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VENDORS AND CONSUMERS ON FILLING THE CERTIFICATION GAP

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BY

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DEDICATION

I would like to dedicate this work to my wife, June and my son, Joey for their continued support and encouragement throughout the entire process associated with my doctoral experience. Although this achievement constitutes a milestone in my professional life, it pales in comparison to the rewards I have received and continue to enjoy with each of you daily. I appreciate and love you both more than I can express.

Dad

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ABSTRACT

SCIENTIFICALLY BASED RESEARCH IN EDUCATIONAL PRODUCTS: VENDORS AND CONSUMERS ON FILLING THE CERTIFICATION GAP

By

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The 2002 reauthorization of the Elementary and Secondary Education Act, or No Child Left Behind (NCLB) changed school law in the United States. Public schools can utilize federal funds to purchase only those educational products subject to scientifically based research. No dedicated certification intermediary (CI) exists to determine individual product compliance with SBR. This research undertakes to: 1.) Examine the NCLB Scientifically Based Research (SBR) requirement; 2.) Document the historical development of certification intermediaries; and 3.) Study the research question: *How do educational product vendors and education administrators agree and/or differ in relation to the SBR mandate and on the potential to produce an SBR certification entity valuable to each?*

The historical and contextual review of scientifically based research and the development of certification intermediaries throughout industrial history suggest the potential emergence of a certification intermediary in this area. Utilizing the grounded theory methodology of Strauss and Corbin, appropriate here due to the lack of specific research in this area; the subject was examined from the vendor and consumer perspectives. The emergent data supports the theory that: Concerning the SBR mandate,

vendors and consumers have far more in common than initially known; and, Vendors and consumers support the emergence of an independent certification intermediary for SBR compliance through a marketplace stakeholder coalition. Future empirical research on this theory is encouraged.

CHAPTER I

INTRODUCTION

Qualitative research questions most often emerge from three broad sources: logic, practicality, and accident. Sometimes an investigator's curiosity is directed to a gap in the logical structure of what already is known in the area. The investigator can simply respond to the demand for information about the application of knowledge to some practical service. In yet other cases, serendipity operates and the investigator is stimulated by an unexpected observation, often in the context of another study or assignment. It is also common for several of these factors to operate simultaneously to direct attention to a particular question (Locke, Spiroduso, & Silverman, 2007). According to Strauss and Corbin (1990), "Theories can't be built with actual incidents or activities as observed or reported; that is, from raw data. The incidents, events, happenings are taken as, or analyzed as, potential indicators of phenomena..." (p. 7). In this case qualitative methodology is utilized to develop theory concerning the compliance of educational products with the legal mandate that all educational products purchased with federal funding by American schools are scientifically research based.

Since the signing of the No Child Left Behind Act (NCLB) into law in January of 2002, pressure for measurable improvement has increased on American school leaders by putting the full weight of federal policy behind the accountability movement. Devised with the intent of improving American schools by universally closing the gaps in student achievement, this act has far-reaching consequences, mandating that schools bring all children, including racial minorities, English-language learners, and students

with disabilities, to the mandated level of progress by the 2013-2014 school year (Education Commission of the States, 2004). Within this mandate, educators are expected to “teach all students to world-class standards, be the linchpins in educational reforms of all kinds, and produce a well-qualified labor force to preserve the U.S. position in the global economy” (Cochran-Smith, 2005). During this same time period, school districts have had fewer qualified applicants to fill administrative positions, requiring an increasingly sophisticated set of skills to deal with everything from school safety to standards-driven accountability. Traditionally, administrators qualified as instructional leaders simply by paying attention to instruction: setting curricular goals, monitoring lesson plans, and evaluating teachers. According to Lashway (2002), contemporary instructional leaders must also immerse themselves in the core technology of teaching and learning, use data to make decisions, and align staff development with student learning needs.

