team for CRUE includes top experts in the production and dissemination of research and top experts in the use of data and research evidence by schools and school leaders. The principal investigator, Henry May, has over 15 years of experience conducting and disseminating findings from impact evaluations of education programs and policies, including several large-scale randomized field trials. He also has extensive experience in psychometrics, including large-scale validation studies of education surveys and assessments. The co-principal investigator, Elizabeth Farley-Ripple, has been conducting mixed methods research on schools' use of data and research evidence for more than 10 years, and is an active leader in the state of Delaware promoting use of data and research evidence by schools and school leaders. The two PIs will be working closely with six senior co-investigators and consultants, two of which are former IES Commissioners and experts on the production and dissemination of research (Lynn Okagaki and Becka Maynard), and four of which are national experts on schools' and districts' use of data, research evidence, decision-making regarding instructional improvement (Ronald Gallimore, Karen Seashore Louis, Jonathan Supovitz, and Elliot Weinbaum). This core team represents a powerful mix of complementary expertise to support a comprehensive study of both researchers and practitioners—two communities that are too often disconnected even though they share a common goal to improve education policies, practices, and outcomes.

Conceptual Framework Underlying CRUE Activities

The work of the Center will be guided by the conceptual framework presented below. This framework is driven by two interconnected perspectives. First, research use is understood as a form of evidence-based practice (EBP). In the literature, EBP is typically defined as either a) the extent to which schools implement programs based on scientific research (e.g. are implementing a "proven" curriculum), or b) the practice of incorporating evidence, broadly

construed, into decision-making processes (Hood, 2003). While there is value in both perspectives, we adopt the latter, with particular interest in instrumental uses of research—situations in which practitioners can cite specific ways in which research evidence was used in decision-making. Additionally, our two-fold conceptual framework reflects the viewpoint that increasing research use in education decision-making is not achieved solely by finding better ways to disseminate research, nor by finding better ways to motivate practitioners to use research evidence. Rather, we hold that aspects of both the research and practice domains must be addressed to enhance the influence of education research on decision-making.

Figure 1 presents a detailed visualization of our conceptual framework. The horizontal arrow represents our conceptualization of research use, labeled "dimensions of depth". "Depth" is illustrated as a continuum inclusive of key dimensions of the practice of research use. The vertical arrow represents our approach to understanding the factors influencing use. Guided by early work on knowledge utilization, we draw on the "two-communities" metaphor to explore gaps in assumptions and perspectives between the research and practice communities.

Figure 1. Conceptual framework underlying CRUE
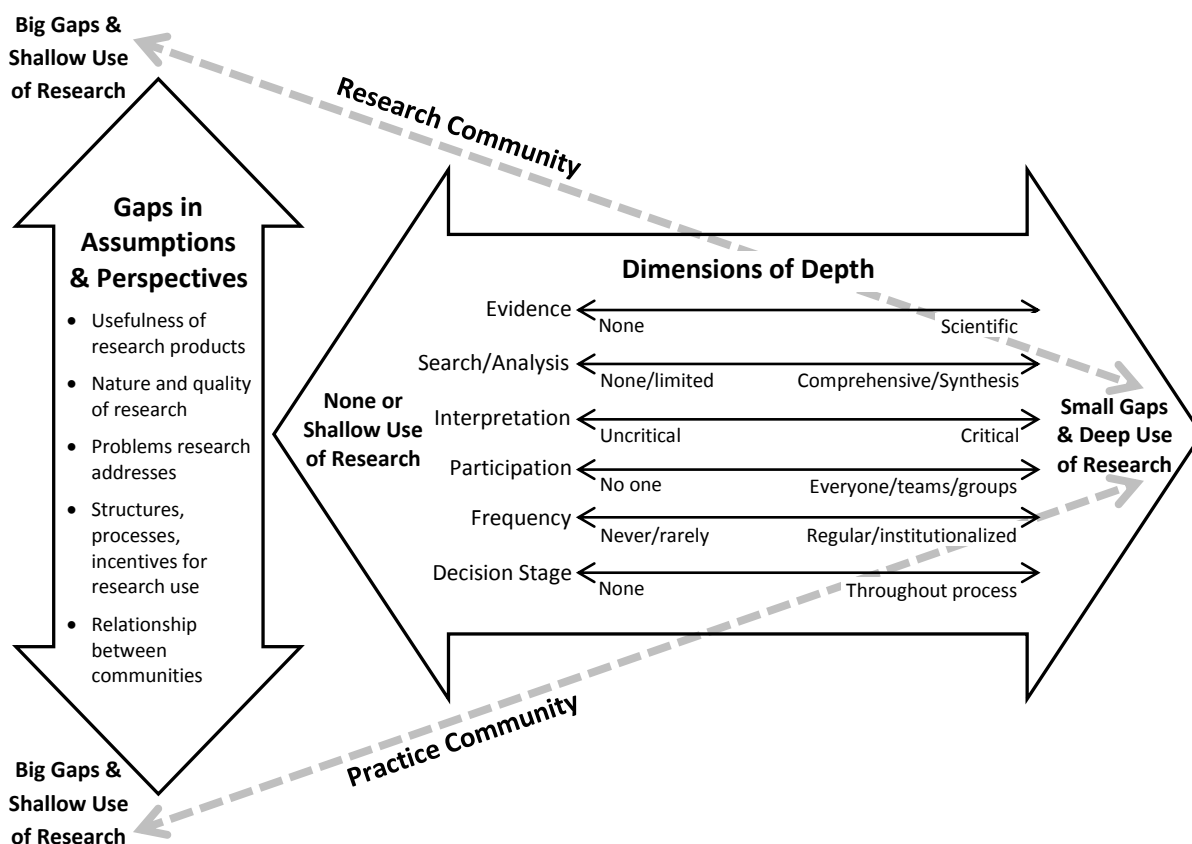
We hypothesize that where gaps between those communities are largest, we will see the least research use, or research use that lacks "depth", as indicated by the wide gap between the dotted lines indicating the two communities' assumptions and perspectives. Similarly, we hypothesize where those gaps are minimized (i.e., where the dotted lines converge on the right), we will see greater and deeper use of research. We imagine that these gaps are driven by both

characteristics of individuals and of their organizations. For example, a school's strong connections to the research community may be attributable to one school leader whose assumptions about research and evidence mirror those typically valued by researchers. It is our purpose to examine the extent to which research use is impacted by these differing assumptions, but also ***to identify potential practices and conditions which support interaction between the two communities*** – what Coburn and Stein (2010) refer to as "interactive space".

Below, we attend to each component of our framework in greater detail, providing theoretical and empirical underpinnings for the planned work of the Center.

Research community. The research community comprises two related populations: research producers and research brokers. The field of knowledge utilization has long recognized researchers in academic institutions, think-tanks, and other organizations. However, we hypothesize that the majority of research use will not result from direct interaction between school practitioners and researchers, but rather that the two will be linked through other what Scott and colleagues (2014) refer to as the intermediary sector. This sector consists of brokering institutions, dissemination outlets, funding organizations, advocacy groups, reform organizations, and other types of actors. These are considered *research brokers*, a narrower form of knowledge brokers (Ward, 2009) who are positioned at "the interface of the world of researchers and decision-makers" (p2).. The products and venues created by research brokers have greater value for reaching practitioners (Cooper et al., 2010; Massell et al., 2012; Rowan, 2002). For example, academic researchers typically publish their work in peer-reviewed research journals, yet most practitioners learn about research findings through coverage by practitioner-oriented periodicals (e.g., Education Week, Phi Delta Kappan) acting as brokers.

Accordingly, our conceptualization of the research community includes both individual researchers and the brokering mechanisms by which their work is communicated to or translated for practitioners. Table B1 in Appendix B includes examples of major members of the research community whose practices and products we will investigate.

Practitioner (School) community. Early work in knowledge utilization was primarily concerned with individual adoption of research-based innovation (Backer, 1993), but recent scholarship suggests a need to focus on research use in systems and organizations (Davies & Nutley, 2008). Efforts to increase research use in education decision-making seek to create systemic, rather than isolated, change in practice (Cooper & Levin, 2010). Recent studies of research use have focused on varied levels of the education system, including state education agencies (Massell, et al 2012) and school districts (Farley-Ripple, 2010; Honig & Coburn 2008; Finnegan, Daly & Che, 2013; Corcoran, et al 2003; Massel & Goertz, 2002). Additionally, a number of studies focus on school-based use of research, but generally examine use by individual teachers (Hemsley-Brown & Sharp, 2010; Behrstock-Sherratt, et al 2011) or principals (Biddle & Saha, 2005) rather than the school as a system.

A focus on schools. Because curricula, changes in instructional practices, and other reforms generally are implemented with coordination across a school, it is important to understand how research is used to support organizational decisions about instructional improvement. Further, in the United States emphasis has been put on teacher collaboration, achieved through common planning time, professional learning communities, or other mechanisms; and distributed models of leadership have achieved widespread recognition as effective leadership strategies. Together, these trends shift responsibility for decision-making

away from individual teachers or the authoritative principal and toward shared decision-making processes involving coordinated groups of people. For this reason, CRUE research focuses on understanding the nature and extent of research use by all school practitioners: principals, assistant principals, interventionists, and teachers alike.

The role of districts. School district central offices play an important role in district change, influencing the everyday work of school level educators. For example, central offices may restructure instructional programs, professional development, school leadership structures, or relationships with the community (Corcoran, Fuhrman, & Belcher, 2001; Hightower, 2002; Massell & Goertz, 2002). Further, district central offices are critical actors in the use of research in education decision-making, both as users of research in decisions about curricular and instructional reform (Farley-Ripple, 2008, 2010; Honig & Coburn, 2008; Corcoran, et al, 2003) and in supporting the role of research in school-based decisions (Finnegan, Daly, & Che, 2012; Honig & Venkatswaran 2012). For this reason, we seek to understand schools' use of research as situated in and influenced by the district context and by district staff.

Other forms of knowledge. While the focus of the Center is on understanding research as evidence and its use in schools, it is important to situate research among other forms of evidence that are available or may be preferred among educators. Recent research by Finnegan, Daly, and Che (2012) find substantially less use of research in schools relative to use of data. Decision-makers also use what Kennedy (1982a) calls "working knowledge", defined as "the organized body of knowledge that administrators and policymakers use spontaneously and routinely in the context of their work. It includes the entire array of beliefs, assumptions, interests, and experiences that influence the behavior of individuals at work" (Kennedy, 1982a, p. 1-2; see also Louis, 2010). Therefore, in addition to the primary purpose of exploring the use of scientific research as one form of evidence, we also seek grounded understandings of what practitioners believe constitutes evidence more broadly.

Conceptualizing use as purpose and practice. Literature on knowledge utilization and evidence-based practice frames "use" in two ways: as purpose and as practice. Purpose refers to the primary goal for which evidence is used, classified as instrumental, conceptual, strategic, and symbolic. ***Instrumental use*** is found where respondents are able to cite or document specific ways in which evidence was used in decision-making processes (Caplan, 1979; Rich, 1977). ***Conceptual use*** describes gradual shifts in terms of policymakers' awareness basic perspectives, as new knowledge is incorporated into their thinking (Caplan, 1979; Rich, 1977). In contrast, ***strategic use***, as articulated by Huberman (1990), pertains to the manipulation of evidence to attain specific power or profit goals. For example, studies provide examples of how district central office administrators used evidence to confirm or justify opinions they have already formulated (Corcoran, et al, 2001; Hannaway, 1989; Honig & Coburn, 2006). ***Symbolic use*** includes behavior in which users believe the perception of evidence-based decision-making is important, but are not engaging with or applying the evidence in meaningful ways (Knorr, 1977; Feldman & March, 1981). For example, reference to research findings in vague or general terms like, "the research says," is common in evidence-based decision-making (Coburn, et al, 2009; Farley-Ripple, 2010; Finnegan, Daly, & Che, 2012).

By ***practice***, we refer to the process by which evidence is used, including whether decision-makers simply collect and refer to evidence in compliance with accountability requirements or if they engage with evidence in deeper, more sophisticated ways. Honig and Coburn (2008) reveal this gap, noting few studies deal with either search (the process of

accessing evidence) or incorporation (what decision-makers do with evidence once they have it). Coburn, Toure, and Yamashita (2009) examine decisions at the school district level in terms of what evidence is invoked, when it is invoked in the decision-making process, and how evidence was used. Ikemoto and Marsh (2007) more explicitly attend to creating a framework for data-based decision-making in education characterized in terms of a 2x2 matrix of the data-analysis/decision-making relationship. In the knowledge utilization literature, the most influential framework is the six-stage model from Knott and Wildavsky (1980). Although their framework is widely cited, we agree with Davies and Nutley (2008) that this type of staged model relies on unrealistic linear assumptions about decision processes. As such, the framework we employ to understand data use borrows from multiple theories and existing frameworks, blending both the purpose for which and the practices through which the knowledge is used—we call this framework "depth of research use."

> **_Depth of research use._** We adopt an approach that attends to both purpose of use and use as practice. Motivated by Coburn's (2003) "depth of reform" which describes efforts to move "beyond surface structures and procedures" in reform implementation, we build on earlier conceptual work (Farley-Ripple, 2008a; Farley-Ripple, 2008b; Farley-Ripple & Cho, 2014) to frame "depth of use." Depth of use therefore refers to the complex ways in which evidence use is _meaningful_, _systematic_, and _likely to generate improvements_ in policy and practice. Described above, political and symbolic uses of research are not likely to generate the types of change in education practice intended by efforts to improve evidence-based decision-making. Additionally, while conceptual use of research may reflect meaningful change in educators' working knowledge, it is difficult to leverage tacit knowledge for improved decision-making, and such use may be idiosyncratic as it is associated with individuals rather than systems. By emphasizing depth of use as related primarily to instrumental use, we are able to attend to the specific role research evidence plays in decision-making, the types of decisions or problems research is most likely to inform, and the types of research decision-makers utilize in those processes.

> Depth of use also acknowledges the complexity of both decision-making and evidence use. With few frameworks describing the practice of evidence use, we identify the dimensions of practice that previous literature on organizational and evidence-based decision-making have suggested are important for generating meaningful systematic use labeled as: evidence, search, interpretation, participation, frequency, and stage of decision-making. These dimensions are understood as individual continua, where research use behavior might be found at differing points for each dimension. Depth of use as a larger construct attempts to capture the degree to which research meaningfully and systematically informs decisions about educational practice.

> _Evidence_. As the focus of CRUE is scientific research, we are primarily concerned with whether scientific research has a role in decision-making. However, a substantial body of research suggests that decision-makers draw on a range of evidence sources in the process (Corcoran, et al, 2003; Coburn, et al, 2007; Farley-Ripple, 2008, 2010; Kennedy, 1982; Ingram, et al, 2004; Supovitz & Klein, 2003; Honig & Venekatswaran, 2013; Asen, et al, 2012). Thus we are interested in both the use of scientific research and its integration with other forms of knowledge that influence decision-making. We therefore conceptualize the evidence continuum as ranging from no engagement with scientific research to substantially inclusive of scientific research on the other.

> _Search_. Use of research entails finding relevant research sources, which has two important and related aspects: the nature and extent of search. The literature on search, which is

drawn primarily from organizational research, finds that the search for a solution is frequently compromised by several factors including desire to leave the work of the organization intact (Rosenkopf & Almeida, 2003), haphazard examination (Kennedy, 1982), preference for internal sources of evidence (Williams & Cole, 2007; Fillos & Bailey, 1978; Kean, 1980; Finnigan, Daly, & Che, 2012; Massell, et al 2012), and selection of evidence that fits what decision-makers believe or know (Honig & Coburn, 2006; David, 1981; Hannaway, 1989; Kennedy, 1982; Spillane, 2000). At one end of the search continuum, decision-makers may do a very limited search or focus on a resource with which they are already familiar. At the other end, a decision-maker seeks out multiple sources of research and synthesizes them to inform decision-making.

Interpretation. Both theory and research illustrate that evidence must be interpreted, and transformed from information into knowledge (Breiter & Light, 2006; Coburn, Toure, & Yamashita 2009; Davies & Nutley, 2008; Kennedy 1982b; Huberman, 1989). Relatedly, scholars argue for attention to information literacy, which includes the critical evaluation of information to determine its relevance for their decision needs (Williams & Cole, 2007; Davies, 1999). Thus the process of interpreting research in the context of decision-making is both important and complex. The spectrum of interpretation seeks to better understand the strategies and extent to which decision-makers interpret research in informed and critical ways.

Participation. Understanding who participates in research use during decision-making is important because individuals' working knowledge, ideologies, information, and interests, and their interaction and negotiation with other participants, influences how evidence is interpreted (Coburn, 2001a; Coburn, et al, 2009; Finnegan & Daly, 2014b; Kennedy, 1982; Weick, 1995; Weiss 1995). To capture variability in participation, the spectrum includes no one or few individuals on one end and collaborative groups or teams on the other.

Frequency. In describing the depth of evidence use, frequency is an indicator of the extent to which research informs decisions. Studies typically document how often decision-makers use research as a way of assessing the impact of use—Does it play a role sporadically, or is it institutionalized in decision-making practices? Although no research exists in this specific domain, the regularity with which research evidence is brought to bear on decisions may be an indicator of greater or lesser systematic use.

Stage of decision-making. Research may play a role in each stage of what Bass (1983) identifies as three stages of decision-making: problem identification, search, and choice. However, there is limited research exploring *when* decision-makers use evidence. Farley-Ripple (2008b) suggests that different types of evidence may be preferred in different stages and Coburn, et al, (2009) find differences in evidence use in diagnostic (how the problem is framed) and prognostic (defining appropriate solutions) framing. Further, organizational theorists often find that use of information comes after the selection of a preferred solution (Pfeffer & Salancik, 1977, 1978; Simon, 1964; Staw, 1980)—a form of political or symbolic use that locates evidence use in reference to other stages of decision-making. Though limited, these studies suggest that the timing of evidence use may be an indicator of meaningful, systemic use.

Depth of use summary. The six dimensions discussed above constitute our conceptualization of research use, which we frame as "depth". Based on what previous research has identified as important dimensions of evidence use, this framework is the basis for CRUE's development of a measure of research use and serves as a key source of dependent variables in our descriptive studies exploring sources of variation in and predictors of research use across

schools. By measuring where schools fall on each of the six dimensions of depth (i.e., evidence, search, interpretation, participation, frequency, and stage of decision-making), we seek to understand how depth of research use varies across schools and what factors may hinder or enhance depth of use for decision-making.

Factors influencing use: the gap between research and practice. Knowing how use of research varies along multiple dimensions serves only to inform about the nature and scope of the knowledge utilization problem. In order to identify strategies that can make research more meaningful to and impactful on education practice, it is critical that we also ask: what factors explain the variation in school use of research? To guide our exploration, we turn to previous research on knowledge utilization. In the 1970s and 1980s, scholars drew on the metaphor of "two communities" (Caplan, 1979) as a way of understanding the gap between social science research and public policy. This metaphor suggests the causes of the underutilization of research by policymakers are rooted in cultural differences between the research and practice communities.

The application of this metaphor to the current role of research in education is important in two ways. First, it considers the nature of research use in education with a specific focus on practice. In their widely cited *Garbage-Can Model of Organizational Choice*, Cohen, March, and Olsen (1972) characterize schools as "organized anarchies" having problematic preferences, unclear technology, and fluid participation. In this sense, the context of research use in schools may be distinct from other types of organizations. Further, education decision-making is concerned with a narrower range of problems than public policy in general, and may benefit from a body of research that is more or less developed than other areas of social policy. As such, the use of the two-communities metaphor to explore education decision-making may offer unique insights into the problem of knowledge utilization in school contexts.

Second, the context of knowledge utilization has changed considerably since the two-communities metaphor was developed and tested, particularly in the case of education. From the production side, whereas research was typically the domain of academic institutions 30 years ago, there are now a range of organizations whose primary missions relate to conducting quality research. These organizations include university-affiliated centers staffed by professionals rather than traditional faculty and think-tank organizations capable of carrying out large scale research projects. Further, the federal government has infused substantial funding into education research in an attempt to build a rigorous body of research to support policy and decision-making (Louis, 1992; Cooper, et al, 2009). From the user side, education policy has incentivized the use of education research in evaluation through accountability policy. Finally, out of both the producer and user changes have emerged a range of research brokers, discussed earlier in this proposal. Coupled with advances in communication technology, these brokering mechanisms have changed nature of research dissemination and resulted in widespread accessibility of research.

In applying the two-communities' metaphor to a contemporary study of research use in school settings, we draw on Dunn's (1980) five types of assumptions that underlie the "gap" between research and policy, which he articulates as contingent on products, inquiry, problems, structures, and processes. As we seek to understand differences between research and practice communities in the education context of the 21st century, we interpret these five categories, or gaps, as relating to assumptions and perspectives about: the usefulness of research products; the nature and quality of research; problems that research addresses; the structures, processes, and incentives surrounding research production and use; and the relationships between communities.

Usefulness of research products. The first gap builds on research that finds the type and characteristics of research products influence their use in schools (Gross, et al, 2005; Corcoran, et al, 2001; Reichardt, 2000; West & Rhoton, 1994). From the research community perspective, usefulness can be understood as the range of products produced, their intended audience, and how they are anticipated to be used. From the practitioner perspective, usefulness relates to frequently accessed resources and the preferences underlying those choices. For example, Farley-Ripple (2010) and Finnegan, et al, (2012) offer lists of frequently utilized sources and their characteristics. The extent to which the products valued and produced by researchers intersect with those preferred by practitioners indicates the usefulness dimension of the gap.

Nature and quality of research. This gap pertains to differences in how the two communities value different qualities of research, including issues related to internal and external validity as well as conclusiveness of findings. For example, the What Works Clearinghouse employs standards that place great weight on internal validity for drawing causal inference (i.e., randomized experiments). In contrast, school-based decision-makers often prefer evidence from organizations similar to their own, regardless of study design (Supovitz and Klein, 2003; Corcoran, et al, 2001; Finnegan, et al, 2012), which suggests greater weight on external validity. These preferences raise questions about how practitioners value research methods (Broekkamp & Hout-Walters, 2007; Coburn & Talbert, 2006) or, alternatively, they suggest limited capacity to critically interpret research (Supovitz and Klein, 2003; West and Rhoton, 2994; Reichardt, 2000; Coburn & Talbert, 2006). The extent to which researcher standards and practitioner preferences are similar or different is an indication of the nature/quality dimension of the gap.

Problems addressed by research. This dimension of the gap suggests that there may be issues related to the relevance of research. From the research community perspective, this concern relates to decisions about what should be researched and to what degree research is able to address current problems of practice (Maynard, 2006). From the practitioner perspective, the characteristics of problems of practice, including both the issue (e.g. instructional, organizational) and the nature of the problem (e.g. identifying the range of potential solutions vs. choosing to adopt a specific solution) may influence the role of research in solving those problems (West and Rhoton, 1994; Supovitz and Klein, 2003; Hemsley, et al, 2009). The extent to which the evidence produced by the research community is timely and relevant to the problems confronting real schools is an indicator of this dimension of the gap.[2]

Structure, process, and incentives. This dimension of the gap is concerned with the context in which researchers and practitioners operate, and what influences researchers to produce certain kinds of research, and what influences practitioners to use research or other evidence (Coburn, et al, 2012; Burkhardt & Schoenfeld, 2003; Landry, et al, 1998). A range of conditions influence use, including organizational structure and culture (Coburn & Talbert, 2006; Corcoran, et al, 2001; Honig, 2003; Finnegan, et al, 2012; Massel, et al, 2012; Spillane, 1998; Weiss 1995; West and Rhoton, 1994). As contextual factors related to structures, processes, and incentives influence research use, it is important to understand when and to what degree these factors increase or reduce the gap between research and practice communities.

Relationships between communities. Research use may be considered a function of the

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[2] This gap is explicitly recognized in design-based research efforts such as the work of Bryk and others in creating Networked Improvement Communities (Bryk, et al, 2010) which link research and practice through a problem-centered approach to improvement.

relationship between communities in the production of research and in education decision-making (Huberman, 1990; Landry, et al, 2001; Cousins & Simon, 1996; Backer, 1986; Honig & Venkateswaran, 2012; Lavis, et al, 2003; Coburn & Stein, Eds, 2010; Louis, 1992). Lavis (2003) categorizes relations as producer pushed (e.g. dissemination), user-pulled (e.g. active search by users), and exchange (e.g. interaction between users and producers during key processes). An example of a very interactive relationship between researchers and practitioners is the Chicago Consortium for School Research (CCSR), which focuses its research exclusively on Chicago schools and coordinates its research agenda in consultation with the Chicago Public Schools. While CCSR is a singular example, the nature and extent of interaction between individual researchers (or organizations) and practitioners is an indicator of the relationship dimension of the gap.

Gaps between communities summary. Returning to our conceptual framework, we hypothesize that schools' use of research – specifically the depth of their use of research, can be explained by these gaps between research and practice communities. We base this hypothesis on findings from the fields of knowledge utilization and evidence use (including research and data) in education. Table B1 presented in Appendix B organizes prior research literature according to the five "gaps" between research and practice communities just described. Further, Backer's (1986) review of the literature identifies a set of effective knowledge utilization strategies that are consistent with this hypothesis, but not specific to education nor to current research and practice contexts. Therefore a central purpose of the Center's work is understanding not only the extent to which research use is impacted by these differing assumptions, but also to identify the practices and conditions under which these gaps are bridged to produce meaningful interaction between research and practice, and to identify strategies that can make research more meaningful to and impactful on education practice.

Existing Measures of Research Use. The body of research examining knowledge utilization is rich and extends across multiple fields (e.g., public administration, education, health services). Across this body of work, numerous instruments measuring research use and related factors have been developed. However, as several systematic reviews have pointed out (Dunn, 1983;, Estabrooks, et al, 2003; Squires, et al, 2011), the overall quality of instrumentation has been low due to ill-defined constructs, weak connections to theory, and failure to establish psychometric validity. As a result of these weaknesses, there are few prior instruments that are useful in the development of instruments as part of our measurement study.

The best fit in terms of alignment to our conceptual framework are a set of indicators offered by Huberman (1993, with Thurler, 1991) and a set of scales produced by Landry and colleagues (2001a, 2001b, 2003), derived from Knott and Wildavsky's (1980) stages model of utilization. Huberman's model focuses on linkages among researchers and users, identifying indicators related to the research context (e.g. study characteristics, dissemination strategies, user-centeredness of study, and orientation toward dissemination), the user context (e.g. perceived worth of research, perceived links to needs, understanding of study), and the relationships between them (e.g. informal contact, formal contact, presence of intermediaries). Although many of these indicators map onto our conceptual framework, most are not operationalized in a survey instrument. Landry and colleagues do offer some survey measures of knowledge use, with data supporting their reliability. However, these are aligned solely to the stages model of utilization, and thus are only partly consistent with our intended approach.

RESEARCH PLAN

To motivate new approaches to increasing research use in schools, CRUE will implement a focused program of research attending to the measurement of the nature and depth of research use, the identification of factors that hinder or support research use, and the relationships and links between people and organizations that support research use. The overarching goal is to identify strategies that can make research more meaningful to and impactful on education practice. To do this we propose to construct a set of six instruments that capture a) depth of research use in schools, b) gaps in assumptions and perceptions between the research and practice communities that may influence research use, and c) connections and relationships between researchers, research brokers, and educators that support research use in schools. Drawing on data collected through these instruments, we seek to provide evidence that documents and explains variation in research use across schools and contexts. Based on these findings, we plan to apply what we learn by developing and promoting a set of strategies, tools, and activities to engage research and practice communities and enhance research use in schools.

Our research agenda has important distinguishing features. First, we believe that a reliable measure of research use is needed, but that such an instrument serves only to define the nature and variability of research use. To identify and understand the factors that hinder or support research use, we also need instruments that can identify malleable factors that (a) explain why some schools make deep use of research while others do not, and (b) can inform strategies for improving research use. To this end, CRUE will produce a measure of depth of research use *as well as* measures of connections between researchers, research brokers, and educators, and measures of researcher and practitioner perceptions indicative of community gaps.

Second, our research agenda attends to research use at scale through an intensive iterative development process for designing, piloting, and revising each measurement instrument as well as mixed methods approaches in the descriptive studies to deepen our understanding of research use and supporting conditions. Although there are important aspects of research use that must be examined through micro-studies and similar methods, there is a need for research that accounts for and applies to a range of contexts and offers evidence to inform policy and practice nation-wide. As will be discussed in the methods section, our study will draw on a large nationally representative sample to accomplish this goal.

Research questions. Our research agenda is guided by the following overarching research questions, with additional sub-questions elaborated within the forthcoming sections detailing the measurement and descriptive studies.

1. **How can we measure schools' use of evidence, including research, and conditions that constrain or support use?**
2. **What is the nature and depth of schools' use of evidence, including research, to inform policy and practice?**
3. **What is the nature and extent of the gaps and connections between research and practice communities?**
4. **To what extent can the gaps and connections explain variability in depth of evidence use broadly, and research use more specifically?**
5. **What lessons can be learned from cases of deep research use? What strategies can schools and researchers use to enhance research use more broadly?**

Measurement Study

Our proposed measurement study (Research Question 1) involves development and validation of seven instruments related to research use in schools. The process and samples for each of the studies we propose below are guided by *Standards for Educational and Psychological Testing* developed by APA, AERA, and NCME (1999). The iterative development and primary psychometric validation of these instruments under this measurement study will begin with small samples and use increasing sample sizes at each stage to support psychometric analyses. When the instruments are finalized at the conclusion of the measurement study, a large-scale administration of the full battery of instruments to large and nationally-representative samples from the researcher and practitioner communities will be conducted under *Descriptive Studies 1 and 2* described later.

Six of the instruments we propose are organized into three pairs, each of which includes one instrument that focuses on the research community perspective and a parallel instrument that focuses on the school-based practitioner perspective (see Appendix C, Table C1 for example items for each new instrument to be developed). The first pair of instruments will focus on the questions of "*What?*" and "*How?*" with the researcher instrument focused on the *production and dissemination* of research by researchers and research brokers, and the practitioner instrument focused on the *nature and depth of use* of research in schools. The second pair of instruments will focus on the question of "*Why?*" with the researcher instrument focused on the *assumptions and perspectives* held by researchers and research brokers, and the practitioner instrument focused on the *assumptions and perspectives* held by educators in schools. Differences in the assumptions and perspectives from these two communities will allow us to measure the nature and extent of specific *community gaps* identified in our conceptual framework. The third pair of instruments will focus on the question of "*Who?*" with the researcher instrument focused on measuring the number and nature of direct and indirect connections to educators reported by research producers and brokers (e.g., through mailing lists, subscriptions, and direct client relationships) and the practitioner instrument focused on measuring the connections to research producers and brokers reported by educators. These connections instruments are social network surveys, with enhanced follow-up questions inquiring about the nature, intensity, and frequency of these connections. The seventh instrument will measure a key support for research use: the capacity of individual educators to critically interpret research.

Each survey will use mostly fixed response items (e.g., yes/no, Likert scales). ***See Appendix C for preliminary items from each instrument.*** The use of fixed responses allows for survey scales with high reliability and without expensive coding of open-ended responses. A limited number of open-ended items will be included to collect additional detail when fixed response items are insufficient. The exact blueprint of the test will be determined during the iterative development phase of the measurement study.

Instrument 1R: Researcher/Broker Survey of Production and Dissemination. This survey will focus on dimensions of depth of use (see Figure 1) as they relate to the production and dissemination of research. Survey items will be worded differently for researchers versus brokers, but the content will be similar. For the first dimension of depth of use, *evidence*, we will ask researchers and brokers about the characteristics of the research they produce and/or disseminate in order to gauge alignment with characteristics of scientifically-based research as defined by NCLB and the NRC (2002). For the *search* dimension, we will ask researchers and brokers to describe the mechanisms through which practitioners may find their publications and

the likelihood of their research appearing in results from various search strategies. For the *interpretation* dimension, we will ask researchers and brokers about the technical sophistication of their publications and how technical information is presented. For the *participation* dimension, we will ask researchers and brokers about their target audience and strategies they use to reach those audiences. For the *frequency* dimension, we will ask researchers and brokers about their methods for tracking dissemination (e.g., mailing lists, web statistics) and actual use (e.g., citations; inquiries by practitioners; schools' adoption of programs, policies, and practices). Lastly, for the *decision stage* dimension, we will ask researchers and brokers about inquiries they receive from practitioners and whether these can be regarded as instrumental, conceptual, strategic, or symbolic (see earlier sections entitled *Conceptualizing use as purpose and practice* and *Stage of decision-making*).

Instrument 1S: School Survey of Depth of Research Use. This survey will focus on the six dimensions of depth of use of education research by school-based practitioners (see Figure 1). For the first dimension of depth of use, *evidence*, we will ask school leaders and teachers about the types of evidence used to inform recent decisions, with specific questions focused on whether and how scientific research has influenced recent decisions. For the *search* dimension, we will ask school leaders and teachers about how they find relevant research and other forms of evidence, and how many different sources have been used to inform recent decisions. For the *interpretation* dimension, we will ask school leaders and teachers about how they evaluate and synthesize research evidence. For the *participation* dimension, we will ask school leaders and teachers to report who participates in research use during decision-making. For the *frequency* dimension, we will ask school leaders and teachers about the regularity with which research evidence is brought to bear on decisions. Lastly, for the *decision stage* dimension, we will ask school leaders and teachers about specific uses of evidence and its timing in the decision process in order to differentiate instrumental, conceptual, strategic, or symbolic (see earlier sections entitled *Conceptualizing use as purpose and practice* and *Stage of decision-making*).

Instrument 2R: Researcher/Broker Survey of Assumptions and Perspectives about Research. This survey will focus on researchers' and brokers' perceptions and assumptions related to the five potential gaps between the research and practitioner communities. First, researchers and brokers will be asked about the characteristics of research *products* that they believe believed to be most useful to practitioners and the degree to which the products they produce have those characteristics. Second, researchers and brokers will be asked about the *quality of research* they produce and disseminate in terms of standards of evidence in drawing conclusions and making recommendations for practice, how those standards are reflected in their own products, and how they perceive practitioners' knowledge and application of standards of evidence. Third, researchers and brokers will be asked about factors that influence the topic or direction of their research and dissemination, and to what degree they believe their products are able to address *problems of practice*. Fourth, we will ask researchers and brokers about the *structures, processes, and incentives* that may create or constrain opportunities to conduct research. Lastly, for *relationships between communities*, we will ask researchers and brokers about whether and how they engage practitioners in the conduct of research or the active dissemination of research evidence.

Instrument 2S: School Survey of Practitioner Assumptions and Perspectives about Research. This survey will focus on school-based practitioners' perceptions and assumptions related to the five potential gaps between the research and practice communities. First, school

leaders and teachers will be asked about the characteristics of research *products* that they find most useful. Second, school leaders and teachers will be asked about standards of evidence in research, perceptions of issues related to internal and external validity, and how these issues of *quality of research* may influence whether and how research is used. Third, school leaders and teachers will be asked about the extent to which the research community is addressing *problems* that are relevant to practice. Fourth, we will ask school leaders and teachers about the *structures, processes, and incentives* that may create or constrain opportunities to use research. Lastly, we will ask school leaders and teachers about their *relationships* with the research community and whether and how they participate in active research projects or contribute to the dissemination of research findings.

Instrument 3R: Researcher/Broker Survey of Connections to Practitioners. This social network survey will involve a series of conditional questions in which researchers and brokers are first asked about their connections to school-based practitioners, how these connections relate to the use of research evidence, and whether these connections involve frequent direct interaction and communication. If the connections to practitioners are simply unidirectional (i.e., distributing information to schools), then questions will focus on the number and roles of practitioners receiving information. If the connections involve bidirectional interaction (i.e., multiple back and forth communications), then additional questions will inquire about the number and roles of practitioners involved, with specific follow-up questions about the nature of the most intense interactions with practitioners. Open ended fields will be included for researchers and brokers to list specific practitioners with whom they have close connections. The focus of this instrument overlaps with the "relationships" dimension of instrument 2R, but the depth and detail of information collected by instrument 3R is far greater (i.e., documenting details of relationships and interactions with specific practitioners).

Instrument 3S: School Survey of Connections to Researchers and Brokers. Similar to instrument 3R, school leaders and teachers will be asked to identify individual researchers, research organizations, and research brokers with whom they have connections that support use of research to inform decisions. Additional questions will focus on the nature and frequency of interactions with each individual or organization, and how each connection contributes to the use of research to inform practice. Furthermore, additional questions will be asked about familiarity with and connections to specific national and regional research organizations and brokers (see Table B1 in Appendix B for a list of organization types).

Instrument 7: Survey Scale of Capacity to Interpret Research. Lastly, we will develop and validate a brief scale to measure individual educators' capacities to critically interpret research. This scale targets the practitioner capacity concept associated with the gap related to the *Nature and quality of research* and the *Evidence* and *Interpretation* dimensions of depth of use. It will include items that ask respondents to rate how well their prior training and experience have prepared them to evaluate and critique specific aspects of research related to concepts of internal and external validity. The items will be worded in ways that avoid desirability bias and ceiling or floor effects in responses. The goal of this scale is not to evaluate absolute capacity, but relative capacity—who is more expert than whom in critiquing education research? Variability in this scale is hypothesized in our conceptual framework to directly relate to both assumptions and perspectives of educators and depth of use of education research.

Iterative Development

The iterative development process for this battery of instruments is as follows. The first step involves developing instrument blueprints and begins with a review of our conceptual framework by an advisory panel of experts (see Management section). The framework will then be revised based on feedback from the panel, and the revised framework will inform the creation of a protocol for semi-structured interviews with small samples of research producers and brokers (n=5) and school leaders (n=5) in order to evaluate the relevance of elements from our conceptual framework and identify any important elements missing from our framework. Based on the interview responses, our conceptual framework will again be revised and then used to construct a draft blueprint for each instrument in which we specify the major categories of items (including example items), the target number of items per category, and the potential response categories. These draft blueprints will then be reviewed and critiqued by our advisory panel, with revisions to the blueprints made based on this feedback. These final blueprints will then guide construction of draft instruments, also reviewed and critiqued by our advisory panel. This final review and critique of the draft instruments will also assess the feasibility of use of these instruments by other researchers, research funders, and State and local education agencies.

The draft instruments will be revised based on panel feedback, with the revised instruments first tested through cognitive interviews with researchers (n=30), brokers (n=10), school leaders (n=10), and teachers (n=30). During these cognitive interviews, respondents will be asked to complete either the three researcher or three practitioner instruments and discuss their interpretations of the questions and the responses with the interviewer as they complete the instrument. The purpose of these cognitive interviews is to identify items that are confusing, interpreted inconsistently, or otherwise problematic. The sample sizes of 40 respondents per instrument for these cognitive interviews will allow detection of the majority of problems with at least 75% probability (Blair & Conrad, 2011).

Data from the cognitive interviews will be used to revise the draft instruments prior to field testing. The researcher instruments will be piloted with a sample of 150 researchers and 50 research brokers (see Appendix B, Table B1 for a list of organizations/individuals included). The practitioner instruments (including the critical capacity scale) will be piloted in a sample of 30 public schools randomly sampled from across the country using the census of regular schools from the NCES Common Core of Data. Respondents from this sample of 30 schools will include 30 principals, at least 30 assistant principals, at least 500 teachers, and at least 30 district staff (at least one person nominated by each sampled principal). Schools will be offered incentives of up to $1,000 each if they achieve a within-school response rate over 90%, with tiered decreases in incentives for lower response rates (see section on *Participation Incentives*). The data from these primary pilot studies will be subjected to a series of psychometric analyses (see next section) to confirm reliability and validity. Problematic items identified though these analyses will be revised or replaced. A second pilot using the revised battery of instruments will be conducted with the participants from the original pilot including all 200 researchers and brokers, 30 principals, 30+ assistant principals, and a subset of 100 teachers randomly sampled from the pool of teachers participating in the first pilot. Respondents in this second pilot will receive individual incentives of $25 each and be entered into a drawing to win one of three iPads.

Sample Selection and Recruitment

The samples of researchers, research brokers, and practitioners for the semi-structured

interviews, cognitive interviews, and survey pilot studies will be drawn from sampling frames based on the Common Core of Data (CCD) for school-based practitioners and an initial sampling frame of researchers and brokers (see Table B1) updated based on feedback from the advisory panel. A three-stage stratified random sample will be used to select practitioners, with districts and schools selected with probability proportional to size, individual teachers selected using simple random sampling, census sampling of school administrators, and nomination-based sampling of district staff. The sample of researchers and brokers will involve a stratified simple random sample, with strata sizes determined in consultation with the advisory panel.

Recruitment of schools will be led by Drs. O'Toole and May, who have a history of successfully recruiting large nationally representative samples of schools for research (see *Sample & Recruitment* for *Descriptive Study 1*). The recruitment strategy involves multiple modes of communication (e.g., email, print mail, telephone) to make initial contact, with follow-up as necessary to reach the desired sample size. Individuals and organizations that decline to participate will be replaced with a replacement unit (e.g., school) from the same strata, with sampling weights calculated based on probability of selection, adjusted for non-response.

Psychometric Analyses.

Reliability and Item Analyses. Data from the pilot studies will be analyzed using three alternative methods to document reliability for each subscale included in the test blueprint. In each analysis, individual respondents will be the units of analysis (n=200 for researchers; n=500+ for practitioners). First, we will calculate classic internal consistency reliability using Cronbach's Alpha for each subscale. Deleted-item Alphas will be used to identify candidate items for revision or replacement. Our objective is to produce scales with reliability of .80 or better. The second method for evaluating reliability and identifying problem items involves multidimensional IRT scaling. We will use 1 and 2-parameter logit models to produce conditional standard errors of measurement and IRT statistics for item thresholds (a.k.a., difficulties) and discrimination. The median standard error of measurement will be used to calculate an IRT-based overall reliability. Items with exceptionally low or high thresholds (e.g., absolute magnitude >2.0 theta) and/or low discrimination (e.g., <.5) will be identified as candidates for revision or replacement. Our third method for establishing reliability leverages the multilevel structure in the school-based practitioner data via G-Theory (Brennan, 2001) analyses that partition variability in responses into item, person, role (i.e., principals, APs, teachers), and school components. The G-Theory results will provide information on the consistency of responses among teachers and administrators from the same school (i.e., agreement), and the ability to distinguish between schools with different scores (i.e., reliability). It also affords the opportunity to create HLM-based aggregations of individuals' responses within schools to produce school-level scores for each scale and subscale.

Content Validity. Much of the iterative development process, from conceptual work all the way through the cognitive interviews, is focused on the content validity of our instruments. The use of expert panels, semi-structured interviews with potential respondents, and cognitive interviews with actual respondents will ensure that our instruments are well organized, that the dimensions reflect the conceptual framework, that the items correspond to their intended dimensions, and that the items are interpreted consistently and clearly by respondents.

Construct Validity. As is the case for content validity, the conceptual work and blueprinting including revisions based on feedback from experts and also potential respondents

will ensure that the dimensions for each instrument align with our conceptual framework, and that the items reflect their intended dimensions. In addition, data from the pilot studies of researcher and practitioner instruments will be subjected to both exploratory and confirmatory factor analyses to evaluate the dimensionality of each instrument relative to its conceptual framework. Both orthogonal and oblique rotations of factors will be explored in order to determine the best fit for the data.

Concurrent Validity. Our conceptual framework posits that variability in the assumptions and perspectives within the practitioner community is related to depth of use of research in schools and to educators' capacity to critically interpret education research, and that variability in the assumptions and perspectives within the researcher and broker communities are related to production and dissemination of education research. Following this, our evaluation of concurrent validity will involve correlational analyses between subscales of the assumptions and perspectives instruments, the depth of use instrument, the production and dissemination instrument, and the interpretation capacity scale. Positive and significant correlations of sizable magnitude (e.g., >.40) will serve as evidence of concurrent validity.

Feasibility. Each piloting will include a set of questions designed to gauge the feasibility of administering each instrument to the intended population. Respondents will be asked to report how long it took to complete the instruments, whether any language was unclear or confusing, how easy or difficult it was to complete the instruments, and what would be a reasonable incentive to offer to people who might be asked to complete the instruments.

User Guide and Technical Manual

A primary goal of the Center for Research Use in Education is to produce survey tools that both research organizations and schools can use to assess their practices related to depth of research use, and their gaps between and connections to the research or practice community, and individual practitioners' capacity to interpret research. In support of this, CRUE will make all instruments produced by this project available for free download from the CRUE website hosted by CRESP at the University of Delaware. To guide the use of the instruments and interpretation of results, CRUE will publish a User Guide & Technical Manual including psychometric norms based on data from the large-scale administrations in Descriptive Studies 1 and 2 involving over 300 researchers, 300 schools, and 13,500 teachers and administrators.

Descriptive Studies

The purpose of the two descriptive studies will be to explain variation in depth of use of education research by schools, and to identify malleable factors that will inform strategies for enhancing research use in schools. To do this, we propose to examine the current status of the two-communities gap from both research and practice. That is, how do these perspectives and assumptions influence school practitioners' use of research, and how do these perspectives and assumptions influence the production of research? Answers to these questions provide actionable information about a) the nature and extent of gaps between the research and practice communities, b) conditions in which the gaps are minimized, and c) leverage points for enhancing research use in schools through targeted strategies.

Both descriptive studies utilize an explanatory sequential mixed methods approach (QUANT→qual) (Creswell & Plano Clark, 2011). Regression and social network analysis of the seven instruments are conducted to test the hypothesized relationships in our conceptual

framework and for sampling of case studies. Case studies are subsequently conducted to deepen our understanding of how these relationships operate and develop in practice.

Descriptive Study 1

The purpose of the first descriptive study is to identify factors that influence schools' depth of research use by exploring the gaps and connections between research and practice. Our intent is to explain why some schools engage in deep use of research and others do not by exploring the perspectives of school-based practitioners on the five gaps identified by Dunn and by documenting the scope and nature of connections between practitioners and the research community. The highlighted words in the following research questions represent the six dimensions of depth of use and five potential gaps outlined in our conceptual framework (see Figure 1).