The Codification of Scientifically Based Research in Education

With the advent of NCLB, expertise in the interpretation and application of educational research became an added proficiency required of public school administrators. NCLB is fodder for much educational debate and media attention in areas of testing, educational benchmarks, and funding. An item of equal concern lies in the following verbiage in the legislation:

...a primary focus of this law is the requirement that school districts and individual schools use effective research-based programs, and...authorizes funds to provide assistance to state educational agencies and local educational

agencies in establishing programs based on scientifically based research...(Wright, Wright, & Heath, 2003, [20 U.S.C. Section 6368 (6)]).

Within the NCLB website provided by the U.S. Department of Education (USDE), it states, “The Problem: Some schools use unreliable and untested methods that can actually impede academic progress. Solution: Encourage schools to use evidence-based practices and materials” (No Child Left Behind [NCLB], 2002). To illustrate the impact of this legislation on the way that American schools and educational product vendors may do business now and in the future, consider the following: The phrase “scientifically based research”, commonly known as SBR, appears 111 times throughout the NCLB legislation. It is applied in policies ranging from reading programs, teacher training, drug prevention, school safety, remediation, enrichment, and in a host of other programs. It should also be noted that scientifically based research has no Title program of its own, but is woven into the fabric of virtually every program in the law. This is no accident according to Susan Neuman, Assistant Secretary for Elementary and Secondary Education, in an early public briefing on the prevalence of SBR within the newly-minted NCLB law:

We’re no longer debating whether scientifically based research and scientifically based evidence is important; we know it is important and we know it is critical. What we want to do is begin to explore the logic of scientifically based evidence or research and to really begin to understand both its definition as well as its intent. What we want to do eventually, is move this debate throughout all of our programs so that we begin to really look at the scientific basis underlying what

we say and what we do for schools in districts across the country (USDE Working Group Conference, 2002).

Such a declaration leaves no doubt as to the intent of the mandate, however the implementation of SBR and its potential to alter the standard method of practice in terms of educational product marketing by vendors and purchasing by consumers remains less clear.

The pervasiveness of this mandate has far-reaching impact in American classrooms, educational research labs, and in educational product industry board rooms around the world. Immediately upon implementation of NCLB, school districts became burdened by enormous political and financial pressures for measurable student success in the classroom. Consequently, federal monies are available only to states and local school districts that can provide swift and direct evidence of adherence to scientifically based research practices and purchases (Alliance for Excellent Education, 2005).

What is Scientifically Based Research?

As defined by the US Department of Education (2002), scientifically based research employs systematic, empirical methods that draw on observation or experiment; involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions; relies on measurements or observational methods that provide valid data across evaluators and observers, and across multiple measurements and observations; and, is accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparatively rigorous, objective, and scientific review. According to Valeria Reyna, the Deputy Director of the Office of Educational Research and Improvement (OERI), SBR begins in large part

with an “evidence based theory” wherein the “evidence” is the crucial part. “Theories whose predictions have been confirmed or disconfirmed..., that are explanatory, that go into the mechanisms of how people learn, how they learn, what's the process going on;” these are all integral to the SBR process. In this process you may begin to know “that something is maybe probably true” (Reyna, 2002). Reyna further states that,

If you know something about how people learn and how an intervention was affected, than you have some clue as to whether you can generalize it to your classroom, because you know the mechanism. You know what's relevant and what's irrelevant to the causal course of that intervention. I think it's useful to think about what is the alternative to scientific research? If you didn't base practice on scientific research, what do you base it on (USDE Working Group Conference, 2002)?

As delineated by Reyna in her presentation to the USDE cited above, those alternatives include several factors such as:

1. **Tradition:** This is the way we've always done it! The danger here is that some things that are not based in fact become lore and if we really knew their scientific basis, they could actually have little more credence than superstition. They are in actuality unfounded beliefs (Reyna, 2002).
2. **Anecdote:** Anecdote is a series of stories that you tell about things that have happened to you in your life. They can be very entertaining anecdotes. However, the reason why we can't base practice on mere anecdote, as is well known in medicine, is that individual cases may be exceptions. That may be the only case of that type. We know on the basis

of experience that anecdotes have turned out to be false and misleading. Sometimes they are very representative, sometimes they're not. The problem is we don't know when (Reyna, 2002).