1. **What is the nature and depth of schools' use of evidence, including research, to inform policy and practice?**
   a) What forms of *evidence* do schools use to support decision-making? What role does scientifically-based research play in decision-making processes?
   b) How and to what extent do schools *search* for evidence to support decisions? What sources of evidence are most common or preferred? How are multiple sources of evidence synthesized?
   c) How do schools *interpret* and critique relevant evidence to inform decisions? To what extent do issues of internal and external validity influence their critique?
   d) Who *participates* in evidence, including research, use during decision-making process?
   e) How *frequently* is evidence, including research, used to inform decisions?
   f) At what *stages* of the decision-making process is evidence, including research, used? What does this suggest about the nature of research use (e.g., instrumental, diagnostic, prognostic, political, symbolic)?

2. **What are practitioner perspectives on the five dimensions of the two- communities' gap?**
   a) What preferences for research *products* exist within schools? What are the preferred sources of evidence and why?
   b) What is perceived as *high-quality* research by school-based practitioners? What is their capacity for evaluating research quality? What aspects of research design do they value?
   c) What types of *problems* do schools need/want research to solve? What sources of evidence are on-topic and timely?
   d) What *structures, incentives, and processes* influence (support or constrain) research use?
   e) How do school communities *interact* with research communities during research or decision-making process?

3. **What are the characteristics of the connections between individuals/schools and the research community?**
   a) What are the *quantity, strength, and composition of connections* between schools and members of the research community?

4. **What factors explain variability in depth of research use?**

a) How do perspectives on *research-practitioner gaps* explain variability in depth of evidence, including research, use?

b) How do *characteristics of connections* between individuals/schools and the research community explain variability in depth of evidence, including research, use?

5. What are some strategies that schools can use to make research more meaningful to and impactful on education practice?

While the first three questions offer a description of these perspectives and practices and are useful for identifying factors that may constrain or support research use, our primary purpose is to identify relationships between perceptions on the gaps and depth of research use, drawing from these findings a set of malleable factors which lead to strategies for improving research use.

Sample & Recruitment. The sample for this descriptive study includes school leaders (e.g., the principal and assistant principals), instructional staff (e.g., teachers, interventionists), and district staff (e.g., superintendent, director of research) from a nationally representative sample of 300 schools. A large sample of 300 schools is necessary to support psychometric analyses of school-level phenomena. Substantially smaller sample sizes would not be sufficient to support even the most basic of analyses (Hambleton & Swaminathan, 1985; Nunnally & Bernstein, 1994, p. 228). All instructional staff and senior administrators (i.e., principals and assistant principals) in the school will be included in the sample, and the principal will be asked to nominate 3 individuals from the district central office who have been central in *decision-making processes focused on adoption of research-based practices*. Assuming an average of 45 participants per school (1 principal, 1 assistant principal, 40 instructional staff, and 3 district staff), the total sample size will include 13,500 teachers and administrators. Using the Common Core of Data as a sampling frame, schools will be selected with probability proportional to the size of the school (i.e., number of students enrolled). Replacement schools will be selected in advance from the same strata to take the place of initially sampled schools that decline to participate. Sampling weights, including non-response adjustments, will be calculated for each participating school. Given that this project involves nationally-representative samples, it is not possible to recruit sites in advance. However, the recruitment expertise and the participation incentives in this study will ensure successful recruitment of the desired sample.

Recruitment of schools will be led by Dr. James O'Toole (senior consultant on recruitment) and Dr. Henry May (Center Director). During the 2007-08 school year, O'Toole and May worked together to select and recruit a nationally representative sample of more than 300 elementary, middle, and high schools for the psychometric validation of the Vanderbilt Assessment of Leadership in Educational (VAL-ED). This instrument is an extensive 360-degree survey completed by principals, teachers, and district superintendents. The sampling, recruitment, and incentive processes used for that effort are nearly identical to those proposed in this study. Drs. May and O'Toole have no doubt that they can once again recruit a nationally representative sample of over 300 schools for the Center on Research Use in Education (i.e., especially given the 2-3 year timeline for recruitment in this study, versus 1 year for VAL-ED).

Participation Incentives. To ensure high rates of school participation and high response rates on the surveys, monetary incentives of up to $1,000 each will be offered to sampled schools. The full amount will be paid if the school's final survey response rate is 90% or higher. Schools with lower response rates will receive only a portion of the incentive ($750 for ≥75% response, $500 for <75%). Follow-up during survey administration will boost response rates.

Data Collection and Analysis. The three practitioner surveys on depth, perceived gaps, and network connections (i.e., 1S, 2S, and 3S) will be administered as a set to principals, assistant principals, and teachers in each school. The names and email addresses of participants will be collected from each participating school prior to the administration date. These emails will be used to distribute the surveys electronically to individual respondents. Reminders will be sent to non-respondents, and periodic reports of the school-wide response rate will be sent to the principal during the survey administration window.

Analyses conducted under the two pilots in the measurement study will be repeated to produce final, large-sample estimates of overall and subscale reliability and validity. Descriptive statistical analyses of data from the three instruments will be based on aggregated school-level results. These descriptive analyses will be used to document distributions of schools' depth of research use along the six dimensions under research question 1 and to document overall levels and variation in perceptions and assumptions among practitioners under research question 2. The aggregation of the across respondents in each school will involve weighting that maximizes the reliability of cross-school comparisons.

Social network analysis (SNA) will be utilized to explore schools' connections to members of the research community. At the foundation of social network theory is the concept of social capital, which holds that social relations and structure create opportunities for, among other thing, access to organizational resources (Burt, 1992; Granovetter, 1973, 1982; Lin, 2001). Therefore, the ties between the two communities can facilitate the connections between research and practice. The School Survey of Connections to Researchers and Brokers (Instrument 3S) is a form of personal network research (Halgin & Borgatti, 2012), in which individuals are surveyed about the relationships which constitute their personal network. This permits responses to be analyzed from an ego-network perspective. Ego network analysis is focused on how actors, referred to as "egos" (in this case, schools and research organizations) are embedded in networks, generating quantitative measures of schools' connections to the research community. Our analyses will employ a 2-mode SNA (Borgatti & Everett, 1997) in which responses from individuals within schools will be aggregated to the school level with three options for defining ties: (a) any respondent in the school reports a connection, (b) at least one school/district leader reports a connection, or (c) the proportion of respondents who report the connection. Network-level statistics such as size/density (e.g. number of ties), strength of ties (e.g. value and frequency), and composition of network (e.g. to which types research community members are schools connected) will be used to both a) compare schools to explore variation in the nature and extent of research-oriented network and b) predict depth of use in order to identify malleable factors that will inform strategies to enhance research use.

Multilevel HLM analyses will be used to document sources of variation in depth of use and perceptions/assumptions and to explore connections between dimensions of depth of research use, perceived gaps, and connections to the research community. ***The multilevel analyses will allow exploration of relationships within schools <u>among individual staff</u> and also <u>between schools</u>***. Scales from the perceived gaps surveys and indicators of scope and nature of connections to the research community will be used as primary predictors of variation in depth of research use. The general mathematical form of the HLM connecting indicators of gaps to depth of use is as follows.

Level 1 (individuals): $Y_{ij} = \beta_{0j} + \sum \beta_{pj}\left(X_{pij} - \bar{X}_{p \cdot j}\right) + \varepsilon_{ij}$

Level 2 (schools):
$$\beta_{0j} = \gamma_{00} + \Sigma\gamma_{0p}(\bar{X}_{p\cdot j}) + \Sigma\alpha_{0p}(W_j) + u_{0i}$$

$$\beta_{1j} = \gamma_{10} + \Sigma\gamma_{1p}(\bar{X}_{p\cdot j}) + \Sigma\alpha_{1p}(W_j) + u_{1i}$$

Where Y_{ij} is the *Depth of Use* score (overall or on one of the six dimensions of depth) for individual i from school j, β_{0j} is the average *Depth of Use* for school j, and β_{pj} is a vector of coefficients for group-mean-centered X variables including individual scores on the *five gaps* and *connections to research community,* as well as other individual characteristics (e.g., role, experience), and ε_{ij} is the individual-level residual. At the school-level, both the average *Depth of Use* (β_{0j}) and the effect of those individual-level predictors with random slopes (β_{1j}) for each school j are modeled as a function of the school-means of the individual-level predictors, $\bar{X}_{p\cdot j}$ (including the school mean scores on the *five gaps*) and also school-level factors, W_j (e.g., level, size, locale, accountability status). With a sample of 300 schools and 13,500 respondents within schools, Monte Carlo simulations using SAS PROC MIXED (with ICCs ranging from .10 to .30) suggest we will have 80% power to detect effects of variables that explain at least 2.6% of the variance at the school level and 1% of the variance at the student level. Additional interactions will be included at levels 1 and 2 to explore moderation of relationships between the gaps and depth measures by individual and school-level variables. Exploration of mediated relationships will involve estimation of depth/gaps relationships with and without potential mediators included in the HLM model. Reductions in the magnitude of observed relationships are indicative of mediation (Baron & Kenny, 1986). For example, schools or districts with greater *capacity to interpret research* may seek out *connections* to the research community, thereby leading to *deep use* of research. Formal tests of mediation will be carried out using multilevel structural equation models (Preacher, Zypher, & Zhang, 2010; Preacher, 2011; Muthén & Muthén, 2012).

School Case Studies of Deep Use. Following quantitative analyses, the second major component of the descriptive study will involve case studies of schools characterized as deep users of data, based on results from survey analyses. The purpose of the case studies is to explore how deep use has developed and been enacted in these schools. Case studies will deepen our understanding of the factors that support research use beyond what is possible in survey analysis. For example, in the survey we will be able to identify structures and processes present in schools that use research deeply. However, we will not know how those structures and processes developed, what they look like in practice, and what norms support their continued existence. These case studies will (a) enable methodological triangulation to support the internal validity of findings, and (b) support development of strategies for policy and practice, including CRUE-designed professional development materials (see Additional Activities).

Sample and Data. A purposive sample of 10 schools will be recruited for case study analysis. These schools will represent a larger set of typical cases (Gerring, 2006) consisting of deep users in contexts that previous analyses will have identified as consistent predictors of deep use. The sample thus permits literal replication and analysis focused on refining explanations for schools' deep use of research.

The case study data will be qualitative in nature, collected through a combination of interview, observational, and document analysis to understand both practice and contextual influences on practice. We expect that the focal issues will be site-specific and emerge through the process of conducting the case studies. Examples of potential focal issues and data sources are presented in Table B3 in Appendix B, and will include interviews of school leadership (i.e., administrators and leadership teams) and district central office staff, as well as focus groups with

teachers. We will conduct at least one three-day site visit to each school (with follow-up via phone and Skype) and, where possible, observe decision-making processes or other structures in real time to supplement the perspectives offered by interviews. In schools where direct relationships exist to specific research organizations or individuals, we will conduct additional interviews with those researchers. For example, a school and its district may work closely with faculty from a nearby university to implement research-based programs and practices. We further recognize that case studies may entail finding and interviewing prior administrators and staff, as the purpose is to explore the development of practices and conditions. Finally, we will request relevant documents such as school improvement plans, leadership team agendas and minutes, or other artifacts that illustrate research use and its context.

Analysis. All case studies will be guided by a protocol developed by the research team in consultation with the advisory board. The protocol establishing data collection and analysis procedures, including plans for reliability analysis and routine member checks to maintain the integrity and consistency of the coding and analysis process. Analysis of cases study data will be based on empirical propositions about the relationship between schools' use of research and the context derived from quantitative analysis. Propositions will be examined using an explanation-building strategy within cases, then compared across cases to create more general explanations (Yin, 2009) about the development of the practice and context of research use.

Coding. We will begin by close reading and open coding qualitative data sources (as described in Table B3 in Appendix B) to identify emerging themes. These data sources will be triangulated within cases to establish credibility. Comparing and contrasting these themes across cases, we will define a set of coding categories that will then be applied to the entire qualitative database. Second, our deductive analysis will be informed by our conceptual framework, the existing literature, and our survey findings. Specifically, we will develop a coding manual using the key constructs in our conceptual framework and then close code all our interview data, checking on inter-rater reliability by having two coders independently code randomly selected data samples. A commercial data-coding program (e.g., Dedoose, NVivo) will be used for both open and closed coding of interview data enabling us to search for patterns and relations more easily as well as calculate inter-rater reliability.

Mixed methods analysis. Our design involves mixing qualitative data with quantitative data generated from our surveys in order to answer our research questions. One way which our design involves mixing methods is that we will use our analysis of our quantitative survey data and administrative records to sample subjects for our qualitative case studies. Specifically, quantitative analysis of our survey data and administrative records will enable us to pick a purposeful sample of cases (Geering, 2006), ensuring that our qualitative work will generate new empirical knowledge about conditions that influence research use. Our mixed method design will also shape data analysis. For example, our selection of cases will allow us to use qualitative data to explore propositions and hypotheses emerging from quantitative analyses, thereby assessing and enhancing our interpretations (Tashakkori and Teddlie 1998) and strengthening internal validity through multi-method triangulation. We will also use concurrent-mixed analysis (Tashakkori & Teddlie, 1998) in which qualitative interview data and quantitative survey data are analyzed separately but interpreted concurrently to produce deeper understanding of key issues. Further, our qualitative analysis may generate working hypotheses about relationships not tested in our initial quantitative models, thus prompting additional analyses of quantitative data.

Descriptive Study 2

The purpose of the second descriptive study is to identify researcher practices that are associated with greater use of research in schools and districts, and to identify malleable factors that will inform strategies for enhancing research use. Our approach seeks to understand the behaviors of the two related populations constituting the research community: research producers and research brokers. This stems from an assumption we plan to test that a substantial amount of research use will not result from direct interaction between school practitioners and researchers, but rather that the two will be linked through other brokering institutions, dissemination outlets, and other types of actors. For both producers and brokers, we are interested in assumptions guiding their work as it relates to research use by schools. We frame this study again using the two-communities framework, exploring the following research questions.

1. **How does the production and dissemination of evidence by researchers and brokers align with the processes inherent in the six dimensions of depth of research use?**
   a) What kinds of research _evidence_ are produced and disseminated? How much of the evidence is derived from scientifically based research? How does evidence produced and disseminated vary across different groups of researchers and brokers?
   b) What _search_ strategies are likely to locate the evidence? Where do researchers and brokers publish their work? How do researchers and brokers use to publicize research?
   c) What level of technical knowledge is required to _interpret_ publications by researchers and brokers?
   d) Whom do researchers and brokers target as _participants_ in evidence-based decisions?
   e) How _frequently_ do researchers and brokers disseminate new research? Do they track dissemination and/or use in decision-making?
   f) Do researchers and brokers work to actively promote the use of research to inform decisions, and if so, what _stages_ of the decision-making process do they target?

2. **What are researcher and broker perspectives on the five dimensions of the two-communities' gap?**
   a) What research _products_ are developed, for which audiences, and for what purposes?
   b) What is the nature and _quality_ of research that producers feel should be useful to practitioners?
   c) What types of _problems_ does research attempt to solve? Does the practice community influence the selection of topics and formulation of research questions?
   d) What _structures, incentives, and processes_ influence the production of research and research products?
   e) How does research community _interact_ with practitioner/school communities in research or decision-making processes? How are practitioners involved in the development, analysis, and interpretation of research? How is the research community involved in decision-making in schools?

3. **What are the characteristics of the connections between the research community and the practitioner/school community?**
   a) What are the _quantity, strength, and composition of connections_ between the research community and the practitioner/school community?

4. **What factors explain variability in production and dissemination of research?**
   a) How do perspectives on *research-practitioner gaps* explain variability in production and dissemination of research?
   b) How do *characteristics of connections* between individuals/schools and the research community explain variability in production and dissemination of research?
5. **What are some strategies that researchers can use to make research more meaningful to and impactful on education practice?**

The findings from this study can be used to understand variation in products and dissemination across the research community and identify gaps between researchers and practitioners that might be addressed through alternative products and dissemination strategies. Importantly, this study will evaluate research community responses in comparison to practitioner data on depth of use and perspectives on the two-communities gap. This will permit us to test the hypotheses that a) members of the research community whose products and dissemination strategies do not align with predictors of deep use by schools, will be less likely to have direct connections to practitioners and may be less likely to have their research inform practice; and b) members of the research community whose products and strategies are better aligned with predictors of deep use will have more direct connections to practitioners and will be more likely to have their research inform practice (see question 5 above).

Sample & Recruitment. The sample for this descriptive study will include 300 researchers/research organizations and 100 brokers from across the nation. The sample will be stratified across the groups of researchers and brokers included in the final sampling frame (see Appendix B, Table B1 for the initial group list and process for revising this list). The sampling proportions for each strata will be determined in consultation with our advisory panel of experts. In general, the representation for each strata will reflect the size of each group and the relative influence and contributions to scientifically based research in education.

The recruitment strategy involves multiple modes of communication (e.g., email, print mail, telephone) to make initial contact, with follow-up as necessary to reach the desired sample size. The entire team of CRUE researchers will leverage their extensive network of connections to the research community to encourage participation. Individuals and organizations that decline to participate in the study will be replaced with a replacement unit from the same strata. Sampling weights will be calculated based on probability of selection, adjusted for non-response.

We feel that individual monetary incentives are unlikely to aid in achieving our intended sample of researchers and brokers. Therefore, instead of paying each respondent a small amount, we will enter their names into a raffle to win an iPad or MS Surface. To substantiate our ability to recruit key individuals from top research organizations, Appendix D includes letters of support from numerous directors and senior associates from some of the largest and most influential research organizations in the nation including nationally-recognized researchers from top universities, think tanks, and IES-sponsored research organizations (e.g., RELs). Each one has stated that they are willing to participate as respondents to our battery of surveys for researchers.

Augmentation of Sample with Researchers Achieving Deep Use. The HLM models from Descriptive Study 1 will be used to select 30 deep-use schools. Responses from the connections surveys from these schools will be used to identify up to 50 researchers, research organizations, and research brokers with the most intense connections (i.e., based on number of

respondents naming this connection, frequency of interactions, focus on evidence in decision-making) to these high-use schools. Researchers and representatives from the research and broker organizations identified through this process (i.e., not already included in the primary sample for Descriptive Study 2) will be asked to complete the battery of researcher broker instruments (i.e., production/dissemination, perceived gaps, and connections). Responses from this augmentation sample of researchers and brokers achieving deep use will be compared to responses from the national sample of research community members in order to identify key differences in strategy.

Data Collection and Analysis. The three researcher/broker surveys on production and dissemination, perceived gaps, and connections to practitioners will be administered to individual researchers and other key individuals representing research organizations and broker organizations. The names and email addresses of participants (i.e., researchers and representatives) will be collected prior to the administration date. These emails will be used to distribute the surveys electronically to individual participants. Reminders will be sent to non-respondents, with personal emails and follow-up phone calls to persistent non-responders. Each respondent will be entered into a raffle to win an iPad or MS Surface.

As in Descriptive Study 1, analyses conducted under the two pilots in the Measurement Study will be repeated with this sample of 400 participants to produce final estimates of overall and subscale reliability and validity. Descriptive statistical analyses of data from the three instruments will be used to document distributions of researchers' and brokers' practices related to the six dimensions under research question 1 and to document overall levels and variation in perceptions and assumptions among researchers and brokers under research question 2.

Regression analyses will be used to document relationships between perceptions and assumptions related to the five gaps (see Figure 1) and researchers' and brokers' products and dissemination strategies. The models are single-level versions of those used in Descriptive Study 1, with the primary unit of analysis being the research organizations and individual researchers not affiliated with a research organization other than a university. Scores on the *depth of use* measure will be predicted as a function of scores on the *five gaps* and characteristics of individual researchers or organizations. With a sample of 300 schools, power analyses using G*Power 3.15 suggest we will have 80% power to detect effects of variables with outcome correlations of .16 or larger. As with Descriptive Study 1, interactions between gap indicators and individual and organizational characteristics will be included to test for moderation effects, while exploration of mediated relationships will involve estimation of depth/gaps relationships with and without potential mediators included in the regression models. For example, researchers whose products explicitly target the practitioner community may become a key source of evidence for schools and districts, thus leading to greater depth of research use. In addition, tests of differences in indicators of research production, dissemination, and community gaps will be conducted to compare the augmentation sample of high-contact research organizations and brokers to the national research community.

For research question 3, a network analysis of the connections between researchers/brokers and schools will be conducted. The Research/Broker Survey of Connections to Practitioners (Instrument 3A), like the practitioner version, will be analyzed from a 2-Mode ego-network perspective. This analysis is similarly focused on ego network measures such as size/density (e.g. number of ties), strength of ties (e.g. value and frequency), and composition of network (e.g. with which types brokers and/or practitioners are respondents connected) and will be used to both a) compare researcher and research broker variation in networks and b) predict

depth of use, as per hypothesized relationships in our conceptual framework.

Additionally, these data will be integrated with practitioner/school responses to Instrument 3B. This integration will produce network data consisting of directional relationships. That is, from the research community, Instrument 3B will present incoming ties from schools and Instrument 3A will present outgoing ties to schools. We anticipate that responses from both communities are unlikely to be specific enough to connect specific organizations (i.e. ties to a particular school). However, network data can be aggregated to develop categories of research and practitioner organizations. For example, categories in Appendix B, Table B1 will be used to assign research community members to groups (e.g., universities, think-tanks, RELs), and schools may be categorized by a range of characteristics (e.g. level, size, location) or by their survey responses (e.g., timing of research use in decision-making process). Data will be aggregated in a way that reflects the strength and prevalence of ties (e.g., the proportion of respondents within a category who report a connection to another category). Network analysis can be used to explore and compare the nature of ties between these categories of research and practitioner community members. Two analyses will be particularly useful. First, an analysis of reciprocal relationships (i.e. where schools and research organizations have mutually indicated a tie) may reveal important examples of "interactive space" where gaps between the communities have been surmounted. Second, network analysis can identify central actors – that is, those that serve as key linking mechanisms between other actors in the network. Central actors can be considered potential research brokers, and while we seek to identify such brokers a priori, empirical analysis may suggest a greater range of organizations serving in such capacity as well as reveal characteristics or categories of organizations that are more or less effective brokers in practice. These central actors will be crucial in CRUE's Networking Tool (see Additional Activities).

Research Community Case Studies. Mirroring the structure of our first descriptive study, we will follow our quantitative analysis of survey data with in-depth case studies of members of the research community. The purpose of the case studies is to explore in greater detail the organizational and individual conditions that a) enable success minimizing the "gap" between researchers and practitioners and/or in b) generating deep use of research products among practitioners. Case studies will extend our understanding of the relationship between research production and research use beyond survey analysis and be highly instructive in developing recommendations for policy and practice, as well as for developing professional development materials for researchers and practitioners (see Additional Activities).

Sample and Data. A purposive sample of 10 members of the research community will be recruited for case study analysis. These individuals/organizations will represent two larger sets of cases. The first will represent typical cases (Gerring, 2006), defined as those which have been highly successful in producing and disseminating research likely to be valued by practitioners, as determined by previous analyses of survey data. This sample is likely to include, for example, researchers that have been successful in widespread dissemination and/or uptake of finding within the practitioner community, or brokering organizations with strategic communication and dissemination plans targeting practitioner adoption of research-based practices. The second set of cases will represent instances where there are explicit, direct, and intentional relationships with school practitioners, as indicated in results of analyses from the augmentation sample and social network analyses. For example, this set is likely to include school-university research partnerships in which both communities jointly construct and execute research projects as well as

technical assistance organizations with ongoing relationships with school districts to support particular improvement initiatives. Table B3 in Appendix B illustrates possible types of cases, with accompanying focal issues and data collection considerations.

Case study data will be qualitative in nature, and will be focused on collecting information about the individual/organization and the larger context in which it operates. We expect that the specific focal issues will be site-specific and emerge through the process of conducting the case studies. For all cases, we will collect a combination of interview, observational, and documents/artifacts to permit triangulation of evidence and ensure a comprehensive understanding of the relationships in question. We will begin the process by conducting interviews with researchers and organizational leaders and using this as a launching point for identifying additional data sources, for example, publishers or research brokers with whom they have a relationship and documentation about the research and dissemination process. We plan to conduct at least one three-day site visit to each organization (with follow-up by phone and Skype) in order to observe engagement with practitioners and other activities to supplement the perspectives offered by interviews and document analyses.

Analysis. A separate protocol will be developed to guide research community case studies, and analyses will be based on the empirical propositions about the relationships between production/dissemination of research and the research context based on quantitative analysis of survey data. These propositions will be examined using an explanation-building strategy within cases, then compared across cases to create more general explanations (Yin, 2009) about the production/dissemination of research and schools' use of research.

Our analytical strategy for research community case studies will mirror the strategy described for the school community case studies (see page 22) and include: open and closed coding procedures, within-case data triangulation to establish credibility, establishment of inter-rater reliability, and mixed methods analyses focused on sampling and concurrent-mixed analyses.

Timeline for Measurement and Descriptive Studies

See Table B4 in Appendix B for an illustration of the timeline for the iterative development measurement study and the two descriptive studies. The measurement study will be conducted during years 1-3 of this grant. The conceptual work and cognitive interviews will be done in Year 1. Recruitment for the pilot studies will begin in Year 1 and run through the summer before Year 2. The round 1 pilot of the surveys will occur in Fall of Year 2, with the round 2 pilot occurring the following spring. Psychometric analyses will be conducted in Years 2 and 3, with a user guide / technical manual produced in Year 3-4. Recruitment for the two descriptive studies will begin in Year 2 and conclude in the spring of Year 3. The two descriptive studies will begin in Year 3 and run though Year 5. The large-scale survey administration will occur in Year 3, during the fall and spring of the 2017-18 school year. HLM and SNA data analyses will be conducted in Years 3-4. The survey administration for the augmentation sample for Descriptive Study 2 will occur in Year 4. Case studies will be conducted in Year 4, with analyses concluding shortly after the beginning of Year 5. Dissemination and outreach via CRUE's website and online presence (i.e., Twitter) will run the entire length of this project. Production of research reports/briefs, academic manuscripts, conference presentations, and practitioner-targeted publications will be continuous from the end of Year 1 through Year 5.

Dissemination Plan

Publications in Refereed Journals. We envision six to ten peer-reviewed manuscripts published in such leading journals as the American Education Research Journal, the Elementary School Journal, Educational Evaluation and Policy Analysis, Education Administration Quarterly, and/or Economics of Education Review. The peer-review process will subject our work to scientific scrutiny and disseminate it to a scholarly audience.

Presentation at National Conferences. Researchers will present their findings annually at meetings of organizations such as the American Educational Research Association, the Society for Research in Educational Effectiveness, the University Council for Educational Administration, and other relevant venues.

Communication with policy and practitioner audiences. We will prepare several policy briefs for national dissemination, we will issue periodic press releases to communicate our results to key research brokers, and we will seek to publish findings from our work in practitioner-oriented periodicals (e.g., EdWeek, PDK). We will also publish a website for CRUE hosted by the Center for Research in Education and Social Policy (CRESP) at the University of Delaware. The website will include Working papers, policy briefs, produced as part of this project along with a *Research Use Blog* including bi-monthly entries by senior project staff designed to reach out to practitioner audiences.

OTHER CENTER ACTIVITIES

Central to the mission of the CRUE is the communication and translation of research findings for use by research and practice communities. Therefore, in addition to the measurement and descriptive studies, CRUE will engage in a number of leadership and outreach activities to further its mission and impact.

Leadership and Outreach. As part of its commitment to improving research use in education, CRUE will engage in a number of leadership and outreach activities. These activities will target research and practitioner communities separately and together, as well as bring other relevant stakeholders such as policymakers and institutions of higher education into the development of solutions increasing schools' engagement with research.

1. *CRUE website*. We will develop a website on knowledge utilization that includes a *Research Use Blog* (with monthly entries by senior project staff) and provides links to papers, measurement tools, and other resources that will advance scholarship and support efforts by researchers, research funders, and State and local education agencies to make high-quality education research more relevant to and impactful on improving teaching and learning in schools.

2. *Content-area twitter feeds.* Research has found one barrier to research use is the costs associated with search. That is, it takes time and personnel knowledgeable about research sources to search for relevant research findings to support decision-making. Further, search often requires decision-makers to be proactive in these efforts. To minimize these barriers, we plan to provide a technology-based service to support targeted dissemination of research findings for practitioner use. Launched in 2006, as a way to "Find out what's happening, right now, with the people and organizations you care about" (twitter.com), Twitter is used to network and communicate and is theorized in education to be a way to develop professional communities. Further, Cho, et al, 2013 suggest that, via Twitter, "teachers may be able to access knowledge

that is better tailored and more relevant to their everyday work" (p. 48). Building on these arguments, we intend to develop a Twitter network of practitioners to which the CRUE regularly tweets information pertaining to recent research and research-related products on a range of topics that our research suggests are problems for many schools. This includes findings based on CRUE research, but also new research published by others in top journals, research reports from major think tanks, and products from other research organizations. By delivering relevant information and reducing costs of search, we hope to better support research use in the network.

3. *Cross-community Networking Tool.* The descriptive studies CRUE conducts will produce findings that identify a) the types of problems schools seek research to address and b) members of the research community that are especially effective at producing rigorous research that is useful practitioners. This information will be used to create a networking tool through which practitioners can identify and connect with individuals, organizations, and products from the research community that are relevant to the topics and types of problems they seek to address. For example, a principal at a school looking to improve student reading performance might be connected to the Florida Center for Reading Research (FCRR), to a Regional Education Lab, or to a prominent reading researcher at a nearby university. The database of research experts behind this networking tool would be updated continuously, with additional researchers/organizations submitting their names, areas of expertise, and types of problems addressed by their research through an online form. By connecting those in need of research with those who intend for their research to impact practice, we anticipate that these efforts will produce increase research use by participating schools and districts.

4. *Researcher forum at AERA and SREE.* In order to generate improved research use in schools, the research community must engage in dialogue about current practice, including addressing relevance of research, incentives and structures supporting dissemination in useful formats, and other aspects of the industry which influence research use by practitioners. The American Educational Research Association (AERA) represents the largest network of educational researchers, and its annual meeting is an ideal venue for bringing together members of this community. Similarly, the Society of Research on Educational Effectiveness is a community focused on developing quality, causal research in education (e.g. what works) and the University Council for Educational Administration (UCEA) focuses on the improvement of educational leadership and administration. In Years 4 and 5 we plan to sponsor pre-sessions or in-conference sessions at both annual meetings, focused on key issues derived from our research. While topics are to be determined, potential topics include:

a) Development of research-practitioner partnerships. A session on this topic may include presentations from partnerships funded by the IES competition as well as representatives from established consortia (e.g. CCSR in Chicago, RANYCS in New York City), focused on strategies, challenges, and outcomes of this type of work.

b) Incentives, policies, and expectations in research institutions. A session on this topic may include presentation by leaders of a range of research-producing and brokering institutions as well as dialogue about the path forward for increasing the relevance and utilization of research in schools.

c) Strategies for effective communication and dissemination. CRUE research findings will identify gaps between how and where researchers share their work and from where practitioners seek evidence. Where those two behaviors overlap provides an opportunity for

improved research use. We would draw on leaders in those arenas as well as researchers who publish in those outlets to develop a presentation on issues of style, content, and audience to support more effective communication between communities.

d) Research strategies for the study of research use. Drawing on CRUE research as well as other scholars in the field, this session would entail discussion of instrumentation, design, and theory related to the study of research use.

5. *Co-design of professional development with technical assistance centers.* One strategy for outreach to the practitioner community is through professional development opportunities. Nationally, there are a number of technical assistance centers, including the Regional Education Labs, and national professional development organizations (e.g. National Staff Development Council), that deliver professional development to teachers and administrators. We propose to work in collaboration with these organizations to design professional development offerings related to research use. Specifically, this training would focus on malleable factors and strategies related to school and district structures and cultures that we empirically connect to deeper use of research through the Center's Descriptive Studies 1 and 2.

6. *Publicly available lessons/units for educator preparation programs*. A planned outcome of the Center's work will identify strengths and weaknesses in educator preparation and training with regard to using research in decision-making. Drawing on these findings, we plan to develop recommendations for how preparation programs in academic settings can incorporate important aspects of research use (i.e., related to the malleable factors and strategies identified in Descriptive Studies 1 and 2) into curricula, including model units/lessons. We propose to actively disseminate these tools to institutions of higher education.

MANAGEMENT AND INSTITUTIONAL RESOURCES

The Center will be co-directed by Drs. May and Farley-Ripple, devoting 26.6% CY and 27% AY FTE respectively to the project. Their project management and administrative responsibilities will also be shared with Dr. Karpyn (CRESP Associate Director), a CRESP Research Associate, and a full-time CRESP junior researcher and project manager. Additional senior staff include Drs. Okagaki, Gallimore, Seashore Louis, Maynard, Supovitz, and Weinbaum, who will for the full 5 years play major roles in project conceptualization, design of instruments, data collection and analysis planning, and writing and disseminating results. **Table B5 in Appendix B** *provides details of over 40 specific tasks to be undertaken, the timeframe for each task, and the names of members of the research team responsible for (or contributing to) each task.*

In Years 1-3, Dr. Jim O'Toole will lead the recruitment of participants for the pilot studies and field trial. The Center staff will also include postdoctoral limited-term researchers (one in Years 2 and 3; and three in Years 4 and 5), who will be devoted full-time to the project and will play major roles in design of instruments, sample recruitment, data collection, analyses, and writing. In addition, two doctoral student researchers will work closely with the Center directors and research staff in design of instruments, sample recruitment, data collection, analyses, and writing.

The measurement study and both descriptive studies will be co-led by Drs. May and Farley-Ripple, with support from Drs. Okagaki, Gallimore, Karpyn, Seashore Louis, Maynard, Supovitz, and Weinbaum. Members of this core leadership team will meet up to twice each

month (in person or by video conference) to develop concept maps, survey blueprints, interview protocols, and to review qualitative analytic memos, statistical analyses, to interpret results, and to support production of co-authored publications. All qualitative data collection and analyses will be led by Drs. Farley-Ripple and Karpyn, with support from Dr. May, the two CRESP researchers, postdoctoral limited-term researchers, and two doctoral students. The survey development, data collection, and analysis will be led by Dr. May, with support from Dr. Farley-Ripple, the CRESP researchers, doctoral students, and postdoctoral limited-term researchers. The qualitative and quantitative data collection and analysis teams will meet weekly to ensure progress toward project goals. In Year 4, when the case studies will be conducted, the qualitative team will grow to 9 people total, including four senior researchers, one junior researcher, two postdoctoral limited-term researchers, and two doctoral students.

During each year of the project, an eight-member advisory panel including representatives from the researcher and practitioner communities will provide consultation on project tasks and goals. This will include review of concept maps, blueprints, and draft instruments; feedback on data collection, analysis plans, and results memos; and consultation on dissemination strategies. The advisory panel will meet in person with the research team once each year, with 3-4 additional telephone/video conferences per year. Appendix D includes letters of support from advisory board members including Russ Whitehurst (Brookings Institution), Bob Granger (formerly WT Grant Foundation), Atnre Allende (DE DoE Harvard Strategic Data Fellow), Ben Herold (Education Week), Lisa Thomas (American Federation of Teachers), and Karen Kolsky (School District of Philadelphia).

The Center for Research in Education and Social Policy. The Center for Research in Education and Social Policy (CRESP) within the College of Education and Human Development at the University of Delaware conducts rigorous research in education, health care, and human services. CRESP has at its disposal office space, equipment, and resources necessary to support multiple research efforts. CRESP's video-conferencing suite supports collaborative work and data collection with geographically-dispersed individuals. The project will secure for researchers additional necessary hardware and the most recent versions of project-specific statistical and database software. One office at CRESP is dedicated to analyses of NCES restricted data in accordance with NCES' restricted data use requirements. Other data will be stored in secure servers managed by the University of Delaware's Office of Educational Technology. CRESP is connected directly to the UD School of Education's local area network and the internet, facilitating email communication, internet presence, and file exchange.

The University of Delaware. The University of Delaware (UD), a state assisted institution, is a Land Grant, Sea Grant, Space Grant, Carnegie Doctoral/Research Extensive University with externally funded activity totaling $200 million. UD provides a wide range of supports for faculty research with oversight by the Office of the Vice Provost for Research. The University's **College of Education and Human Development** consists of houses two academic units with over 100 faculty and 1,400 undergraduate and graduate students, as well as twelve research and service centers that provide research expertise and educational services to the community and the university. With $21.5 million in external funding for research and evaluation, the College provides a wide range of supports for faculty research including a financial unit, with administrative positions assigned to oversee all financial aspects of externally-funded research projects, and the Office of Educational Technology, which provides computer support, consultation, and training.

Henry May, PhD is Associate Professor in Evaluation, Measurement, and Statistics and Director of the Center for Research in Education and Social Policy (CRESP) at the University of Delaware College of Education and Human Development. Dr. May's primary areas of expertise include methods for program evaluation, experimental and quasi-experimental design, causal inference, multilevel modeling, longitudinal analysis, item response theory (IRT), and missing data theory. He has extensive experience collecting and analyzing survey data and activity log data from large samples of students, teachers, and schools, and has published numerous articles in peer-reviewed journals including: *Educational Evaluation and Policy Analysis, School Effectiveness and School Improvement, Education Finance and Policy, Education Administration Quarterly, the Elementary School Journal, Education Policy, the Journal of School Leadership, the American Journal of Evaluation,* and *the Journal of Educational and Behavioral Statistics*. His current and recent research projects include the $4 million randomized evaluation of the i3 Scale-Up of Reading Recovery, a randomized evaluation of the Ohio Personalized Assessment Reporting System, a longitudinal study of the International Baccalaureate Students' access, persistence, and performance in postsecondary education as well as a regression discontinuity study of the America's Choice Ramp-Up to Mathematics program. Dr. May was a senior statistician and psychometrician on the IES-funded validation of the Vanderbilt Assessment of Leadership in Education (VAL-ED) involving over 300 schools nationwide. Dr. May was also the primary author on an National Center for Education Evaluation technical methods report on the use of state test scores in education experiments from the Institute of Education Sciences. Since 2003, Dr. May has taught advanced statistics and research methods courses to graduate students at the University of Pennsylvania and the University of Delaware.

Elizabeth Farley-Ripple, PhD is an Assistant Professor in the School of Education at the University of Delaware. She is an experienced policy researcher, with expertise in mixed methods. She has also experience with a range of quantitative methods such as multi-level modeling, longitudinal analysis, and social network analysis and has worked extensively with surveys and qualitative methods, conducting and analyzing data from hundreds of interviews, documents, and observations. Her research interests focus on policy analysis and evidence-based decision-making, and she has worked on a range of educational and social policy issues, including administrator mobility, school and teachers' use of data, teacher quality and effects, and issues of equity in a variety of student outcomes such as dropout, educational attainment, teen fertility, and postsecondary access. Dr. Farley-Ripple has published research in top journals such as *Educational Researcher*, the *Journal of Educational Administration*, *Educational Policy*, the *American Journal of Education*, *Educational Management, Administration, and Leadership*, and *Urban Education*. She has served as Principal Investigator or Co-PI on grants funded through the Institute for Education Sciences and the Spencer Foundation, and was a lead researcher on two prior studies of administrator mobility and turnover in Delaware. Dr. Farley-Ripple teaches research methods, educational policy, and organizational theory in both the Ph.D. in Education and Ed.D. in Education Leadership programs at the University of Delaware.

Lynn Okagaki, Ph.D. is Dean of the University of Delaware's College of Education and Human Development. Prior to this appointment, she served in leadership roles at the U.S. Department of Education's Institute of Education Sciences (IES). As the first IES Deputy Director for Science, she established the IES scientific peer review system. As Commissioner for

Education Research and Acting Commissioner for Special Education Research, she oversaw the development of the IES research grant programs. She designed the IES research goal structure, which creates a stream of research from applied exploratory research through intervention development to efficacy and effectiveness evaluations. Okagaki is focused on solution-driven research to address the challenges faced by schools and the implementation of research-based interventions. Under her leadership, NCER developed two of the first IES practice guides, worked with the U.S. Department of Education's Doing What Works initiative to translate IES-research for practitioners, and began the first summaries of IES research for practitioners.

Allison Karpyn, Ph.D. is the Associate Director of the Center for Research in Education and Social Policy (CRESP) and Assistant Professor of Education. For more than 15 years, Dr. Karpyn has developed and lead research and evaluation efforts in education and the social sciences, particularly in low-income communities. As Associate Director of the Center for Research in Education and Social Policy and Assistant Professor of Education, Dr. Karpyn often works to guide and support the implementation and execution of high-quality research, both qualitative and quantitative. In this project Allison will contribute skills as a mentor and mixed methods researcher, her experience guiding the development of protocols, and her experience conducting qualitative data analysis.

Karen Seashore Louis, Ph.D. is Regents Professor and Robert Holmes Beck Chair of Ideas in Education at the University of Minnesota–Twin Cities. She has studied knowledge utilization, organizational change, and school leadership, improvement, and reform since the 1970s. Beginning with her dissertation, Dr. Louis analyzed data from the Pilot State Dissemination Project. She was the PI on the RDDU and Labs studies in the late 70s early 80s, and was involved in the Expansion of ERIC and the Pilot State Dissemination Project, the National Diffusion Network, the Research Development, Dissemination and Utilization Project, and investigations of the dissemination and use of knowledge generated by the Regional Educational Laboratories. More recently, she has conducted studies and published numerous articles on organizational learning and dissemination of research knowledge. Recent books include Organizing for School Change (2006), Professional Learning Communities: Divergence, Depth and Dilemmas (with Louise Stoll, 2007), and Building strong school cultures: A guide to leading change (with Sharon Kruse, 2009). She has served as the President of Division A (Educational Administration) of the American Educational Research Association, received the lifetime Contributions to Staff Development award from the National Staff Development Association in 2007, and is the 2009 recipient of the Campbell Lifetime Achievement Award from the University Council for Educational Administration.

Rebecca Maynard, Ph.D. recently returned to the University of Pennsylvania, where she is University Trustee Chair Professor of Education and Social Policy, following a two-year leave to serve as Commissioner of the National Center for Education Evaluation and Regional Assistance (NCEE) at the Institute of Education Sciences. She is a leading expert in the design and conduct of randomized controlled trials in the areas of education and social policy, has conducted influential methodological research, recently published open-ware tools to support the efficient deign of rigorous impact evaluations, and is widely acknowledge as an accomplished translator of technical research into the language of policy makers and practitioners. She has been a leader in the development and application of methods for conducting systematic reviews of evidence on program effectiveness, including serving on the technical review team during the design and development of the What Works Clearinghouse, a leader in the workgroup that laid

the groundwork for the Campbell Collaboration, a prominent member of a federal interagency workgroup tasked with initiating the development of a common evidence platform to support more and better use of evidence to inform policy and practice. She is a Fellow of the American Education Research Association (AERA); past president of the Association for Public Policy Analysis and Management (APPAM); Recipient Peter H. Rossi Award for Contributions to the Theory and Practice of Program Evaluation (2009); co-recipient of the Society of Prevention Research (SPR) Public Service Award (2008); and recipient of the Best Book Award: Society for Research on Adolescents (SRA) (1998). Prior to joining the faculty at the University of Pennsylvania in 1993, she was Senior Vice President at Mathematica Policy Research, Inc.

Ronald Gallimore, Ph.D. is Distinguished Professor Emeritus, UCLA and Grawemeyer Laureate (1993). He was co-founder of LessonLab (1998) and the Kamehameha Elementary Education Project (KEEP, 1969-1980) and co-creator of a model for teacher professional learning communities that would later become *Pearson Learning Teams*. He also co-directed the 1999 TIMSS Video Studies of Teaching. He has authored more than 130 journal articles, book chapters, and maintains an internet blog focused on teaching, coaching, and continuous improvement. Currently, he conducts research on improvement of teaching and coaching.

Jonathan Supovitz, Ed.D. is Associate Professor of Education and Director of the Consortium for Policy Research in Education at the University of Pennsylvania. He conducts research on how education organizations use different forms of evidence to inquire about the quality and effect of their systems to support the improvement of teaching and learning in schools. His current work focuses on how districts develop a coherent vision of instructional improvement and devise systems to support instructional focus in schools, and how organizations build a culture of inquiry that supports sustained organizational learning and improvement.

Elliot Weinbaum, Ph.D. From 2011-2013, Dr. Weinbaum served as the Associate Commissioner for Knowledge Utilization at the Institute of Education Sciences (IES) of the U.S. Department of Education. In that capacity, he oversaw the work of the Regional Educational Laboratories and the What Works Clearinghouse. He spearheaded efforts to make these federally-funded resources more relevant and accessible to the policymaker and practitioner audiences. Prior to his work at IES, he was a Research Assistant Professor at the University of Pennsylvania Graduate School of Education. His work there focused on the development of education policy and its impact on teacher and administrator practice and school improvement.

James O'Toole, Ed.D. is a Project Director at the Penn Center for Educational Leadership (PCEL) and an Adjunct Associate Professor at the Graduate School of Education at the University of Pennsylvania. Dr. O'Toole has extensive practitioner experience as a teacher, principal, and former superintendent. Since 2004, he has supervised two large research programs at PCEL, totaling $8 million. During the 2007-08 school year, Dr. O'Toole worked closely with Dr. May to select and recruit a nationally representative sample of more than 300 elementary, middle, and high schools for the psychometric validation of the Vanderbilt Assessment of Leadership in Educational (VAL-ED). This instrument is an extensive 360-degree survey completed by principals, teachers, and district superintendents. The sampling, recruitment, and incentive processes used for that effort are nearly identical to those proposed in this study. Prior to this work, Dr. O'Toole was responsible for recruiting a nationwide sample of school districts for Mathematica Policy Research Inc. for their IES grant entitled *The Evaluation of the Impact of Teacher Induction Programs*.

Appendix A:

Response to Prior Reviewer Comments

Significance:

Reviewer A noted that our original proposal seemed to focus more on hypothesis testing than identifying strategies for improving research use. To better address this goal, revisions have been made to clarify and detail the connections between the analyses, findings, and leadership and outreach activities. Reviewer A also noted that the original proposal included no review of prior instruments measuring research use in schools and districts. As such, we have added a critical review of such existing instruments, noting how we plan to build upon prior work. Lastly, this reviewer asked for innovative strategies for engaging practitioners in the work of the center. In response, we have (a) created an advisory panel that includes several practitioners, (b) revised our plans for a Cross-community Networking Tool involving practitioners and researchers.