3. **Personal Experience:** It worked for me and it will work for you! There's been research done about when you ask people to report about things they have directly observed and directly witnessed and the biases that can creep into that type of reporting. These are normal human biases that are generally adaptive, but they have predictable pitfalls. So, if you rely on your memory for past events, we know that that memory will be biased, and so on. Drawing simply on your personal experience alone (or that of a trusted colleague) is not a solid foundation for generalization (Reyna, 2002).

To illustrate what SBR in education is, one can draw analogies to the medical field and the development of the randomized clinical trial. Clinical trials are in actuality recent in medicine. The gold standard of the randomized experiment with two controlled groups and the other now routine standards first appeared in the 1940's. While that is new in historical terms, the application to educational practice appears revolutionary. Clinical trials are the only way to really be sure about what works in medicine. The logic of its application in educational research extends to: 1.) A readily available group of people (students) from which to draw a conclusion; 2). Determining that the confirmation or denial that a particular intervention, product, or a new technique, is appropriate for this group or not; 3). Assembling members of that population in two like-groups and randomly determining which group gets the intervention or receives standard traditional instruction

in the area of the study interest. Representative differences in students (race, socio-economic background, etc.) must be present in both groups. The groups should be comparable in every way, except the single differential in education delivery; therefore the effect of the outcome is isolated and traceable to that specific intervention. Reyna (2002) sees this standard treatment, or the way we have always done things, as the common control. In this 2002 seminar, Reyna found:

The bottom line here, is these same rules about what works and how to make inferences about what works, they are exactly the same for educational practice as they would be for medical practice. Whether you are talking about a treatment for cancer or whether you're talking about an intervention to help children learn, the same logic applies and rules of the game are the same (p. 3).

Some argue that the medical model of random assignment cannot be considered the gold standard for justifying causal inferences in school-based research (Cook, 2002). They maintain that at best it only creates a probabilistic equivalence between contrasted groups at pretest. Educational interventions are not always as independent in practice as they appear in theory. Many methods used to increase internal validity may simultaneously reduce external validity. Still, even after these limitations are reviewed it remains the most logical, effective, and credible means available as Cook states, "...in nearly all academic circles" (2002, p. 195).

In her primer for policymakers on educational research, Patricia Lauer (2004) posits; "Without access to information from research about education practices, policymakers are more likely to make decisions that are ineffective or even harmful" (p. 3). There have been many policy mandates that have affected the educational landscape

including technology, class size, charter schools, voucher programs, and others that have later led to questionable achievement gains (Duebel, 2008). Could the policymakers and educators have been influenced by inaccuracies or bias on the part of political or commercial operatives in some of these cases? The desire for empirical data establishing the effectiveness of an educational product is well-earned.

In codifying NCLB in general, and the accompanying discouragement of the purchase of non-research-based products with financial repercussions in particular, the U.S. federal government has become a far more active partner in determining which products inhabit American classrooms. The government now affects, to a much greater degree than ever before, what specific scientific methods are employed in the classroom and by extension in the research and development facilities of educational vendors worldwide. Indeed, NCLB sets a new precedent for greater government involvement in curriculum, instruction, educational product development and individual school material purchases. With the mandate that virtually all federally-funded purchases of instruction-related products be scientifically research based, a completely new dynamic in American education has emerged (Liston, Whitcomb, & Borko, 2007). Consequently, this NCLB requirement has become the standard for all educational purchases, regardless of funding sources. Schools simply cannot afford to expend any funds on educational programs or products that do not meet NCLB requirements (Yell, 2005). The threat of reprisal from state and federal agencies is real and denial of federal reimbursement could devastate the remaining school budget. Although, enflamed by the SBR mandate, federal reclamation of funding has long been a reality within the federal Title programs. Through audit and monitoring responsibilities, state educational

agencies acting as federal surrogates may withhold current or future federal claims as penalty for procedural expenditure violations (USDE, 2008) The SBR pay-to-play fiasco involving the Reading First program and certain product proponents within the government and industry alike is illustrative (Milot, 2008).

Accordingly, many school administrators avoid expenditure on any product or program that does meet NCLB compliance, regardless of experiential knowledge. Threatened by potential government fund recovery from non-compliant acquisitions; a dilemma now faces public school administrators with each federally-funded educational product purchase (NCLB, 2002).