Reviewer B noted that it was unclear where individual user characteristics (e.g., capacity to interpret research) fit in the framework and analyses. In response, we have made revisions to our framework and proposed analyses to clarify the roles of individuals and recognize their importance. This reviewer also noted that our original proposal seemed to use the words research and evidence interchangeably. As such, we have added some explicit clarifications considering research as one form of evidence, and differentiating between the narrow term "research" and broader "evidence". Lastly, Reviewer B argued that this project might focus on a few specific content areas. We have chosen not to narrow our focus, but instead to focus on aspects of Scientifically-Based Research, which are clearly emphasized by IES across all topic areas, yet allow very specific and focused study of researchers' and practitioners' knowledge, assumptions, values, and practices.

Reviewer C noted that many statements in the literature review were not directly connected to specific citations. Admittedly, some citations were inadvertently dropped during final revisions to our original proposal. In this revised submission, we have added citations throughout our narrative as suggested by Reviewer C.

Research Plan:

Reviewer A questioned the validity of averaging of survey responses across individuals within schools. We agree that such averages are not very informative, and we have worked clarify the within-school analyses that will explain variation in dimensions of research use, assumptions, connections, and capacity among individual respondents. This reviewer also requested elaboration of the case study methods. As such, we have added details to the narrative and included Appendix C Table C2 presenting illustrative examples of case studies, including focal issues, data sources, and design considerations. Lastly, this reviewer pointed out that our original submission did not clearly articulate how the project would meet Goal iii on page 7 of the RFP. In response, we have clarified at several points the links between hypotheses, analyses, findings, and leadership/outreach activities in order to identify malleable factors and promote strategies for increasing research use in schools.

Reviewer B suggested that details for the description of the instruments be provided in a table showing different constructs and how they might be defined for the two groups. The addition of

Table C1 in Appendix C presents illustrations of survey instrumentation, constructs, and sample question formats in a parallel format for the two groups. We have also acknowledged the overlap between the "relationship" construct in instruments 2R/3R and 2S/3S, but clarified that instruments 3R and 3S collect much more detailed data on each specific relationship and connection via a social network survey. Reviewer B also noted that we had not presented any power calculations for Descriptive Study 1. We now include power estimates for both descriptive studies, which confirm high levels of power and precision given the large sample sizes. This reviewer also noted that the nomination process for district staff could be more specific if the study focused on a particular content area. We appreciate this suggestion, but we have not changed the recruitment strategy given that our intended focus—scientifically-based research in the decision-making process—is not content-specific, and the proposed recruitment process targets that focus. Like the previous reviewer, Reviewer B requested additional details about the case studies. As such, we have substantially expanded these sections to detail the in-person visits, follow-up contact, interview participants, focal issues, data sources, and analytic strategy (including coding reliability assurance). We also followed this reviewer's suggestion to add in-depth case studies of research organizations to Descriptive Study 2.

Reviewer C commented that the number of instruments being developed seems ambitious. We have revised our description to emphasize the pairing of instruments and clarify that although there are seven instruments total, six of these are being developed in a parallel framework with the same constructs. Like the previous reviewer, Reviewer C also requested more details on the operationalization of the instruments, with specific concern about social desirability bias. In response, we have included Table C1 in Appendix C, which presents illustrations of survey instrumentation, constructs, and sample question formats in a parallel format for the two groups. These examples also attempt to illustrate how items might be focused and worded to avoid social desirability bias. Reviewer C also questioned why existing measured of validated constructs were not included in the study. While we certainly agree that other measures could be helpful, we have chosen not to include any because (a) our review of existing instruments found only one that was operationalized as a survey and validated, (b) the domains covered by that instrument are only partially related to a small subset of our constructs, and (c) the burden to respondents is already quite high. Reviewer C also noted several details omitted from our proposed social network analyses. In response, we have revised and expanded our discussion of the SNA to include density, unit of analysis, and aggregation of data.

Plans for Other Center Activities:

The supplemental studies proposed in our original submission have been removed in accordance with the RFP. Other revisions are as follows.

Reviewer A questioned the qualifications of the center staff to fulfill a leadership role. The bios of the PI and Co-PI have been revised to emphasize national visibility, and the roles of the more senior Co-Investigators and Consultants has been clarified to denote their roles in leadership activities. Also in response to Reviewer A, we have clarified the nature of the information that will be referenced in CRUE's Twitter feed.

Reviewer B requested more explicit connections between leadership/outreach activities and results from Descriptive studies 1 and 2. As such, we have clarified the connections between these activities and the malleable factors and strategies identified in Descriptive Studies 1 and 2.

Reviewer C noted that there was a lack of clarity about the project team's experience with online platforms. As such, the bio-sketches have been revised to include relevant experience.

Management and Institutional Resources:

All three reviewers commented that the management plan was underspecified. As such, we have revised the narrative and included substantial additional details in the new Table B4 in Appendix B, which documents 46 separate tasks to be undertaken during the project, including timeframe, and which project staff will be responsible for each the task, and who will play supporting roles. Reviewer C noted that letters of support were not included from school leaders/educators who would participate in CRUE's activities. In response we have included letters of support from a senior leader from the AFT and former elementary school teacher, an Assistant Regional Superintendent from the School District of Philadelphia, and a Strategic Data Fellow at the Delaware Department of Education.

Personnel:

Reviewer A questioned whether the PI has experience relevant to national leadership activities in knowledge utilization. Admittedly, Dr. May does not have the national presence of several other members of the CRUE research team (e.g., Gallimore, Maynard, Okagaki, Seashore Louis). As such, these senior members of the team will be instrumental in the dissemination of CRUE findings and the promotion of planned leadership activities and will also serve as mentors to the Co-PIs. Although discussed only briefly in the narrative, we believe that Dr. May's CV reflects experience as a national expert in rigorous research methods and quality of evidence (i.e., as a key component in knowledge utilization and a major emphasis of scientifically-based research). For example, he is PI on the randomized evaluation of the Reading Recovery i3 Scale-Up, which one of the largest RCTs of an instructional intervention ever conducted (i.e., involving more than 1,500 schools and 10,000 children). In connection with that study, Dr. May has presented at several national conferences (including a Presidential Session at AERA in 2014), been quoted in Education Week (http://www.edweek.org/ew/articles/2013/12/04/13report-b1.h33.html), and has his team's work cited in a Twitter post by Dylan Wiliam, and internationally recognized expert with over 20,000 followers (https://twitter.com/dylanwiliam/status/390249316234706944). Dr. May has also presented at several more practitioner-oriented regional and national venues including the CCSSO National Conference on Student Assessment, the University Council for Educational Administration (UCEA), the Florida Educational Technology Conference, the National Clearinghouse on Comprehensive School Reform, the National Laboratory Network T@3 Conference, the Regional Education Laboratory Directors' Meeting, and the Maisie Learning Conference. In sum, we feel that Dr. May, Dr. Farley-Ripple, and the other nationally-recognized experts on this project team are prepared to ensure the success of CRUE's leadership and outreach activities.

Reviewer B questioned "how Elliot Weinbaum, a program officer at a foundation, will contribute to the work." Admittedly, we described first his current position with the William Penn Foundation instead of showcasing his former position as Associate Commissioner for Knowledge Utilization at IES. This is now clearly up front in Dr. Weinbaum's bio, and his role as a consultant is now more explicitly defined. Reviewer B also asked who on the project has case study methods experience. The bios for Dr. Farley-Ripple and Dr. Karpyn now emphasize their extensive experience in qualitative and mixed methods research, and Dr. Seashore Louis' role supporting the qualitative work is now clarified.

Appendix B:

Table B1. Examples of Types of Members Included in the Research Community

Researchers	Research Brokers
IES-Funded Research & Development Centers	What Works Clearinghouse (WWC)
Regional Education Labs	Regional Education Labs
Think Tanks	Academic Publishers
University Research Centers	Education News Outlets (e.g., Ed Week)
Authors of IES-NCEE Reports	Practitioner Journals (e.g., PDK)
Individual University Faculty	Authors and moderators of research blogs and online discussion boards
Program Developers & Evaluators	Program Sales/Marketing Staff
Research Foundations	Advocacy Coalitions

Table B2. Factors Shaping Evidence Use, Organized By Two-Communities' Gaps

Research products	**Accessibility of information** (Gross, et al, 2005; Corcoran et al 2001; Roberts and Smith 1982; West and Rhoton, 1994; Honig, 2003; Finnegan, et al, 2012) **Format and complexity** (Reichardt, 2000; West and Rhoton, 1994) **Research products** (Landry, et al, 1998; Huberman & Thurler, 1991)
Nature/quality of research	**Source of evidence (internally or externally produced)** (Caplan, et al, 1975; Fillos and Bailey, 1978; Kean, 1980; Weiss and Bucuvalas, 1977; Supovitz and Klein, 2003; Corcoran, et al, 2001; Nelson, 1987, Finnegan, et al, 2012) **Ambiguity of findings** (Broekkamp & Hout-Walters, 2007; March, 1994; Hannaway, 1989;) **Technical capacity to understand/apply evidence** (Supovitz and Klein, 2003; West and Rhoton, 2994; Reichardt, 2000; Coburn & Talbert, 2006) **Research methods/quality** (Broekkamp & Hout-Walters, 2007; Coburn & Talbert, 2006; Hemsley, et al, 2009; Maynard, 2006; Filos & Bailey, 1978; Patton, 1985)
Problems addressed	**Relevance to policy or decision needs** (Broekkamp & Hout-Walters, 2007; Maynard, 2006, West and Rhoton, 1994, Supovitz and Klein, 2003; Hemsley, et al, 2009) **Type or nature of decision** (Farley-Ripple, 2008)
Structures, processes, incentives	**Organizational structures** (David, 1981; Hannaway, 1989; Meyer and Scott, 1983; Rowan, 1986; Spillane, 1998; Weiss 1995; Coburn & Talbert 2006) **Ties to central office or other organizations** (Finnegan, et al, 2012; Honig & Venkateswaran, 2012; Massel, et al, 2012) **Networks within organizations** (Finnegan, et al, 2012; Massel, et al, 2012; Frank, Zhao, & Borman, 2004) **Organizational politics** (Kerr, et al, 2006; David, 1981) **Time demands on decision-makers** (Gross, et al, 2005; Supovitz and Klein, 2003; Wayman and Stringfield, 2006) **Culture and norms of decision-making** (Rich and Oh, 1993; West and Rhoton, 1994; Corcoran, et al, 2001; Honig, 2003; Coburn & Talbert, 2006) **Financial or personnel capacity to search for and use** (WestEd, 2002; Supovitz and Klein, 2003; West and Rhoton, 1994) **Incentives and structures in research organizations** (Coburn, et al, 2012; Burkhardt & Schoenfeld, 2003; Landry, et al, 1998)
Relationships between communities	**Interaction as supporting research use** (Huberman, 1990; Landry, et al, 2001; Cousins & Simon YYYY; Backer, 1986; Honig & Venkateswaran, 2012) **Types of and nature of interaction** (Lavis, et al, 2003; Coburn & Stein, Eds, 2010; Louis, 1992)

Table B3. *Illustrative examples of case studies*

Potential focus issues	Potential data sources and design considerations
School Community Case Examples	
School Level • What aspects of the school structure promote the value of research, and how did those structures come to be? • How can we characterize the school culture as it relates to disposition to research use? • What types of resources (human, financial, material) are allocated to research use? • What type of leadership strategy is in place, and what leadership actions support research use? • What is the overall level of cognitive capacity for research use among staff, and what experiences/preparation support that capacity? • What supports/barriers from other levels of the education system (district, state) exist? Research/decision level • What types of problems/decisions has research been used to address, and why? • What types of research and what specific research have been brought to bear, and what are the characteristics of that research? • What people and processes were involved in bringing research into the discussion? • How was the research identified, why, and from where? • What decision-making structures exist and who participates?	School level • Interview with school leaders • Analysis of organizational table • Analysis of organizational planning documents (e.g. improvement plans, budgets) • Focus groups with teachers • Social network analysis of school (and/or district) • Observation of leadership or other decision-making meetings around assistance topic • Interviews with relevant central office personnel identified by teachers and leaders Research/decision-level • Tracking of research findings/products in school through interviews, documents or surveys • Following a decision-real time through observation, interviews, and documents • Analysis of decision-making documentation (e.g. minutes of meetings) • Interviews with decision participants • Text analysis of research • Tracking research back to source through interviews, document analysis
Research Community Case Examples	
Organizational level • How is the organization structured to support communication and dissemination? • What is the vision of the organization and how is that institutionalized in practice? • Who is responsible for communication and dissemination, and what preparation/experiences are important for that role?	Organizational level • Interviews with organizational leadership • Analysis of organizational table • Interviews with key personnel responsible for communication/dissemination • Analysis of organizational planning documents (e.g. strategic plans) • Analysis of documentation of dissemination strategies/planning • Observation of meetings where plans for product development/dissemination are discussed

Research Community Case Examples (continued)	
Research/product level • What principles guide the development of research/products, and how were they determined? • What specific strategies are used and how were they selected? • What specific audiences are targeted and how are products tailored to those audiences? • Are there specific ways that products are tracked or monitored for degree of dissemination or impact? **Research level** • What are the characteristics of the research (e.g. topic, methodology)? • What form has it been communicated/disseminated in, and what are the characteristics of that form? • What are the key findings and to what extent are they framed for action or use by practitioners? **Researcher level** • What led to the selection of research topic/question? • How was the research conducted, and to what extent were practitioners involved? • What were the goals for the research and to what extent was the goal to impact practice? • What factors influenced decision about how to disseminate/communicate research? **Organizational level** • What incentives and structures influenced the research agenda of the individual? • What incentives/structures influenced dissemination choices? • What is the organizational mission and to what extent does it support research-practice linkages?	**Research/product level** • Interview with product developers/communicators focused on principles and strategies • Analysis of products for evidence of principles • Tracking of research/products in research and practitioner communities via internet • Interviews with practitioner users (identified by brokering organization) of products • Analysis of broker-produced data monitoring or tracking products **Research level** • Text analysis of research and research products • Tracking of research/products in research and practitioner communities via internet • Interviews with brokers and/or practitioner users (identified by researcher) of products **Researcher level** • Interview with researcher(s) • Analysis of research documentation (e.g. research trail) • Analysis of dissemination planning documentation (e.g. discussions with communication office, publishers, etc) **Organizational level** • Text analysis of organizational table • Analysis of organizational strategic plan/mission Interview with organizational leadership

Research and School Community Case Examples: **School-University Partnership**	
School level • What aspects of the school structure promote the value of research, and how did those structures come to be? • How can we characterize the school culture as it relates to disposition to research use? • What decision-making structures exist and who participates? • What types of resources (human, financial, material) are allocated to research use? • What type of leadership strategy is in place, and what leadership actions support research use? • What is the overall level of cognitive capacity for research use among staff, and what experiences/preparation support that capacity? • What problems has the school experienced and how were problems identified as priorities? • What supports/barriers from other levels of the education system (district, state) exist? University level • What is the organizational mission and to what extent does it support research-practice linkages? • What organizational vision for research-practice linkages, and how is that institutionalized in policy and practice? • What resources are allocated to supporting research-practice linkages and where do they come from? • What incentives and structures guide research production and research-practice linkages? Partnership level • How was the need for (or readiness) for a research partnership determined, and who was involved in the decision to form a partnership? • What are the partnership goals and research agenda, and how were they developed? • What is the partnership process and how was it established (e.g. roles, structures, resources, decision making)? • How is the partnership working? Are both parties benefitting and in what ways? • How will the partnership – and the impact of the research – be evaluated? What will it look like to be "successful"?	School level • Interview with school leaders • Analysis of organizational table • Analysis of organizational planning documents (e.g. improvement plans, budgets) • Focus groups with teachers • Observation of leadership or other decision-making meetings • Shadowing teachers and/or leaders • Analysis of decision-making documentation (e.g. minutes of meetings) • Interviews with relevant central office personnel identified by teachers and leaders University level • Interview with organizational leadership (e.g. department chair, dean, etc) • Analysis of organizational strategic planning documents • Analysis of organization table • Focus groups with relevant faculty or staff identified as supporting partnership activities • Analysis of incentives and other documents (e.g. by-laws, promotion and tenure guidelines, etc) Partnership level • Observations of partnership meetings • Text analysis of MOUs or other partnership documentation • Interviews with participants from both organizations • Text analysis of organizational documents (e.g. missions, improvement/strategic plans) • Tracking of research findings/products within partnership and through both organizations through interviews, documents or surveys • Social network survey analysis of participating partners

Research and School Community Case Examples: **Technical assistance center with long-term school client**	
Center level	Center level
• What is the primary focus of the center (topic) and how was that determined?	• Interview with organizational leadership
• What types of research does the center utilize to support partners, and why?	• Analysis of organizational strategic planning documents
• What types of products are developed, and what are their characteristics?	• Analysis of organization table
• What is the mission of the organization with respect to supporting research use, and how is that institutionalized in policy and practice?	• Focus groups with relevant identified as engaging in technical assistance activities
• Who are the individuals responsible for engaging with clients around research use and what experiences/preparation is necessary?	• Analysis of research products/communication documentation
• What strategies are in use to engage clients, and what principles guide that engagement?	• Observations of meetings with client(s)
• What types of roles does the center assume when working with clients, and what are the expectations of the client?	School level
	• Interview with school leaders
School level	• Analysis of organizational table
• How was the center identified as a potential resource, and why?	• Analysis of organizational planning documents (e.g. improvement plans, budgets)
• What specific needs does the school have, and how were those determined?	• Focus groups with teachers
• What are expectations for center support, and what role does the center have in school policy and practice?	• Observation of leadership or other decision-making meetings around assistance topic
• How is the relationship with the center valued and to what extent have expectations been met? How are they measured/evaluated?	• Tracking of research findings/products in school through interviews, documents or surveys
• What structures and processes are in place to bring new information from partner into practice in the school (and then in schools)?	• Observations of classrooms/sites where initiative being implemented
• What resources support the relationship with the center?	• Analysis of decision-making documentation (e.g. minutes of meetings)
• What type of leadership strategy is in place, and what leadership actions support research use?	• Interviews with relevant central office personnel identified by teachers and leaders
• What is the mission/vision for the school and how does it support research use?	
• What supports/barriers from other levels of the education system (district, state) exist with respect to research use?	

Table B4. Timeline for the Center on Research Use in Education Focused Program of Research

		2015-16			2016-17			2017-18			2018-19			2019-20		
		Fall '15	Spr '16	Sum '16	Fall '16	Spr '17	Sum '17	Fall '17	Spr '18	Sum '18	Fall '18	Spr '19	Sum '19	Fall '19	Spr '20	Sum '20
Measurement Study	Conceptual Work / Blueprinting	▓	▓													
	Semi-Structured Interviews w Potential Respondents		▓	▓												
	Cognitive Interviews			▓	▓											
	Pilot Study Recruiting			▓	▓											
	Produce Manuscript on Conceptual Framework				▓											
	Pilot Study 1					▓										
	Pilot Study 2					▓	▓									
	Instrument Revision / Psychometric Analyses						▓	▓								
	Instrument Validation / Psychometric Analyses							▓	▓							
	Publish User Guide / Technical Manual										▓					
Descriptive Studies	Recruiting for Descriptive Studies								▓	▓						
	Large-Scale Survey Administration								▓	▓						
	HLM/Regression Analyses								▓	▓	▓					
	Network Analyses									▓	▓					
	Augmentation Sample Survey Administration											▓	▓			
	Analyses with Augmented Sample												▓	▓		
	Case Study Recruitment & Data Collection									▓	▓					
	Case Study Data Analyses											▓	▓			
	CRUE Website Blog/Twitter Feeds/Networking Tool														▓	▓
	Practitioner PD Materials/Training												▓		▓	▓
	Researcher Forums														▓	▓
	Report/Manuscript Production & Dissemination														▓	▓

Table B5. Project Management Timeline

DATES	TASKS	RESPONSIBLE STAFF
Instrument Development and Measurement Study		
Fall 2015	Develop blueprints based on conceptual framework and feedback from advisory board	May, Farley-Ripple, Maynard, Louis, Okagaki (with input from Gallimore, Supovitz, Weinbaum, & Advisory Board)
Fall 2015-Spring, 2016	Conduct semi-structured interviews using a small sample from research and practice communities	Farley-Ripple, Karpyn, CRESP research associate, CRESP junior researcher, graduate student
Spring 2016	Revised blueprinting based on interview results, development of draft instruments	May, Farley-Ripple, Maynard, Louis, Okagaki (with input from Gallimore, Supovitz, Weinbaum, & Advisory Board)
Spring 2016	Recruitment for cognitive interviews	May & O'Toole (with assistance from CRESP research associate)
Spring 2016-Summer 2016	Cognitive interviews with 30 researchers, 10 brokers, 10 school leaders, and 30 teachers.	Farley-Ripple, May, Karpyn, CRESP research associate, CRESP junior researcher, graduate student
Summer 2016	Analysis of cognitive interview data	Farley-Ripple, May, Karpyn, CRESP research associate, CRESP junior researcher, graduate student
Summer 2016	Revision of instruments based on cognitive interviews	Farley-Ripple, May, Karpyn (with input from Maynard, Louis, Okagaki, Gallimore, Supovitz, & Weinbaum)
Spring-Summer 2016	Pilot study recruitment of 150 researchers, 50 research brokers, and staff from 30 public schools	May & O'Toole Farley-Ripple, Maynard, Louis, Okagaki, Gallimore, Supovitz, & Weinbaum (with support from CRESP junior researcher, and graduate student)
Fall 2016	Administration of online survey instruments in first round of pilot study	May, CRESP research associate, CRESP junior researcher, and 2 graduate students
Fall 2016	Psychometric analyses of first round of pilot data to identify problematic items	May & post-doctoral LTR (with support from 2 graduate students)
Fall 2016	Revision of survey instruments based on first pilot results	Farley-Ripple, May, Karpyn (with input from Maynard, Louis, Okagaki, Gallimore, Supovitz, & Weinbaum)

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Spring 2017	Administration of revised survey instruments in second round pilot study	May, CRESP research associate, CRESP junior researcher, and 2 graduate students
Spring 2017-Summer 2017	Psychometric analyses of second round of pilot data	May & post-doctoral LTR (with support from 2 graduate students)
Summer 2017	Final revision of survey instruments	Farley-Ripple, May, Karpyn (with input from Maynard, Louis, Okagaki, Gallimore, Supovitz, & Weinbaum)
Fall 2017-Summer 2018	Psychometric analyses of large-scale administration data from descriptive studies 1 & 2	May & post-doctoral LTR (with support from 2 graduate students)
Summer-Fall 2018	Develop and publish user guide and technical manual for full set of instruments	May, Farley-Ripple, Karpyn, post-doctoral LTR, CRESP research associate, CRESP junior researcher, and 2 graduate students (with input from Maynard, Louis, Okagaki, Gallimore, Supovitz, Weinbaum, & Advisory Board)
Descriptive Study 1		
Fall 2016-Spring 2018	Recruitment of national sample of 300 schools	O'Toole, May, CRESP research associate, project manager
Fall 2017-Spring 2018	Administration of practitioner community survey instruments (1S, 2S, 3S and 7) in 300 schools	May, CRESP research associate, project manager, post-doctoral LTR, and 2 graduate students
Spring-Fall 2018	HLM analyses of practitioner community survey data from 13,500 teachers and administrators from 300 schools	May & post-doctoral LTR (with support from graduate students and input from Farley-Ripple, Maynard, Louis, Okagaki, Karpyn, Gallimore, Weinbaum, & Supovitz)
Spring 2018-Fall 2019	Network analyses of practitioner community survey data from 300 schools	Farley-Ripple & Karpyn (with support from CRESP research associate and 2 graduate students and input from May, Maynard, Louis, Okagaki, Gallimore, Weinbaum, & Supovitz)
Fall 2018	Selection and recruitment of 10 school community case studies	Farley-Ripple, Karpyn, CRESP Research Associate, May, project manager (with support from 2 Post-doctoral LTRs & 2 graduate students)