As implied above, most school administrators, particularly those who depend on federal funding, are aware that NCLB makes it mandatory to select and implement only program(s) that "has [have] been found, through scientifically based research, to significantly improve the academic achievement of students or has [have] been found to have strong evidence that such a program will significantly improve the academic achievement of participating children" (Comprehensive School Reform Program Office, Office of Elementary and Secondary Education, US Department of Education, 2002). Regardless, there are no actual government ratings of the scientific basis of products, reform strategies, methods, and programs currently exist. The mandating document provides school leaders with basic guidance that a product should be the product of research that is or is subject to: systematic and empirical data, rigorous data analysis, reliable and valid data collection, strong research design, results that allow for replication, and expert scrutiny. Many types of educational research exist, but Lauer (2004) states that "According to NCLB, scientifically-based research is rigorous,

systematic, objective, empirical, peer reviewed and relies on multiple measurements and observations, preferably through experimental or quasi-experimental methods" (p. 6).

Scientifically based research should involve careful planning, have a sound theoretical foundation, and be grounded in observational and experimental data collected from multiple sources, and ensure that claims are supported by measurable evidence. Such research should involve the analyses of data utilizing appropriate methods, address questions of interest, account for complexities of the data, and justify the general conclusions drawn from the study. All data utilized should be collected professionally and consistently to ensure that repeated measurements under similar conditions produce similar results, and that the collected data measure the outcomes they were designed to measure.

The research design employed in valid scientifically based research should maximize the researcher's ability to answer the questions of the study and/or to test a hypothesis. Studies should present results with sufficient detail to ensure that replication and extension studies can be undertaken, and that the results are accessible and useful to practitioners. In conclusion, research studies should undergo quality control from independent evaluators, such as peer reviewers from a scientific journal or an independent panel of experts (Comprehensive School Reform Program Office, Office of Elementary and Secondary Education, US Department of Education, 2002).

The Conundrum of the SBR Mandate

Beyond basic guidelines, such as the primer written by the National Research Council provided in the following pages, there is no simple mechanism for determining the scientifically research based status of a particular educational product, program, or set of practices to aid school leaders in their decision-making (Beghetto, 2003). It is argued that NCLB and even the various quasi-governmental standards institutes such as the Interstate School Leaders Licensure Consortium (ISLLC) and the National Council for Accreditation of Teacher Education (NCATE) have failed to identify a distinctive, research-based body of knowledge that would help leaders decide *what* to do, not just how to do it (Achilles & Price, 2001).

How do school administrators or practitioners know if research on a product is scientifically based? Beyond citing the guidelines above, this question has proven very difficult for anyone to answer convincingly. The federal government, though the source of the mandate, stops short of actual verification of compliance (United States Department of Education [USDE], 2002). The corporate world cannot openly certify its own research as compliant without risking ridicule or incredulity; yet, it must comply with the mandate or risk the loss of business. Meanwhile, most public school practitioners do not personally have the time or expertise to fully review the research behind each of their educational purchases in light of NCLB requirements (Achilles, 2003). Does a method exist that answers this conundrum?

Practitioners (teachers and school administrators) often have no practical avenue to determine if a vendor's research is valid. For most practitioners, who are ultimately consumers, an independent process for "determining whether a method is objectively

verifiable is essential” (Simpson, 2005, p.143). An administrator may purchase multiple programs or products for implementation in a district each year. Even with the proper training, time, and expertise, verifying the research, personnel, and practices employed in the research of any particular product is a large undertaking. The exponential workload in this area, magnified by multiple purchases, makes the task even more daunting. Compounding this problem further is the fact that most educators are not practicing researchers and have little training in the evaluation of research. They may even view the research with disdain after trying previous “research-based” products or programs (Boardman, Arguelles, Hughes, Klinger, & Vaughn, 2005). In common practice, practitioners often accept the vendor’s claims of having valid research to support a product or service. Thus, in its effort to create accountability, NCLB has perhaps inadvertently placed educators at the mercy of vendors and their research, be it valid or questionable (Phelps, 2004). The resulting situation leaves each of the largest cogs (practitioners and vendors) in the huge American educational industrial machine spinning freely, never fully engaging the others.

Could it be possible that the sheer weight of the various guidelines, advice, and resources provided by the federal government in the wake of NCLB is slowing actual, verifiable compliance to a crawl? Immediately after releasing the guidelines listed above, the National Educational Policy and Priorities Board of the USDE enlisted the National Research Council (NRC), to provide a “primer” on the topic of scientific research in education. The peer-reviewed report was generated by a diverse committee of prominent scholars who accepted the charge to examine the nature and scope of scientifically based research in education and to consider how a federal agency can

(could) support and sustain such research. Several themes inherent to educational research were put forward in this report. The stated intent was to provide educators with program and product implementation authority as a means to better understand the nature of scientific research in education and determine the scientific basis of their present school programs and practices (Shavelson & Towne, 2002). The following are excerpts from the NRC report:

1. General scientific principles. The NRC authors argue that these six general principles characterize all scientific research, including scientifically-based educational research.

Poses significant questions that can be investigated empirically;

Links research to relevant theory;

Uses methods that permit direct investigation;

Provides a coherent and explicit chain of reasoning;

Replicates and generalizes across studies; and

Encourages professional scrutiny and critique.

2. Accumulation of knowledge. The accumulation of scientific knowledge takes time, develops from diverse methods, relies on multiple studies across varied contexts, and complies with the norms and evidentiary standards of a scientific community. Conclusions regarding the causes and effects of any particular program or practice can rarely, if ever, be made on the basis of a single study.

3. Defining a scientific study. The design of a study is not sufficient for considering whether or not it is scientific. Rather, the scientific nature of a study

is determined by its alignment with the general scientific principles outlined above and its adherence to the rigorous, self-regulated norms of a scientific community.

4. The nature of education. Because education is a complex, diverse, and value-laden field, it is important to carefully consider the unique features of a particular school context when determining whether theories and findings from research studies will meaningfully generalize to meet specific needs (Shavelson & Towne, 2002).

Even with this guidance and the acknowledgement that SBR compliance is complex and time consuming, the most prescient questions raised by the SBR mandate remain unanswered. How a practitioner/consumer really can know if a desired product (or any product) meets the mandate with certainty?

Applying the “Medical Model” to Educational Research

An independent component in this SBR debate is the educational research community, particularly in the post-NCLB, paradigm-shifted world. Prior to NCLB, the government offered funding to schools to benefit classroom instruction, vendors offered products to practitioners, practitioners evaluated products through classroom use, and researchers documented this use over time to draw conclusions on relative effectiveness. The implementation of NCLB changed the paradigm by putting the research component first, prior to general classroom use. As stated earlier, while this practice is common in other industries, it is a new phenomenon in education, and one that bears increasing prominence. In his Senate testimony on the matter, Grover Whitehurst, Director of the U.S. Department of Education's reorganized Institute of

Education Sciences (IES), outlined the federal government's commitment to scientifically based research in education. He explained that adherence to scientifically based research is now and will continue to be, a critical factor in the funding decisions and endorsement of programs that fall under the purview of NCLB (Whitehurst, 2002). Whitehurst also argued that the research base surrounding key educational issues "is thin to nonexistent" and that learning how to read is the only major program area that has "a substantial and persuasive research base" (Whitehurst, 2002). The IES Director further claims that our lack of scientific knowledge in education "is masked by a folk wisdom [that] employs unsystematic techniques, doesn't demand scientific knowledge, is inefficient, and ...is hit or miss" (Whitehurst, 2002). Later, in the same Senate appearance, Whitehurst drew further analogies between the education of today and the folk remedies and wisdom of early day medicine and agriculture. Following which, he asserted [if the old ways are abandoned], "there is every reason to believe that, if we invest in the education sciences and develop mechanisms to encourage evidence-based practices, we will see progress and transformation ...of the same magnitude ... as we have seen in medicine and agriculture" (Whitehurst, 2002).