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Fall 2018-Spring 2019	Case study data collection (interviews, site visits, document collection)	Farley-Ripple, Karpyn, May, CRESP Research Associate, CRESP junior researcher, 2 Post-doctoral LTRs, 2 graduate students
Spring 2019-Fall 2019	Qualitative and mixed methods analysis case study of data	Farley-Ripple, Karpyn, May, CRESP Research Associate, CRESP junior researcher, 2 Post-doctoral LTRs, 2 graduate students (with input from Maynard, Louis, Okagaki, Gallimore, Supovitz, Weinbaum, & Advisory Board)
Descriptive Study 2		
Fall 2016-Summer 2017	Recruiting of 300 researchers/research organizations, 100 research brokers	May, Farley-Ripple, Maynard, Louis, Okagaki, Gallimore, Karpyn, Supovitz, & Weinbaum (with support from CRESP research associate, project manager, post-doctoral LTR, and 2 graduate students)
Fall 2017-Spring 2018	Administration of researcher community survey instruments (1R, 2R, and 3R) to sample	May, CRESP research associate, project manager, post-doctoral LTR, and 2 graduate students
Fall 2018	Recruitment of augmentation sample based on Descriptive Study 1	May, Farley-Ripple, Maynard, Louis, Okagaki, Gallimore, Karpyn, Supovitz, & Weinbaum (with support from CRESP research associate, project manager, post-doctoral LTR, and 2 graduate students)
Fall 2018	Administration of research community survey instruments to augmentation sample	May, CRESP research associate, project manager, post-doctoral LTR, and 2 graduate students
Spring 2018-Fall 2019	Regression analyses of researcher / broker community survey data from 300 researchers/research organizations and 100 brokers from across the nation	May & post-doctoral LTR (with support from graduate students and input from Farley-Ripple, Maynard, Louis, Okagaki, Karpyn, Gallimore, Weinbaum, & Supovitz)
Spring 2018-Fall 2019	Network analyses of researcher / broker community survey data from 300 researchers/research organizations and 100 brokers from across the nation	Farley-Ripple & Karpyn (with support from CRESP research associate and 2 graduate students and input from May, Maynard, Louis, Okagaki, Gallimore, Weinbaum, & Supovitz)

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Fall 2018	Selection and recruitment of 10 research community case studies	May, Farley-Ripple, Maynard, Okagaki, Weinbaum, Louis, Gallimore, Supovitz, & Karpyn
Fall 2018-Spring 2019	Case study data collection (interviews, site visits, document collection)	Farley-Ripple, Karpyn, May, CRESP Research Associate, CRESP junior researcher, 2 Post-doctoral LTRs, 2 graduate students
Spring 2019-Fall 2019	Qualitative and mixed methods analysis of case study data (including triangulation with surveys)	Farley-Ripple, Karpyn, May, CRESP research associate, 2 Post-doctoral limited term researchers, 2 graduate students (with input from Maynard, Louis, Okagaki, Gallimore, Supovitz, Weinbaum, & Advisory Board)
Research Production/Dissemination and Leadership & Outreach Activities		
Fall 2015-Summer 2020	Development and maintenance of CRUE website for communication of Center activities, research, and tools	Project manager, CRESP research associate graduate students, post-doctoral researchers & Advisory Board
Summer-Fall 2016	Produce manuscript describing theoretical/conceptual framework for CRUE, including supporting data from interviews	Farley-Ripple, May, Maynard, Louis, Okagaki, Gallimore, Weinbaum, & Supovitz (with input from Advisory Board)
Summer 2016-Summer 2020	CRUE website blog and e-mail list as outreach to research and practitioner communities	Rotating monthly authorship among May, Farley-Ripple, Maynard, Louis, Okagaki, Gallimore, Karpyn, Supovitz, Weinbaum
Summer 2016-Summer 2020	Development and delivery of content-area Twitter feeds, building Twitter network	CRESP research associate, graduate students, post-doctoral researchers
Summer 2016-Summer 2020	Development and updating of networking tool for connecting practitioners to researchers by topic	May, Farley-Ripple, CRESP research associate, graduate students, post-doctoral researchers
Spring 2017-Summer 2020	Dissemination of findings through presentations at national conferences	May, Farley-Ripple, Maynard, Louis, Okagaki, Gallimore, Karpyn, Supovitz, Weinbaum
Summer-Fall 2018	Produce manuscript describing validation of CRUE instruments based on pilot and large-scale administration	May, post-doctoral LTR, Farley-Ripple, Maynard, Louis, Okagaki, Karpyn, Gallimore, Weinbaum, Supovitz, CRESP research associate, CRESP junior researcher, and 2 graduate students (with input from Advisory Board)

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Summer-Fall 2018	Produce manuscript describing nature, scope, and predictors of connections between practitioner and researcher communities based on network analyses of data from 300 schools	Farley-Ripple, Karpyn, May, post-doctoral LTR, Maynard, Louis, Okagaki, Gallimore, Weinbaum, Supovitz, CRESP research associate, CRESP junior researcher, and 2 graduate students (with input from Advisory Board)
Fall 2018-Spring 2019	Produce manuscript identifying key predictors of schools' depth of research use based on HLM analyses of CRUE practitioner community instruments	May, post-doctoral LTR, Farley-Ripple, Maynard, Louis, Okagaki, Karpyn, Gallimore, Weinbaum, Supovitz, CRESP research associate, CRESP junior researcher, and 2 graduate students (with input from Advisory Board)
Summer-Fall 2019	Produce manuscript describing and comparing 10 deep-use schools based on case study data	Farley-Ripple, Karpyn, May, post-doctoral LTR, Maynard, Louis, Okagaki, Gallimore, Weinbaum, Supovitz, CRESP research associate, CRESP junior researcher, and 2 graduate students (with input from Advisory Board)
Fall 2018-Spring 2020	Design and execution of researcher forums (AERA, SREE, UCEA) based on findings from measurement and descriptive studies.	Gallimore, Okagaki, Louis, Maynard, May, Farley-Ripple, Karpyn, Supovitz, Weinbaum
Summer 2019-Summer 2020	Development of professional development in collaboration with technical assistance centers.	Farley-Ripple, Gallimore, Louis, Supovitz, & Weinbaum (with support from project manager, CRESP research associate, graduate students)
Summer 2019-Summer 2020	Development and dissemination of publicly available modules for educator preparation programs	Farley-Ripple, Gallimore, & May (with support from project manager, CRESP research associate, graduate students)
Spring 2019-Summer 2020	Publication of findings in policy/practitioner periodicals	Gallimore, May, Farley-Ripple, Karpyn, Maynard, Louis, Supovitz, Weinbaum

Appendix C:

Table C1.
Example survey instrumentation, parallel constructs, and sample question formats

Table C1. Examples of survey instrumentation, parallel constructs, and sample question formats

Instrument		Target Sample	
Name	**Construct**	**Research Community**	**Practitioner (School) Community**
		Instrument 1R	**Instrument 1S**
Production/ dissemination and Depth of Use	*Evidence*	Characteristics of research produced and disseminated *Sample question: Approximately how often do you conduct the following kinds of research?* • *Randomized controlled trial* • *Non-experimental program evaluation* • *Correlational research* • *Qualitative Interviews/Observations* • *Ethnography*	Types of evidence used to inform recent decisions *Sample questions:* *How important are peer-reviewed publications when research is considered as part of decision-making in your school?* *Are random assignment given priority when research is considered as part of decision-making in your school?*
	Search	Describe mechanisms by which research is made available, likelihood of being found via search strategies *Sample question: To what extent do you agree with the following statement? My (organization's) research is accessible directly and without cost to the public.*	Strategies for finding research and other evidence *Sample question: To what extent do you agree with the following statement? I tend to use research that is available to the public for free.*
	Interpretation	Technical sophistication of products and presentation *Sample question: How often do you produce publications that are written primarily for non-technical audiences?*	How evaluate, synthesize research information *Sample question: Please rate how often the following types of research are used to inform decisions at your school.* • *Randomized controlled trial* • *Non-experimental program evaluation* • *Correlational research* • *Qualitative Interviews/Observations* • *Ethnography*

	Participation	Identify target audiences	Who participates in research use and decision-making
		Sample question: To what extent are the following target audiences for your research/research products: • *Teachers* • *Principals/district leaders* • *Professional developers* • *Higher education instructors* • *Local, state or federal policymakers* • *Parents/communities* • *Reform organizations* • *Advocacy groups*	*Sample question: To what extent have the following participated in decision-making in the school (0=not at all, 6=to a great extent):* • *Teachers* • *Principals/district leaders* • *Professional developers* • *Higher education instructors* • *Local, state or federal policymakers* • *Parents/communities* • *Reform organizations* • *Advocacy groups*
	Frequency	Methods for tracking dissemination, use, and/or impact *Sample question: To what extent are the following metrics used to evaluate the impact of research/research products (0=not at all, 6=to a great extent)?* • *Citations in peer-reviewed journals* • *Citations in practitioner journals and magazines (e.g., PDK, EdWeek)* • *Citations in popular press (e.g., NY Times)* • *Number of Downloads*	Regularity with which evidence is brought into decision *Sample question: How often are the following sources of evidence discussed in faculty meetings?* • *Articles from peer-reviewed journals* • *Articles from practitioner journals/magazines* • *Articles from other newspapers and magazines* • *What Works Clearinghouse reports* • *Downloadable Research Reports* • *Analyses of local data (e.g. test scores)* • *Anecdotal reports by outside educators* • *Personal experience and observation*
	Decision stage	How practitioners report using research *Sample question: In what ways do you believe your research can be most helpful to practitioners?* • *Identifying and defining problems of practice*	Timing in decision process *Sample question: Which of the following best describes how research is typically used in the decision-making process at your school.* • *Decisions are made, and only afterwards is research sought to justify the decision*

		- *Exploring potential solutions* - *Collecting and evaluating evidence* - *Selecting the best option among competing alternatives*	- *Research is used continually to inform conceptions of problems and evaluate many possible solutions* - *Research is cited only in vague terms, without identification of specific sources*

		Instrument 2R	**Instrument 3S**
Assumptions and Perspectives about Research	*Products*	What is most useful to practitioners and degree to which products fit those characteristics *Sample question: How important are the following characteristics when disseminating your research/research products:* - *Readability* - *Accessibility to the public* - *specific, actionable conclusion or recommendation;* - *focus on variables that can be manipulated in policy or practice* - *appeal of format (graphics, color, humor, packaging)*	Characteristics of products they find useful *Sample question: How important are the following characteristics when searching for research/research products to inform decisions:* - *Readability* - *Accessibility to the public* - *specific, actionable conclusion or recommendation;* - *focus on variables that can be manipulated in policy or practice* - *appeal of format (graphics, color, humor, packaging)*
	Quality of research	Characteristics of research in terms of standards of evidence and how presented *Sample question: How important are the following features to your research/research products:* - *has a high level of external validity* - *meets standards for causal inference* - *draws on well-developed theory* - *utilizes quantitative methods*	What standards of evidence or other qualities of research are valued *Sample question: How important are the following features when using research/research products to inform decisions (0=not at all, 6=extremely important):* - *findings are generalizable to many contexts* - *meets standards for establishing "what works"* - *is guided by theory* - *uses statistical analyses*

	Problems of practice	Factors that influence research conducted/disseminated and what extent they believe they address problems of practice *Sample question: To what extent do practitioners influence the topics and methods used in your research?*	Degree to which research addresses problems of practice *Sample question: To what extent do you feel that research/research products you have encountered are focused on practitioner needs?*
	Structures, processes, and incentives	What structures, processes, or incentives in place influence the research conducted and how it is disseminated *Sample question: To what extent do requirements/expectations for career advancement influence decisions about research and dissemination?*	What structures, processes, or incentives in place influence the role of research in decision making *Sample question: To what extent has school leadership set expectations for research to inform decision-making in the school?*
	Relationships between communities	Whether and how they engage practitioners in research or dissemination of research *Sample question: Which of the following best characterizes your interaction with the practitioner community (with respect to producing/disseminating research):* • *primarily informal, direct interactions* • *primarily formal, direct interactions* • *primarily indirect interactions through another organization or individual (please name that organization or individual ___)*	Whether and how they participate in research or disseminate research *Sample question: Which of the following best characterizes your interaction with the research community:* • *primarily informal, direct interactions* • *primarily formal, direct interactions* • *primarily indirect interactions through another organization or individual (please name that organization or individual ___)*

		Instrument 3R:	**Instrument 3S:**
Connections	*Relationships*	Identify connections to brokers and practitioners *Sample question: Please list individuals or organizations with which you interact to support dissemination and communication of research findings. These may include publishers, media, developers, and advocacy organizations.*	Identify connections to brokers and researcher community *Sample question: Please list research organizations and individual researchers with which you have directly interacted around research.*
	Strength	Assess the value and frequency of previously identified relationships *Sample question: Please indicate the frequency with which you interact with the individual/organization.*	Assess the value and frequency of previously identified relationships *Sample question: Please indicate the frequency with which you interact with the individual/organization.*
	Familiarity with national, regional, and/or local organizations	Assess familiarity with local educational agencies *Sample question: Please indicate the extent to which you interacted with the following educational agencies:* • *Teachers* • *School Principals* • *School District Staff* • *Regional/state education agencies*	Assess familiarity with various educational research organizations *Sample question: Please indicate the extent to which you have utilized or interacted with the following educational research organizations:* • *The What Works Clearinghouse* • *Local Regional Laboratory* • *Local Research University faculty* • *Local Education Think Tanks*

Capacity to Consume Research		N/A	Prior training and experience with research *Sample questions:* *To what extent do you feel that research publications are overly technical?* *Do you agree with the notion that randomized experiments are the best way to study what works?* *During the decision-making process, do you feel that there is sufficient time to find, read, and interpret education research?* *During the decision-making process, does your school have a research "guru" available that can locate and interpret education research? If so, please name this person:* _____

Appendix D:

Letters of Support

Co-Investigators

    Rebecca Maynard

    Karen Seashore Louis

Consultants

    Ronald Gallimore

    Jonathan Supovitz

    James O'Toole

    Elliot Weinbaum

Advisory Board Members

    Atnre Alleyne

    Bob Granger

    Ben Herold

    Karen Kolsky

    Lisa Thomas

    Russ Whitehurst

Members of the Research Community

    Howard Bloom (MDRC)

    Geoffrey Borman (WCER, CPRE)

    Beth Boulay (Abt Asociates)

    Teresa Duncan (REL Mid-Atlantic)

    Bob Floden (EPC, IRTL)

    Barbara Foorman (REL Southeast)

    Jim Kemple (RANYCS)

    Michael Knapp (Center for the Study of Teaching and Policy)

    Mark Lipsey (Peabody Research Institute)

    Bob Slavin (Success for All Foundation)

    Herb Turner (Analytica)

UNIVERSITY OF PENNSYLVANIA
GRADUATE SCHOOL OF EDUCATION

Rebecca A. Maynard, Ph.D.
University Trustee Chair Professor
Education and Social Policy
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Philadelphia, PA 19104
(215) 898-3558 (office); (609) 577-7344 (mobile)
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July 30, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
Associate Professor, College of Education and Human Development
University of Delaware
Willard Hall Building, 16 W. Main St.
Newark, DE 19716

RE: Proposal for the Center for Research on Use in Education

Dear Dr. May:

I am pleased to be a part of your team for the grant proposal entitled "*The Center for Research Use in Education (CRUE)*" you are submitting to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve as a Co-Investigator, committing 9.3% FTE per academic year to the project. In this capacity, I will work closely with you and your research team on the overall project plan, the design and revision of data collection instruments, data analyses, and co-authoring reports and manuscripts. I will be available to meet regularly (in-person or via video conferencing) with the Principal Investigators and other project staff.

Sincerely,

Rebecca Maynard, Ph.D.
University Trustee Professor

UNIVERSITY OF MINNESOTA

Twin Cities Campus   Department of Organizational Leadership,   330 Wulling Hall
                            Policy, and Development   86 Pleasant Street S.E.
                            College of Education and Human Development   Minneapolis, MN 55455-0221

                                                                              Office: 612-624-1006
                                                                              Fax: 612-624-3377
                                                                              http://cehd.umn.edu/OLPD

July 30, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
Associate Professor, College of Education and Human Development
University of Delaware
Willard Hall Building, 16 W. Main St.
Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled "*The Center for Research Use in Education (CRUE)*" submitted to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve as a Co-Investigator, committing 7% FTE per year to the project. In this capacity, I will work closely with you and your research team on the overall project plan, the design and revision of data collection instruments, data analyses, and co-authoring reports and manuscripts. I will be available to meet regularly (in-person or via video conferencing) with the Principal Investigators and other project staff.

Sincerely,

Karen Seashore Louis, Ph.D.
Regents Professor and Robert Holmes Beck Chair of Ideas in Education

July 30, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
Associate Professor, College of Education and Human Development
University of Delaware
Willard Hall Building, 16 W. Main St.
Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled "The Center for Research Use in Education (CRUE)" submitted to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve as a Consultant, committing 10 days per year to the project. In this capacity, I will work closely with you and your research team on the overall project plan, the design and revision of data collection instruments, data analyses, and production of reports and manuscripts. I will be available to meet regularly (in-person or via video conferencing) with the Principal Investigators and other project staff.

Sincerely,

Ronald Gallimore
Distinguished Professor Emeritus

Curriculum Vitae

Ronald Gallimore

Education
Ph.D., Northwestern University, Evanston, Illinois, 1964, psychology
M.A., Northwestern University, Evanston, Illinois, 1963, psychology
B.A., University of Arizona, Tucson, Arizona, 1960, education

Current Appointments
Distinguished Professor Emeritus, Department of Psychiatry & Biobehavioral Sciences, UCLA
Affiliated Professor of Psychology & Education, University of Delaware

Past Appointments
Distinguished Professor (2001–05); Professor (1977–2001); Assoc. Prof. (1971–77), Department of Psychiatry & Biobehavioral Sciences, & Graduate School of Education University of California, Los Angeles;
Chief Scientist (2003–07), LessonLab Research Institute, Santa Monica, CA
Co-Director, Third International Mathematics and Science Study Video Study, National Center for Educational Statistics, U.S. Department of Education (1998-2007).
Associate Professor of Psychology and of Anthropology, University of Hawaii (l968-l97l)
Assistant Professor of Psychology, California State University, Long Beach, CA (l964-66)

Selected Awards & Grants
Best Research Award (for studies of teacher collaboration & school learning teams): LearningForward (formerly National Staff Development Council), 2010 (shared with B. A. Ermeling, B. Saunders, & C. Goldenberg)
National Center for Educational Statistics, *1999 TIMSS Video Study of Mathematics and Science Teaching*, 1998-2004 (13,000,000 direct & indirect costs). J. Stigler & R. Gallimore, PIs)
National Institute of Child Health and Human Development: *The Social Context of Performance and Competence for Latino Students in High School and Beyond*, 1999-2005 ($600,000 direct costs).
National Institute of Child Health and Human Development: *Status and Outcomes for the Lowest Achieving Students in a High Risk Population*: *Underachieving Latino Adolescents In and Out of School*, 1999-2005 ($700,000 direct costs).
Spencer Foundation, *Settings for change: A practical model for linking rhetoric and action to improve achievement of diverse students*, 1997-2001, jointly with CSU, Long Beach and C. Goldenberg and W. Saunders, & R. Gallimore ($401,752 direct costs).
Office of Educational Research and Improvement (USDOE) and National Center for Education, Diversity, and Excellence, 1996-2001, UC Santa Cruz, *Assisting Transition: Instructional and School-Wide Factors to Support Latino Students' Transition from Spanish to English Instruction,* jointly with CSU, Long Beach, C. Goldenberg and W. Saunders, and R. Gallimore ($545, 000 direct costs).

MacArthur Foundation, *Immigrant Latino Children's Pathways Through Middle Childhood*, 1995-1996 ($70,000 direct costs).

National Institute of Child Health and Human Development: *The Social Context of Competence & Performance of Hispanic Children at Risk for Educational Delay* 1994-1999 ($850,000 direct costs).

Grawemeyer Award (1993) for the book *Rousing Minds to life* (Cambridge University Press), Gawemeyer Foundation, University of Louisville (with R. Tharp).

Albert J. Harris Award (1993) for the article "Local knowledge, research knowledge, and educational change: A case study of early Spanish reading improvement." *Educational Researcher, 20, 8,* 20, 8, 2-14, International Reading Association (with C. Goldenberg). Spencer Foundation, *Research/Practice Nexus: The Case of Home and School Effects on Latino*

Students' Academic Achievement, 1992-1995 ($300,000 direct costs; with C. Goldenberg). Presidential Research Recognition Award, 1991, University of California Office of the President, School Improvement program.

National Institute of Child Health and Human Development, Renewal of *Ecocultural Opportunities and Family Accommodation to DD Children*, l991-l996 ($1,300,000 direct costs).

National Institute of Child Health and Human Development, *Ecocultural Opportunities and Family Accommodation to DD Children*, l986-l990 ($728,000 direct costs).

U.S. Office of Education: *Literacy Development of Spanish-Speaking Students*, 1991-1993 (with C. Goldenberg, $173,148).

University of California Linguistic Minority Project: *The Early Literacy Development of Latino Children* 1989-1992 (with C. Goldenberg, $110,000).

University of California Presidential Award. *Meeting the Language Arts Challenge for Language Minority Children: Teaching and Learning in a New Key*. 1989-1990 (with C. Goldenberg; $28,000).

University of California Presidential Award. *The Improvement of the Academic Performance of At-risk Hispanic Students.* 1988-1989 ($52,000.00).

National Institute of Child Health and Human Development: *The Social Context of Competence & Performance of Hispanic Children at Risk for Educational Delay* 1989-1995 ($414,000 direct costs).

Spencer Foundation, *The social context of emergent Spanish literacy among Hispanic children*, 1988-1992 ($256,000 direct costs).

University of California Linguistic Minority Project: *The Accommodation of Instruction to Cultural Differences*, 1986-1987 ($17,000 direct costs).

National Institute of Child Health and Human Development: *Family Accommodation to DD Children: Interaction, Language, Cognition, and Schooling*, 1985-1988 ($518,000 direct costs).

Princess Bernice Pauahi Bishop Estate: *Kamehameha Early Education Project*, 1969-1979 ($6,000,000 direct costs).

Castle Foundation: *Survey of Hawaiian School Problems*, 1969-1971 ($20,000 direct costs) National Science Foundation: *Hawaiian Achievement Motivation and School Performance*, 1970-1972 ($25,000 direct costs).