Potential Hazards of Scientifically Based Research

As cited in the statements above, the medical model is a serious goal for the educational industry and perhaps readily adaptable for this purpose. Still, although rigidly controlled, the international pharmaceutical industry has long dealt with concerns now potentially plaguing education. For example, in 1998 the Canadian Broadcasting Company explored the relationship between Dr. Nancy Oliveri, The Hospital for Sick Children, Apotex Pharmaceuticals, and tainted infant formula. Dr.

Oliveri eventually served in the role of “whistle blower,” outlining improper influence between research funder and the researchers themselves (INFACT Canada Newsletter, 1998). While this case centered on public health concerns, the questions posed are easily transferable to educational products. One applicable question asks; Do contracts exist between researcher and funder that allow no publication of negative data and no data to be published without the consent of the donor? Another relevant question is; How censored is the information submitted for product approval protocols? In the words of Canadian Nobel Prize winner, Dr. John Polanyi, “The purpose of research... is to uncover the truth. If this is to stand a chance of succeeding, it must be pursued openly...and be seen to be free from commercial and political influence. Universities...were instituted to fulfill that function.” (INFACT Canada Newsletter, 1998). Although public health concerns do not primarily inhabit the NCLB mandate, similar corporate risks such as product quality and pressure to comply are applicable (United States Department of Education [USDE], 2002).

The advent of the NCLB scientifically based research mandate in 2002 caused a clamoring within the educational product industry with most vendors racing to meet the NCLB demand almost instantly, producing volume after volume of research to justify the purchase of their products. Certainly many of these products have valid research that meets standards of excellence: a peer-reviewed process, institutional oversight, and professional affiliation. It is equally certain that some vendors employ methods that rely on questionable research standards in support of a particular commodity. Often, such results are published in non-peer-reviewed journals that accept payment for publishing the results. Frederick Hess describes the current NCLB accountability

systems as possibly “jury-rigged . . . subjected to limited scrutiny” (2005, p. 153). Nevertheless, educators operating under strict timelines and tight budgets must make decisions based on the best information readily available. As stated earlier, most practitioners do not have the resources or expertise to independently verify the research backing every product it purchases (Achilles, 2003). Clearly, a distinct divide exists between practitioners and researchers. Again, practitioners most often do not have the skills to evaluate research (Snell, 2003). Likewise, researchers do not always have the knowledge of school practices to effectively aid schools in their decision-making processes. Practitioners must know what products have valid research indicating their relative usefulness to the prescriptive task. Researchers need to bring their expertise to schools.

While the intentions of the NCLB scientifically research based mandate are noble in purpose and arguably sound in policy, it is possible that the government has implemented a mandate that could be better served by less interpretation and more certainty. Concern exists that over-focusing on what works may blind educators to other equally important aspects or worse still, unanticipated outcomes of some recommended educational practices. A valid concern can also be voiced in how we are judging what works. Whether we are valuing higher test scores, student engagement, depth of knowledge and understanding, or any of a myriad of other indicators should be well defined. There are ample examples of a medicine that worked but had disastrous unintentional consequences, such as the morning sickness treatment thalidomide, that led to horrific birth defects (Erickson & Gutierrez, 2002). Still others express concerns that scientifically based research offers too narrow a focus for the American classroom.

They argue that educational research should be open to diverse traditions of scholarship and inquiries to least obstruct the “proliferation of knowledge” (St. Pierre, 2002, p. 27). An example of this apparent obstruction can be found near the end of the Shavelson and Towne National Research Council (NRC) report of 2002. Therein, the authors claim that “the advancement of scientific knowledge is facilitated when investigators work with the same set of variables and theoretical constructs” (p. 151). Further, the report recommends the creation of centralized systems and databases housed in a federal educational research agency. These databases will collect data nationwide from these new studies and analyze that data using a “common conceptual frame” (p. 151). However, and as evidence for the need of this research project, this frame is never named. We are warned, “. . .only a single kind of science will be advanced with such practices” (p. 151).

In light of these concerns, particularly when coupled with the other mandates of NCLB, it is clear that a huge responsibility and potential liability has landed on the shoulders of today’s educational leaders. Again, it may be that even with best intentions they do not have the expertise, access, or time necessary to undertake an examination of this depth on each program or product under consideration for implementation in the classroom, especially with the apparent stakes raised to an historic high (Wright, et al., 2003).

The Research Problem Defined

Preliminary research on the subject by the investigator found no existing, acknowledged entity to verify educational product research. Indeed, the original government effort along these lines, embodied by the What Works Clearinghouse

(WWC), at the United States Department of Education (USDE, 2002), appears hampered by its own weight and a general misinterpretation by the educational public of its mission. From the outset, WWC has focused on the methodological effectiveness behind educational processes rather than a certification of NCLB compliance of individual products. Although established for the expressed purpose of aiding practitioners in selecting scientifically based products, it also acknowledges obstacles to compliance in the current paradigm (Duebel, 2008). Other entities that tread similar ground in educational product research or its validation are either very much regional in mission (California Educational Research Cooperative [CERC], 2001), or dedicated to replicating research already done (Best Evidence Encyclopedia [BEE], 2006). None are dedicated to reviewing specific product research in light of individual NCLB compliance.

A barrier to a more conventional research methodology is the extremely broad base that educational products bring to the SBR table. Some products do offer promise of higher standardized test scores, others offer greater engagement of students, thereby providing a conduit for increased knowledge (a very relative measurement at best), while still others offer adaptive or interactive technology that promise a combination of these and/or other outcomes. This heralds the potential development of a framework such as mentioned in the NRC report above, albeit one that does not obstruct, but accommodates the myriad of they work or not (which depends on the correct implementation and usage), but rather whether the product itself complied with the SBR mandate as products under the SBR mandate. Can such a framework be developed (by a

respected, independent entity) that is of value to educational product consumers and vendors alike and applied evenly to products to measure not whether laid out in law?

Further research of this phenomenon, and study in a scholarly manner is necessary. As a result of professional discourse and historical review of the SBR mandate currently in force, corporately generated SBR research, the apparent lack of independent verification of SBR, and the prospect of further governmental oversight, this study began to take shape. It was built around a central research problem: *Despite the federal SBR mandate, currently no independent certification intermediary exists to certify educational product compliance with the mandates of a scientifically based research development.*

Purpose of Research and Study

The investigation and research study contained within was undertaken explicitly with the purpose to examine the NCLB scientifically based research requirement, research the historical development of certification intermediaries, and determine through a grounded theory study the compliance of both educational product vendors and education administrators with the SBR mandate and the potentiality or inevitability of the emergence of a CI in the area.

Research Question Emerges

Emerging from the central problem stated above is the research question prescient to the study: *How do educational product vendors and education administrators agree and/or differ in relation to the SBR mandate and on the potential to produce an SBR certification entity valuable to each?*

It should also be noted that as a career district level administrator, the author's interests and concerns toward the topic are centered on a personal and practical desire to best serve students while keeping the school district compliant with federal mandates. The subtitle is derived from personal conversation with an educational magazine editor, who in observing the lack of a CI in this area repeatedly cited an "enormous gap" to be filled.

CHAPTER II

HISTORICAL CONTEXT OF SCIENTIFICALLY BASED RESEARCH

AND PRODUCT VERIFICATION

Resistance to Scientifically Based Research in Education

The majority of literature reviewed within historical context by the researcher on the topic of scientifically based research in education illustrates a definite kinship with the medical and pharmaceutical industry. This is particularly true of their research and development and product approval mechanisms. Regardless, there are those who advise caution against unrestrained enthusiasm for the concept. It is imperative to realize that the SBR mandate does not involve actually assessing whether the product truly works or not although that is clearly the intent (USDE, 2002). The mandate centers on compliance or simply; was the product or program developed in conjunction with scientifically based research? Again, it is apparent that no universally applicable instrument exists to measure this compliance beyond a very broad and somewhat contradictory framework put forward by the same agency that issued the mandate.