National Institute of Mental Health: *Hawaiian Community Research Project*, 1968-1970 ($180,000 direct costs, Co-PI, Alan Howard, PI).

Public Health Service Fellowship, 1960--1962, Department of Psychology, Northwestern University.
REA Undergraduate Scholarship, 1958, University of Arizona.

Selected Publications
Gallimore, R. & Hiebert, J. (2014). Red Flags on the road to Common Core State Standards Reform. *Teachers College Record*, Date Published: February 28, 2014 http://www.tcrecord.org ID Number: 17451.
Gallimore, R., Gilbert, W., & Nater, N. (2013). Reflective Practice and Ongoing Learning: A Coach's Ten Year Journey. *Reflective Practice*: *International and Multidisciplinary Perspectives*, DOI: 10.1080/14623943.2013.868790
Ermeling, B. A. & Gallimore, R. (2013). Learning to be a community: Schools need adaptable models to create successful programs. *Journal of Staff Development, 34, 2*, 43--45
Gallimore, R., Ermeling, B. A. (2012). Why durable teaching changes are elusive and what might we do about it. *Journal of Reading Recovery, 12*(1), 41--53.
Gallimore, R. & Ermeling, B. A. (2010, April 14). Five Keys to Effective Teacher Learning Teams. *Education Week, 29*, 29.
Gallimore, R., Ermeling, B.A., Saunders, W.M., & Goldenberg, C. (2009). Moving the learning of teaching closer to practice: Teacher Education Implications of School--based Inquiry Teams. *Elementary School Journal, 109*, 5, 537--553.
Gallimore, R., Ermeling, B.A., & Saunders. W.M. (2007). Everyone needs to be part of a professional learning team: Classroom teachers, district administrators, and state leaders. Innovation Quarterly, 2(3), 8--7.
Gallimore, R. (2006, March 1). What John Wooden Can Teach Us: Was the 'greatest coach of the 20th century' a crafty wizard, or a master teacher? *Education Week, 25*, 25, 30.
Gallimore, R. & Santagata, R. (2006). Researching teaching: The problem of studying a system resistant to change. In R. R. Bootzin & P. E. McKnight (Eds.). *Strengthening Research Methodology: Psychological Measurement and Evaluation* (pps. 11--28) Washington, D.C.: APA Books.
Gallimore, R. (2005). Behavior Change in the Natural Environment: Everyday Activity Settings as a Workshop of Change. In C. O'Donnell & L. Yamauchi (Eds.). *Culture and context in human behavior change: Theory, research, and applications* (pps. 207--231). New York: Peter Lang.
Gallimore, R. & Tharp, R. (2004). What a Coach Can Teach A Teacher 1975–2004: Reflections and Reanalysis of John Wooden's Teaching Practices. *The Sport Psychologist*, 18, 2, 119--137.
Gallimore, R. & Stigler, J. (2003, January--March). LessonLab: Evolving Teaching into a Profession. *TechKnowLogia,* 5, 1, 32--43. Retrieved Dec 11 2013 http://www.techknowlogia.org/TKL_active_pages2/CurrentArticles/main.asp?IssueNumber=19&FileType=PDF&ArticleID=462
Gallimore, R. & Stigler, J. (2003). Closing the Teaching Gap: Assisting Teachers Adapt to Changing Standards and Assessments. In C. Richardson, Ed., *Whither Assessment* (25--36). London, England: Qualifications and Curriculum Authority.
Hiebert, J., Gallimore, R., Garnier, H., Givvin, K. B., Hollingsworth, H., Jacobs, J., Chui, A. M.--Y., Wearne, D., Smith, M., Kersting, N., Manaster, A., Tseng, E., Etterbeek, W., Manaster, C., Gonzales, P., & Stigler, J. W. (2003). Understanding and improving mathematics

teaching: Highlights from the TIMSS 1999 Video Study. *Phi Delta Kappan, 84* (10), 768--775.

Hiebert, J., Gallimore, R., Garnier, H., Givvin, K.B., Hollingsworth, H., Jacobs, J., Chui, A. M., Wearne, D., Smith, M., Kersting, N., Manaster, A., Tseng, E., Etterbeek, W., Manaster, C., Gonzales, P., & Stigler, J. (2003). *Teaching mathematics in seven countries: Results from the TIMSS 1999 Video Study.* NCES (2003--013). U.S. Department of Education. Washington DC: National Center for Education Statistics.

Hiebert, J., Gallimore, R., & Stigler, J. (2002). A Knowledge Base for the Teaching Profession: What Would It Look Like, and How Can We Get One? *Educational Researcher, 31*, 5, 3--15.

Gallimore, R. & Goldenberg, C. (2001). Analyzing cultural models and settings to connect minority achievement and school improvement research. *Educational Psychologist, 36,* 1, 45--56.

Feiler, R. & Heritage, M. and Gallimore, R. (2000, April). Teachers leading teachers. *Educational Leadership*, April, 2000, V57(N7):66--69.

Stigler, J. W., Gallimore, R. & Hiebert, J. (2000). Using video surveys to compare classrooms and teaching across cultures: Examples and lessons from the TIMSS video studies. *Educational Psychologist*, *35*(2), 87--100.

Gallimore, R. & Goldenberg, C. (1996). Accommodating cultural differences and commonalties in educational practice. *Journal of Multicultural Education*, *4,* 1, 16--19.

Gallimore, R. & Goldenberg, C. N. (1992). Mapping teachers' zones of proximal development: A Vygotskian perspective on teaching and teacher education. In F. Oser, A. Dick, and J. L. Patry (Eds.), *Responsible and Effective Teaching*, (pp. 203--221). San Francisco: Jossey--Bass.

Gallimore, R., Tharp, R. G. & John--Steiner, V. (1992). The developmental and sociocultural foundations of mentoring. Columbia University, New York. New York: Inst. for Urban Minority Education. (ERIC Document Reproduction Service No. ED 354 292).

Goldenberg, C., Reese, L., & Gallimore, R. (1992). Context effects on the use of early literacy materials in Spanish--speaking children's homes. *American Journal of Education, 100,* 4, 497--536.

Goldenberg, C. N. & Gallimore, R. (1991). Changing teaching takes more than a one--shot workshop. *Educational Leadership, 49,* 13, 69--72.

Goldenberg, C. N. & Gallimore, R. (1991). Local knowledge, research knowledge, and educational change: A case study of early Spanish reading improvement. *Educational Researcher, 20, 8,* 2--14.

Schneider, P., Gallimore, R., & Hyland, J. (1991). Assisting narrative performance in two eight grade classrooms. *The International Journal of Dynamic Assessment and Instruction, 2,* 1, 14--28.

Tharp, R. G. & Gallimore, R. (1991). A theory of teaching as assisted performance. In P. Light, S. Sheldon, & M. Woodhead (Eds.), *Learning to Think. Child Development in Social Context, Vol. 2.*, (pp. 42--61). London: Routledge.

Goldenberg, C. N. & Gallimore, R. (1989). Teaching California's diverse student population: The common ground between educational and cultural research. *California Public Schools Forum, 3,* Autumn, 41--56.

Tharp, R. G. & Gallimore, R. (1988) *Rousing Minds to Life: Teaching, Learning, and Schooling in Social Context .* Cambridge: Cambridge Univ. Press.

July 30, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
Associate Professor, College of Education and Human Development
University of Delaware
Willard Hall Building, 16 W. Main St.
Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled "*The Center for Research Use in Education (CRUE)*" submitted to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve as a Co-Investigator / Consultant, committing 10 days per year to the project. In this capacity, I will work closely with you and your research team on the overall project plan, the design and revision of data collection instruments, data analyses, and co-authoring reports and manuscripts. I will be available to meet regularly (in-person or via video conferencing) with the Principal Investigators and other project staff.

Sincerely,

Sincerely,

Jonathan Supovitz
Associate Professor
Education Policy Division || Teaching, Learning & Leadership Division
Co-Director, Consortium for Policy Research in Education (CPRE)
Graduate School of Education
University of Pennsylvania

Jonathan Andrew Supovitz
Graduate School of Education, University of Pennsylvania
Consortium for Policy Research in Education
3440 Market Street Suite 560
Philadelphia, PA 19104
215-573-0700 x230
jons@gse.upenn.edu

EDUCATION

1996	Ed.D., Harvard University, Education.
1991	M.A., Duke University, Public Policy Studies.
1985	B.A., University of California, Berkeley, History.

PROFESSIONAL EXPERIENCE

2000–present University of Pennsylvania, Graduate School of Education, Associate Professor (2004–present), Research Assistant Professor (2000–2004).

1997–present Consortium for Policy Research in Education, Senior Researcher (1997-2009), Co-Director (2010 – Present).

2001-present Mid-Career Doctoral Program in Educational Leadership. Founding steering committee member and founding director of the Evidence-Based Leadership Strand.

2006-present Chief Learning Officer Executive Doctoral Program, Founding steering committee member and founding director of evidence-based leadership block and dissertation block

1995–1997 Horizon Research, Inc., Chapel Hill, North Carolina. Research Associate.

FUNDING

2014-present Principal Investigator of NSF Funded Experimental Study – "Using Research-Based Formative Assessment to Improve Mathematics Teaching and Learning" ($2.9 million)

2009-present Principal Investigator of Hewlett Foundation "Center on Continuous Instructional Improvement (CCII)" ($3.2 million)

2014-present Principal Investigator of Project to Develop and validate instrument to measure teachers' Common Core knowledge and practice. Funded by Student Achievement Partners ($57,000)

2014-present Co-Principal Investigator of i3 evaluation of Sunbay middle school digital mathematics program ($1.3 million)

2014-present Co-Principal Investigator of Spencer Foundation funded study entitled "Teachers' Use of Learning Trajectories in Analysis of Evidence and Instructional Response" ($300,000)

2013-present Principal investigator of AERA research conference grant "Policy and Politics of

the Common Core" ($35,000)

2010-2013 Principal Investigator of the General Electric Foundation's Evaluation of The Developing Futures Initiative. ($2.5 million)

2009-2013 Principal Investigator, Spencer Foundation Funded Study of Teacher Data Use.($500,000)

2005-2012 Co-Principal Investigator, Evaluation of the Annenberg Distributed Leadership Project in the Philadelphia Public Schools.($225,000)

1999-2009 Principal Investigator, National Evaluation of the America's Choice Comprehensive School Reform Design. ($390,000)

2004-2009 Principal Investigator, IES funded randomized evaluation of school principal professional development program. ($3 million)

2002-2006 Co-Principal Investigator, A Study of High School Strategies for Instructional Improvement.($3.8 million)

BOOKS

Supovitz, J. A. (completed and in negotiation with publishers). Distributed Leadership in Action.

Supovitz, J. A. & Weinbaum, E. (2008). *The implementation gap*. New York: Teachers College Press.

Supovitz, J. A. (2006). *The case for district-based reform: Leading, building, and sustaining school improvement*. Cambridge, MA: Harvard Education Press. Winner of the AERA District SIG publication of the year award, 2008.

PEER REVIEWED PUBLICATIONS

Supovitz, J.A. (under review). The Linking Study: An Experiment to Strengthen Teachers' Engagement with Data on Teaching and Learning. Manuscript submitted to Harvard Education Review. 28 pages.

Supovitz, J. A., & Tognatta, N. (2013). The Impact of Distributed Leadership on Collaborative Team Decision Making. *Leadership and Policy in Schools*, *12*(2), 101-121. Awarded journal's inaugural outstanding publication award. 21 pages

Supovitz, J. (2012). Getting at Student Understanding – The Key to Teachers' Use of Test Data. *Teachers College Record*, 114, 1-29. 29 pages

Supovitz, J., Foley, E. & Mishook, J. (2012). In Search of Leading Indicators in Education. *Educational Policy Analysis Archives*, *20*(19), 1-26. 26 pages

May, H., Supovitz, J. A. (2010). The Scope of Principal Efforts to Improve Instruction. *Educational Administration Quarterly*, *47*(2) 332–352. 21 pages

Supovitz, J. A., Sirinides, P. & May H. (2010). How Principals and Peers Influence Teaching and Learning. *Educational Administration Quarterly*. 46, 31-56. 26 pages

Weinbaum, E. H., & Supovitz, J. A. (2010). Planning ahead: Make program implementation more predictable. *Phi Delta Kappan*, *91*(7), 68-71. 4 pages

Supovitz, J. A. (2009). Can high stakes testing leverage educational improvement? Prospects from the last decade of testing and accountability reform. *Journal of Educational Change*, *10*(2), 211-227. 17 pages

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. 76 pages

Supovitz, J. A. (2008). Deepening instructional reform through system monitoring. *ERS Spectrum*, *26*(2), 1-11. 11 pages

Supovitz, J. A. (2008). Melding internal and external support for school improvement: How the district role changes when working closely with external instructional support providers. *Peabody Journal of Education*, *83*(3), 459-478. 20 pages

May, H. & Supovitz, J. A. (2006). Capturing the cumulative effects of school reform: An 11-year study of the impacts of America's Choice on student achievement. *Educational Evaluation and Policy Analysis 28*(3): 231-257. 27 pages

Supovitz, J. A., & Christman, J. B. (2005). Small Learning Communities that Actually Learn: Lessons for School Leaders. *Phi Delta Kappan 86*(9): 649-651. 3 pages

Supovitz, J. A., & Taylor, B. S. (2005). Systemic education evaluation: Evaluating the impact of systemwide reform in education. *American Journal of Evaluation, 26*(2), 204-230. 27 pages

Supovitz, J. A., & May, H. (2004). A study of the links between implementation and effectiveness of the America's Choice comprehensive school reform design. *Journal of Education for Students Placed at Risk, 9*(4), 389-419. 31 pages

Supovitz, J. A. (2002). Developing communities of instructional practice. *Teachers College Record* 104(8): 1591-1626. 36 pages

Watson, S. & Supovitz, J. (2001). Autonomy and Accountability in the Context of Standards-Based Reform. *Education Policy Analysis Archives 9*(32), 1-21. 21 pages

Supovitz, J. A., & Turner, H. (2000). The effects of professional development on science teaching practices and classroom culture. *Journal of Research in Science Teaching, 37*(9), 963-980. 18 pages

Supovitz, J. A. & Goerlich-Zief, S. (2000). Why they stay away: Revealing the invisible barriers to teacher participation in content-based professional development. *Journal of Staff Development 21*(4), 24-28. 5 pages

Supovitz, J. A., Mayer, D., & Kahle, J. B. (2000). The longitudinal impact of inquiry-based professional development on teaching practice. *Educational Policy, 14*(3), 331-356. 26 pages

Supovitz, J. A. (1999). Surveying through cyberspace. *American Journal of Evaluation 20*(2), 251-263. 13 pages

Supovitz, J. A. (1998). The gender and racial/ethnic differences in student achievement on open-ended and performance assessments in science. *Journal of Women and Minorities in Science and Engineering 4*(2), 129-140. 12 pages

Supovitz, J. A., Slattery, J. & MacGowan, A. (1997). Assessing agreement: An examination of the inter-rater reliability of portfolio assessment in Rochester, New York. *Educational Assessment 4*(3), 237-259. 23 pages

Supovitz, J. A. & Brennan, R.T. (1997). Mirror, mirror on the wall, which is the fairest test of all? An examination of the equitability of portfolio assessment relative to standardized tests. *Harvard Educational Review 67*(3), 472-506. 35 pages

BOOK CHAPTERS

Supovitz, J. A. (forthcoming). Formative Experimentation: The Role of Experimental Research in Program Development In District Reform: Challenges and Promises. In Daly & Finnigan, Eds. *Thinking Systemically: Improving Districts Under Pressure.* American Educational Research Association.

Supovitz, J. A. (2013). Situated research design and methodological choices in formative program evaluation. In Design-based implementation research: Theories, methods and exemplars. Fishman, Penuel, Allen & Cheng, Eds. *National Society for the Study of Education Yearbook*, *112*(2), 372-399.

Supovitz, J. A. (2010). Knowledge-Based Organizational Learning for Instructional Improvement. In Second International Handbook of Educational Change, Hargreaves, Lieberman, Fullan and Hopkins (Eds.), New York: Springer, 707-723.

Supovitz, J. A. (2008). Instructional Leadership in American High Schools in Melinda M. Mangin, Sara Ray Stoelinga Eds, Effective Teacher Leadership: Using Research to Inform and Reform, 144-162. New York: Teachers College Press.

Weinbaum, E. H., Cole, R. P., Weiss, M. J. & Supovitz, J. A. (2008). Going with the Flow: Communication and reform in high schools. In Jonathan A. Supovitz and Elliot H. Weinbaum (Eds.) The Implementation Gap. New York: Teachers College Press.

Datnow, A., Lieberman, A. Supovitz , J. & Wohlstetter, P. (2005). "Organising success: Dimensions of creative operationalism in Networked Learning Communities" International perspectives on networked learning. Bedfordshire, England: National College for School Leadership.

Supovitz, J. A. (2003). Evidence of the influence of the National Science Education Standards on the professional development system. In K. S. Hollweg & D. Hill (Eds.), *What is the influence of the National Science Education Standards?* (pp. 64-75). Washington, DC: National Academy Press.

Supovitz, J. A.: (2001). Translating teaching practice into improved student achievement. From the capital to the classroom: Standards-based reform in the States. Fuhrman, S. (eds.). *National Society for the Study of Education Yearbook* Chicago: University of Chicago Press, Page: 81-98.
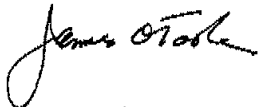
July 30, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
Associate Professor, College of Education and Human Development
University of Delaware
Willard Hall Building, 16 W. Main St.
Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled "*The Center for Research Use in Education (CRUE)*" submitted to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve as a Senior Consultant, committing to the project 10 days in Year1, and 50 days per year during Years 2 and 3. In this capacity, I will lead the effort to recruit a total of 330 schools into this study. This effort will involve multiple modes of communication (e.g., email, print mail, telephone) to make initial contact, with follow-up as necessary to reach the desired sample size. Based on our past success in recruiting more than 300 schools into the national field trail of the VAL-ED, I have the highest confidence that we can achieve this large sample by the end of the third year of the study.

Sincerely,

James F. O'Toole, Ed.D.
Adjunct Associate Professor/Project Director

DR. JAMES F. O'TOOLE

2410 Oakmere Road
Wilmington, Delaware 19810
302-478-3177 (Fax)
302-478-6936(Residence)
E-mail JOT3x@prodigy.net: Work jotoole@gse.upenn.edu

EDUCATION:

1997-Present	**UNIVERSITY OF PENNSYLVANIA STUDY COUNCIL,** *Philadelphia, PA* *With regional superintendents, I study national and local educational issues under expert consultants to improve my knowledge as a lifetime learner.*
1993	**NATIONAL PRINCIPALS' LEADERSHIP ACADEMY FELLOWSHIP** *I was selected and attended the University of Delaware as one of 28 nationally recognized principals with the ability to produce effective change in their schools.*
1981 to 1985	**DOCTORATE OF EDUCATION IN EDUCATIONAL LEADERSHIP,** *June 1985,* *University of Delaware, Newark, DE*
1975 to 1978	**PROFESSIONAL DIPLOMA IN SUPERVISION AND ADMINISTRATION,** *May 1978* *St. John's University, Queens, NY* *Major: Secondary Administration*
1971 to1974	**MASTERS OF SCIENCE** *Degree in Science* *May 1974* *Adelphi University, Garden City, NY* *Major: Chemistry*
1966 to 1969	**MASTERS IN TEACHING** *Chemistry* *September 1969* *Duke University, Durham, NC* *Major: Chemistry*
1962 to 1966	**BACHELOR OF SCIENCE** *Degree in Chemistry* *June 1966* *Iona College, New Rochelle, NY* *Major: Chemistry, Minor: Philosophy*

1971 Summer   **SUNY** *at New Paltz, NY*
Studied electronics and inorganic chemistry

1970 Spring & Fall   **MARITIME COLLEGE***, Ft. Schuyler, NY*
Studied computers and their applications to mathematics and science.

1970 Summer   **STATE UNIVERSITY AT WISCONSIN***, Oshkosh, WI*
Studied inorganic/physical chemistry and application of computers to specific chemistry problems.

1969 Spring & Fall   **YESHIVA UNIVERSITY***, New York, NY*
Studied graduate mathematics courses.

PROFESSIONAL EXPERIENCE

Nov 2004 to Present   **UNIVERSITY OF PENNSYLVANIA***, Philadelphia, PA*
Penn Center of Educational Leadership in the Graduate School of Education
Adjunct Associate Professor/Project Director
Responsibilities: I presently oversee a 3 million dollar multiyear distributed leadership program in the archdiocese of Philadelphia. This involves working with 18 archdiocese elementary and high schools   I oversaw a 5 million dollar, 5 year Annenberg grant that researched the effects of distributed leadership implementation in schools in the Philadelphia School District. Additionally, I was responsible for overseeing the document review, district survey and selection, various state department interviews, coordinating, conducting and attending site visitations of over 25 districts in 18 states for a nationwide Department of Education grant obtained by the Mathematica Policy Research Company of Princeton, New Jersey. This research project studied the effectiveness of intensive mentoring of new teachers in high poverty, inner city districts throughout the United States. I also recruited 300 schools from districts in 35 states for a major study that analyzed the leadership profile of principals called Val-Ed. My responsibilities also involve maintaining the PCEL budget for all projects, teaching various professional development classes, and grant writing.

1997 to July 2004   **WILLIAM PENN SCHOOL DISTRICT***, Lansdowne, PA*
Superintendent
Responsibilities: I oversaw the district of 345 professional employees, 5,400 students, eleven schools and a budget of 63 million dollars. I instituted an Early Intervention Reading Program, K-12 writing program, Technology Plan and building construction program all tied to our district vision of increased student achievement. Majority of the schools were recognized in the State Incentive Initiatives. Student achievement has increased during my superintendency.

1995 to 1997 **WILLIAM PENN SCHOOL DISTRICT**, *Lansdowne, PA*
Assistant Superintendent
Responsibilities: In this Central Office position, I was involved in district wide curriculum adoptions, budget constructions and building projects. I was chairman of the technology committee and the reorganization/middle school committee. My responsibilities included overseeing the departments of special education, testing and evaluation, maintenance and operations, transportation, registration/child accounting, alternative school and food service. I also was responsible for running an alternative school for at risk youth.

1988 to 1995 **PENN WOOD HIGH SCHOOL**
WILLIAM PENN SCHOOL DISTRICT, *Lansdowne, PA*
Principal
Responsibilities: I was the principal of a comprehensive high school with an enrollment of 900 students. As the educational leader of this school, I was involved in all aspects of scheduling, curriculum development, budget preparation, plant management, student functions, teacher evaluations, etc. Possessing extensive K-12 curriculum development experience, I have served on various committees to develop, implement, monitor and evaluate programs in the liberal arts, science and mathematical areas and was the proud leader who, in 1995, successfully chaired the committee that attained a ten-year accreditation for Penn Wood High School from the Middle States Association of Colleges and Schools.

1978 to 1988 **DOVER HIGH SCHOOL**
CAPITOL SCHOOL DISTRICT, *Dover, DE*
Designated a Model School by the Department of Education in 1987

Associate Principal - *Curriculum and Evaluation*
Responsibilities: I was the curriculum leader for mathematics, science, computer science, health, home economics, physical education, etc. In addition to developing and revising these curriculum areas, I was responsible for teacher evaluation, writing grant proposals, and computerizing student/teacher schedules.

Associate Principal – *Management & Discipline*
Responsibilities: Duties involved school management, discipline and staff evaluation of a school whose enrollment was 1800 students. I was actively involved in formulating the promotion policy for the secondary school, obtaining accreditation from the Middle States and Delaware's State Department, and implementing the minimum competencies. I had extensive contact with staff, parents, and students in all aspects of secondary school affairs.

1970 to 1978 **FREEPORT HIGH SCHOOL**, *Freeport, NY*
Science Teacher/Administrative Intern
Responsibilities: Taught all levels of science from 9th grade General Science to 12th grade Advanced Placement Chemistry course. Wrote

a laboratory manual for General Science students to better prepare them for the minimum competency exam. Wrote programs and introduced computers into the Chemistry laboratory. Was a member of the Regents Question Committee and constructed and submitted questions for the Chemistry Regents.

NY State Regents Construction Committee
Responsibilities: I was on the committee that evaluated, assembled, and constructed the Chemistry Regents for 1979.
Administered the AIIR program (1977-1978) which was a mini school for students who have disciplinary problems.

Chairman of the Faculty-Council with responsibilities of solving faculty-administrative problems in the high school.

1966 to 1970 **ST. RAYMOND'S BOYS' HIGH SCHOOL**, *Bronx, NY*
Science and Mathematics Teacher
Responsibilities: Taught Chemistry and Geometry to various levels of students. Coached basketball and acted as advisor to science club.

PROFESSIONAL ORGANIZATIONS

Association for Supervision and Curriculum Development
Pennsylvania Association of School Administrators
National Association of Secondary School Principals
American Chemical Society
Eastern Educational Research Association
Phi Delta Kappa
Advisory Council of Neuman College
Ex-Member of Board of Directors of Junior Achievement

PROFESSIONAL CERTIFICATION

Letter of Eligibility
District Superintendent of Schools from the State of Pennsylvania
Secondary Principal from the State of Pennsylvania

Permanent Certification
Chemistry, Physics, General Science and Mathematics from the State of New York
School District Administration and School Administration and Supervision from the State of New York
Secondary School Principal from the State of Delaware
Principal/Supervisor from the State of New Jersey

August 30, 2013

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
Associate Professor, College of Education and Human Development
University of Delaware
Willard Hall Building
16 West Main Street
Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled "*The Center for Research Use in Education (CRUE)*" submitted to the U.S. Department of Education Institute of Education Sciences (IES). The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

Should your Center receive funding from IES, I will be delighted to serve as a Co-Investigator / Consultant, committing 10 days per year to the project. In this capacity, I will work closely with you and your research team on the overall project plan, the design and revision of data collection instruments, data analyses, and co-authoring reports and manuscripts. I will be available to meet as needed (in-person or via video conferencing) with the Principal Investigators and other project staff.

As you know, I recently served as the Associate Commissioner for Knowledge Utilization at the National Center for Education Evaluation and Regional Assistance at IES. In that capacity, I spent considerable time with colleagues at IES and around the country thinking about how to make research findings maximally relevant and accessible to an audience of practitioners and policymakers. I hope that I can share some of that experience and expertise to benefit the work of your Center and to increase the use of research in future education-related decisions.

Best of luck with your proposal.

Sincerely,

Elliot H. Weinbaum, Ph.D.
Senior Program Officer

Elliot H. Weinbaum

William Penn Foundation | 100 North 18th Street, 11th floor | Philadelphia, PA 19103
eweinbaum@williampennfoundation.org | 215-988-1830

EDUCATION

Ph.D. in Education Policy. University of Pennsylvania, Philadelphia, PA   *2004*
  - Dissertation entitled: *A Tale of Two Systems: School Districts and State Accountability Policies*

Bachelor of Arts in History. Yale University, New Haven, CT   *1994*
  - Graduated *cum laude* with honors in History
  - Senior honors thesis: *Making America Accessible: The United Service for New Americans*

Diploma. Central High School, Philadelphia, PA   *1990*

PROFESSIONAL EXPERIENCE

Senior Program Officer
William Penn Foundation, Philadelphia, PA   *2013 – present*
  - Design a strategy for philanthropic investment targeted at improving educational opportunities for children from disadvantaged backgrounds in Philadelphia.
  - Create proposal review process and criteria.
  - Oversee the award and management of approximately $20 million in annual education investments.
  - Develop and implement a process for ongoing review and evaluation of program impact.

Associate Commissioner for Knowledge Utilization (previously Senior Research Scientist)
National Center for Education Evaluation and Regional Assistance
U.S. Department of Education, Washington, DC   *2011 – 2013*
  - Oversaw ten federally-funded Regional Educational Laboratories designed to provide relevant and usable research to local and state partners.
  - Worked with a team of federal and contractor staff to derive maximum benefit from analytic and technical services.
  - Responsible for management and oversight of $60 million annual federal commitment.
  - Collaborated with internal and external partners to develop criteria and standards to ensure the technical quality, relevance, and usability of technical assistance and research products.
  - Developed partnerships across the Department of Education to increase the impact of ongoing investments.

Research Assistant Professor   *2007 – 2011*
Senior Researcher (previously Research Assistant, Post-Doctoral Fellow, and Researcher)   *2000 – 2011*
Consortium for Policy Research in Education
Graduate School of Education, University of Pennsylvania, Philadelphia, PA
  - Designed and conducted research related to education policy issues; topics included school / district improvement, professional development, and the design of accountability systems.
  - Presented research at numerous national and international meetings.
  - Managed large research teams to execute multi-year projects and report results.
  - Wrote research reports describing findings for diverse audiences.
  - Taught education policy and research classes to teachers and school administrators.
  - Led the development of future research agendas and writing of grant proposals.

Consultant

Educational Testing Service, Princeton, NJ   *2004 – 2005*
- Conducted ten-year longitudinal state policy analyses for ten states.
- Provided written analyses of state policy environments and cross-state syntheses.
- Presented findings at national meeting.

GRANT-FUNDED RESEARCH PROJECTS

Principal Investigator

School Responses to AYP Classification Due to Student Subgroups and the Relationship to
Student Achievement   *2008 – 2011*
- An evaluation of the impact on schools of being identified as being "in need of improvement" under NCLB as the result of a single student subgroup. Includes qualitative and quantitative data collection and analysis from elementary and high schools across Pennsylvania.
- Funding of $950,000 granted by the Institute for Education Sciences, US Department of Education.

Co-Principal Investigator

Organizing and Using Evidence for School Improvement: State Education Agencies in the
21st Century   *2010 – 2011*
- A study of the use of research and evidence in the design, development, and implementation of school improvement policies in three states. Includes qualitative research and social network analysis in order to better understand the systemic and organizational facilitators for and impediments to the use of research and evidence in decision-making.
- Funding of $273,000 granted by the W.T. Grant Foundation, New York, NY.

Principal Investigator

Evaluating the Implementation of the Benwood Initiative   *2008 – 2011*
- An evaluation of the scale-up and sustainability of five core school improvement principles developed by the Hamilton County (TN) Schools. Includes development of rating rubrics and extensive qualitative data collection from school and district leaders, data analysis, and regular meetings with stakeholders to review and use evidence.
- Funding of $392,000 granted by the Benwood Foundation, Chattanooga, TN.

Co-Principal Investigator

Teacher Preparation for Math and Science Educators in Nine APEC Countries   *2009-2011*
- Planning and preparation for an international study of the design and impacts of teacher preparation programs and policies for secondary math and science teachers.
- Funding of $47,000 granted by the National Center for Educational Statistics.

Co-Principal Investigator

Evaluation of State Balanced Learning and Assessment Systems   *2006 – 2008*
- Co-designed and wrote a grant proposal to evaluate a ten-state initiative to introduce the use of formative assessment at the high school level.
- Funding of $230,000 granted by the U.S. Department of Education.
- Conducted all data collection and analysis. Issued regular reports on interim findings.

"Schools' Use of State Test Data to Inform Improvement Efforts." (forthcoming). *Educational Policy.* Article written with Jessica K. Beaver.

"Learning from NCLB: School Responses to Accountability Pressure and Student Subgroup Performance." (2012). Policy Brief written with Michael J. Weiss and Jessica K. Beaver. Philadelphia: Consortium for Policy Research in Education.

"Measuring School Capacity, Maximizing School Improvement." (2012). Policy Brief written with Jessica K. Beaver. Philadelphia: Consortium for Policy Research in Education.

"Changing Time: Attitudes, Reform, and Social Networks in High Schools." (2010). Chapter written with Russell P. Cole in *Social Network Theory and Educational Change*. Alan Daly, ed. Cambridge, MA: Harvard University Press.

"Planning Ahead: Make Program Implementation More Predictable." (2010) Article written with Jonathan Supovitz in *Phi Delta Kappan (91)7*, 68-71.

"Learning About Assessment: Evaluating a Ten-State Effort to Build Assessment Capacity in High Schools." (2009). Published report. Philadelphia: Consortium for Policy Research in Education.

"The Implementation Gap: Understanding Reform in High Schools." (2008). Book co-edited with Jonathan Supovitz. New York: Teachers College Press.

"Reform Implementation Revisited." (2008). Chapter written with Jonathan A. Supovitz in *The Implementation Gap: Understanding Reform in High Schools*. Jonathan A. Supovitz and Elliot H. Weinbaum, eds. New York: Teachers College Press.

"Tilting the Scales: Central Office Support for External School Reforms." (2008). Chapter written with Catherine Dunn Shiffman and Margaret Goertz in *The Implementation Gap: Understanding Reform in High Schools*. Jonathan A. Supovitz and Elliot H. Weinbaum, eds. New York: Teachers College Press.

"Going with the Flow: Communication and Reform in High Schools." (2008). Chapter written with Russell P. Cole, Michael J. Weiss, and Jonathan A. Supovitz in *The Implementation Gap: Understanding Reform in High Schools*. Jonathan A. Supovitz and Elliot H. Weinbaum, eds. New York: Teachers College Press.

"Educational Governance in the U.S.: Where are we? How did we get here? Why should we care?" (2007). Chapter written with Susan Fuhrman and Margaret Goertz in *The State of Educational Policy Research: An Edited Volume*. Susan Fuhrman, David Cohen, and Fritz Mosher, eds. Mahwah, NJ: Lawrence Erlbaum Associates.

"The Black-White Achievement Gap: Do State Policies Matter?" (2006). *Education Policy Analysis Archives*, 14:8. Written with Henry Braun, Aubrey Wang, and Frank Jenkins.

"Federal Education Policy and the States, 1945-2004: A Brief Synopsis." (2006). Contributing writer with Adam Nelson. New York State Archives: Albany, NY. Available on the web at: http://www.sifepp.nysed.gov/edpolicy/research/overview.shtml

"Stuck in the Middle with You: District Responses to State Accountability." (2005). Chapter in *Holding*

High Hopes for High Schools, Betheny Gross and Margaret Goertz, eds. Philadelphia: Consortium for Policy Research in Education.

"Looking for Leadership: Battles over Busing in Boston." (2004). Article in *Perspectives on Urban Education*. Volume 3, Issue 1. Available on the web at: www.urbanedjournal.org

SELECTED CONFERENCE PAPERS AND PRESENTATIONS

"Navigating the Data Deluge: How Schools Use State Test Data to Guide Efforts for Improvement." (April, 2012). Paper (with Jessica Beaver) and presentation at the American Educational Research Association Annual Meeting. Vancouver, British Columbia, Canada.

"Making a Difference? Responses to Accountability Pressure and Their Effects on Achievement." (April, 2011). Paper (with Michael Weiss) and presentation at the American Educational Research Association Annual Meeting. New Orleans, LA.

"School Improvement Efforts and Their Relationship to School and School District Characteristics." (March, 2010). Poster presentation (with Stephanie Levin) at the American Education Finance Association. Richmond, VA.

"School Responses to NCLB Labels." (April, 2009). Paper and presentation at the American Educational Association Annual Meeting. San Diego, CA.

"Charting Their Own Course: An Examination of the State Role in Building Capacity." (March, 2008). Paper and presentation at the American Educational Research Association Annual Meeting. New York, NY.

"Balancing Act: Evaluating a Ten-State Effort to Build Assessment Capacity in High Schools." (March, 2008). Paper and presentation at the American Educational Research Association Annual Meeting. New York, NY.

"Teacher Learning Teams to Enhance Classroom Assessment." (February, 2008) Presentation at the Formative Assessment for Students and Teachers State Collaborative on Assessment and Student Standards (FAST-SCASS). Meeting convened by the Council of Chief State School Officers. Atlanta, GA.

"Chain Reaction: How Teachers' Connections Influence Practice." (April, 2007). Paper (with Russell Cole) and presentation at the American Educational Research Association Annual Meeting. Chicago, IL.

"Going with the Flow: Communication in High Schools." (April, 2006). Paper and presentation at the American Educational Research Association Annual Meeting. San Francisco, CA.

"Bridge Over Troubled Waters? The District Role in High School Improvement." (April, 2005). Paper and presentation at the American Educational Research Association Annual Meeting. Montreal, Canada.

"An Analysis of State Educational Policies: 1988 to 1998." (April, 2005). Presentation (with Aubrey Wang) at the American Educational Research Association Annual Meeting. Montreal, Canada.

July 18, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the *Center for Research Use in Education* (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As a Strategic Data Fellow at the Delaware Department of Education, I would be willing to join the Advisory Board selected to support the important work of the Center. I understand that my role in this would entail providing feedback on instrument development, data collection, analysis plans, and dissemination strategies. I also understand that this work would be accomplished through one in-person meeting annually as well as additional video\conference calls held throughout the year.

I look forward to being part of this endeavor and to supporting research aimed at deepening our understanding of research use in education.

Sincerely,

Atnre Alleyne
Harvard Strategic Data Fellow

July 28, 2014

Henry May, Ph.D.
University of Delaware
Willard Hall Building, 16 W. Main Street
Newark, DE 19716
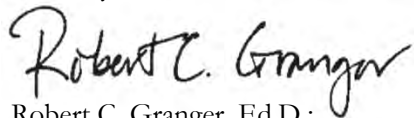
Dear Dr. May:

I would be pleased to serve on the Advisory Board for "The Center for Research Use in Education", should your proposal to the Institute of Education Sciences be accepted.

As you know, when I was president of the William T. Grant Foundation, we launched a successful research program on how practitioners acquire, interpret, and use research. In addition , since my retirement from the Foundation, the Spencer and Edna McConnell Clark foundations are supporting me to work on making research and evaluation more relevant to practitioners. In part the support allows me to interview a large number of decision makers in public agencies, non- profit /direct service organizations, and intermediary organizations. That work underscores the importance of understanding the practitioner's needs , resources, and constraints. Having spoken with Rebecca Maynard about your proposal, I applaud your focus on the practice community as a key feature of the proposed work.

I understand that you expect the Advisory Board to have one in-person meeting and 2-4 additional calls per year. I can commit to that level of effort for this important work. Good luck with your submission.

Sincerely,

Robert C. Granger, Ed.D.:

Elizabeth Farley-Ripple <enfr@udel.edu>

Advisory board invitation

Ben Herold <benjaminbherold@gmail.com>   Thu, Jul 31, 2014 at 10:39 PM
To: Elizabeth Farley-Ripple <enfr@udel.edu>

July 31, 2014

Henry May, Ph.D.

Center for Research in Education and Social Policy

University of Delaware

Willard Hall Education Building

16 W. Main Street

Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled "*The Center for Research Use in Education (CRUE)*" submitted to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve on the advisory board of researchers, practitioners, and policymakers for this project and provide feedback on instrument development, data collection, analysis plans, and dissemination strategies. I understand that this will entail one face-to-face meeting annually at the University of Delaware in Newark, DE with 2-4 additional video-conference calls held throughout the year.

Sincerely,

Benjamin Herold

Education Week

[Quoted text hidden]

Karen Kolsky, Ed.D.   *Office: 215.248.6684*
Assistant Superintendent   *Facsimile: 215.248.6687*

August 3, 2014

Henry May, Ph.D.
Center for Research in Education and Social Policy
University of Delaware
Willard Hall Education Building
16 W. Main Street
Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled *"The Center for Research Use in Education (CRUE)"* submitted to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve on the advisory board of researchers, practitioners, and policymakers for this project and provide feedback on instrument development, data collection, analysis plans, and dissemination strategies. I understand that this will entail one face-to-face meeting annually at the University of Delaware in Newark, DE with 2-4 additional video-conference calls held throughout the year.
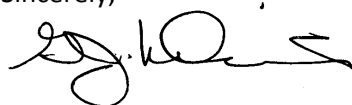
Sincerely,

Karen Kolsky

August 5, 2014

Henry May, Ph.D.
Center for Research in Education and Social Policy
University of Delaware
Willard Hall Education Building
16 W. Main Street
Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled "_The Center for Research Use in Education (CRUE)_" submitted to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve on the advisory board of researchers, practitioners, and policymakers for this project and provide feedback on instrument development, data collection, analysis plans, and dissemination strategies. I understand that this will entail one face-to-face meeting annually at the University of Delaware in Newark, DE with 2-4 additional video-conference calls held throughout the year.

Sincerely,

Lisa Thomas

July 23, 2014

Henry May, Ph.D.
Center for Research in Education and Social Policy
University of Delaware
Willard Hall Education Building
16 W. Main Street
Newark, DE 19716

Dear Dr. May:

It is my pleasure to write to you in support of your grant proposal entitled "*The Center for Research Use in Education (CRUE)*" submitted to the U.S. Department of Education Institute of Education Sciences. The work of the Center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

I am delighted to serve on the advisory board of researchers, practitioners, and policymakers for this project and provide feedback on instrument development, data collection, analysis plans, and dissemination strategies. I understand that this will entail one face-to-face meeting annually at the University of Delaware in Newark, DE with 2-4 additional video-conference calls held throughout the year.

Sincerely,

Grover (Russ) Whitehurst, Ph.D.
The Herman and George R. Brown Chair in Education Studies
Senior Fellow
Director of the Brown Center on Education Policy
The Brookings Institution / 1775 Massachusetts Ave NW
Washington, DC 20036 / 202-797-6174

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TO IMPROVE SOCIAL POLICY

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475 14th Street, Suite 750
Oakland, CA 94612-1900
Tel: 510 663 6372
Fax: 510 844 0288

July 31, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry:

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the Center for Research Use in Education (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision–making processes.

As MDRC Chief Social Scientist, I would be willing to join the sample of individuals representing key research organizations during the piloting, field testing and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by your new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely

Howard S. Bloom
Chief Social Scientist

July 31, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education, the *Center for Research Use in Education* (CRUE). I believe that the work of the proposed center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As a Senior Researcher with the Wisconsin Center for Education Research (WCER) and the Consortium for Policy Research in Education (CPRE), and Director of the University of Wisconsin's IES-funded Interdisciplinary Training Program in Education Sciences, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

Dr. Geoffrey D. Borman
Professor of Education and Sociology
Director, Interdisciplinary Training Program in Education Sciences
University of Wisconsin-Madison

253 Education Building
1000 Bascom Mall
Madison, WI 53706-1326

tel.: 608/262-3106
fax: 608/265-3135
website: http://www.education.wisc.edu/elpa/

July 31, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the *Center for Research Use in Education* (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As a Principal Associate at Abt, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

Beth Boulay

Beth Boulay, Ed. D.
Principal Associate
Social and Economic Policy Division
Abt Associates
55 Wheeler Street
Cambridge, MA 02138

July 30, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the *Center for Research Use in Education* (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As Director of REL Mid-Atlantic, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

Teresa Duncan, PhD
Senior Fellow and Director
REL Mid-Atlantic at ICF International

July 31, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,
It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the Center for Research Use in Education (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As Co-Director of the Education Policy Center (EPC) and Institute for Research on Teaching and Learning (IRTL) at Michigan State University, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

Robert E. Floden, Director
University Distinguished Professor of
  Educational Psychology, Teacher Education,
  Measurement & Quantitative Methods,
  Educational Policy, and Mathematics Education

Education Policy Center

Michigan State University
620 Farm Lane, Room 201D
East Lansing, MI
48824-1034
517/355-3486

*MSU is an affirmative-action,
equal-opportunity institution.*

July 30, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the Center for Research Use in Education (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As Director of the REL Southeast, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

Barbara R. Foorman, Ph.D., Francis Eppes Professor of Education
Director, Regional Educational Laboratory Southeast at
Florida State University

New York University
Steinhardt School of Culture, Education, and Human Development

August 1, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the *Center for Research Use in Education* (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As Executive Director of the Research Alliance for New York City Schools, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

James Kemple, PhD
Executive Director

NEW YORK UNIVERSITY

285 Mercer Street, 3rd Floor | New York, New York 10003-9502
212 992 7697 | 212 995 4910 fax
research.alliance@nyu.edu | www.steinhardt.nyu.edu/research_alliance

College of Education

Box 353600

Phone: (206) 221-3097

FAX: (206) 616-6762

July 31, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the *Center for Research Use in Education* (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As Director of the Center for the Study of Teaching and Policy (CTP) at the University of Washington, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

Michael Knapp, PhD
Professor & Director

August 1, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
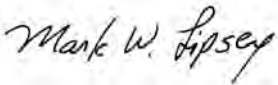University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

I write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the Center for Research Use in Education (CRUE). The work of this center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes. I'm pleased to have an opportunity to support this important effort.

As Director of the Peabody Research Institute at Vanderbilt University, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Cordially,

Mark W. Lipsey, PhD
Director and Research Professor

The Center for Research and Reform in Education

Johns Hopkins University

300 E. Joppa Road
Suite 500
Baltimore, MD 21286
410.616.2310
Fax 410.324.4440
rslavin@jhu.edu

August 1, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the *Center for Research Use in Education* (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As Cofounder and Chairman of the Board of the Success for All Foundation and Director of the Center for Research and Reform in Education (CRRE) at Johns Hopkins University, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

Robert Slavin, PhD
Chairman, Success for All Foundation

35 Goldfinch Circle
Phoenixville, PA 19460
Tel: 610.933.8004 - Fax 610.933.8004
Email: herb@analytica-inc.com
Web: www.analytica-inc.com

July 30, 2014

Henry May, Ph.D.
Director, Center for Research in Education and Social Policy
College of Education and Human Development
University of Delaware
201 Willard Hall
Newark, DE 19716

Dear Henry,

It is my pleasure to write in support of your proposal for an IES-funded research center on knowledge utilization in education entitled the *Center for Research Use in Education* (CRUE). The work of the center will provide valuable information and tools to enhance connections between the research and practitioner communities and promote the use of research-based evidence in school decision-making processes.

As founder, President, and Principal Scientist of ANALYTICA, Inc, I would be willing to join the sample of individuals representing key organizations in the research community during the piloting, field testing, and final administration of your proposed survey measures of the production and dissemination of research and connections to the practitioner community.

The information provided by these new nationally-validated survey tools has the potential to identify promising mechanisms to support schools' use of education research, while providing specific feedback to researchers and practitioners that they can use to enhance connections between research and practice.

Sincerely,

Dr. Herbert Turner, III
President and Principal Scientist