In his article on the topic, Stephen Raudenbush states that "... scientific work can inform but never replace the judgment of policy makers, practitioners, and parents" (Raudenbush, 2002). He favors rigorous peer review to help prevent the overselling of the promises of science. He does not advocate specific types of research, such as correlative, qualitative, randomized, or quantitative studies as better or best but rather that they simply are scientific. Raudenbush employs a question and answer format in his article that covers the following:

1. Do studies have to use random assignment to be considered scientific?

While random assignment is useful in establishing cause and effect because it controls for variables, a study can be considered scientific without it. However, the researcher must show that confounding variables were controlled and did not bias the outcome (Raudenbush, 2002).

2. Are randomized studies possible in education?

Although randomized studies cannot answer every educational question, such studies are useful and should be employed with greater frequency. Raudenbush highlights several current and ongoing studies as examples, including the Tennessee class-size experiment, evaluations of school reform, and randomized studies of vouchers (2002).

3. Does qualitative research play a role in making educational research more scientific?

Qualitative research serves the important function of providing vivid descriptions of how and why programs do and do not work (Raudenbush, 2002).

4. How can insights be combined from various kinds of inquiry?

Drawing on medical research that has established the link between smoking and lung cancer, Raudenbush illustrates how non-experiments (surveys), true experiments (animal studies), and qualitative studies (examining lung tissue) "created a new consensus among scientists who had previously disagreed that smoking causes lung cancer" (2002).

Mixed Messages from the United States Department of Education

The statements of Raudenbush about over reliance of the educational complex on scientifically based research conflict with his other statements lauding the practice and cloud the overall issue. Compounding this is the fact that these conflicting statements originate from the same source, the U.S. Department of Education (Raudenbush, 2002). Accordingly, the lack of a firm mechanism to provide reliable recommendations on SBR remains problematic as the liability of product and program choices for American classrooms continues to fall back on those with the least training in the area, educational practitioners.

Researchers support the assertion that random-assignment experiments can be carried out with theoretical validity in education, but their implementation does present a significant challenge (Brookings Institution, 1999; Gueron in Mosteller& Boruch, 2002; NRC, 2004). Researchers also maintain that one of the most challenging aspects of these experiments in education lends the concern that they create disparities regarding who gets the treatment and can lead to various issues unrelated to the stated educational purpose of the research (Brookings Institution, 1999). Ideally, public education in the United States is held to be a wholly democratic institution that provides equitable access to educational opportunities and experiences, yet the SBR mandate is the law of the land. Long-held issues of local control also come into play regarding mandates of this type (Cook, 2001).

Instant Compliance with the SBR Mandate

Exacerbating the plight of educational practitioners mentioned above is the fact that in the wake of the NCLB scientifically based research requirement, educational

vendors nominally met the new mandate almost instantly. Virtually on the spot they produced or unearthed copious amounts of research to justify and promote the purchase of their products. There is little doubt that many of these vendors produced valid research that meets the mandated standards of excellence, including experimental design, a peer-reviewed process, institutional oversight, and professional affiliation. However, other vendors may use far less stringent research standards in expediting the distribution of a certain program or product. In this case, results are often published (if published at all) in non-peer-reviewed journals (Hess, 2005). Meanwhile, educators operating under strict timelines and tight budgets must make purchasing decisions based on the best information that is readily available. These assumptions are made by decision-makers based on what is essentially “the honor system and it doesn’t always work well” (Stanford Daily Online [SDO], 2005).

Worldwide Movement toward SBR in Education

Further research into the scientifically based research movement reveals that however one feels about the advent of NCLB in the United States, SBR in education is becoming a worldwide phenomenon. Presently several independent efforts are underway to develop a framework of uniform standards of research in the educational research field around the globe. In America, these include the National Standards for Science (NSF, 2006). Counterparts exist throughout the world such as the United Nations’ Dakar Framework (United Nations Educational Scientific and Cultural Organization [UNESCO], 2006) and those within the European Union (European Commission/Europa/EU [ECEEU], 2006). In Canada, scientifically based research mandates have a foothold in the provincial education departments and are championed

by scholars such as Ben Levin at the University of Manitoba (Levin, 2004). Here in America the NCLB legislation lays down groundwork that may be expanded over the years and must become a tool that practitioners use to make schools better or it risks becoming a source of frustration for both practitioners and schools for years to come. Efforts to research this area attempt to advance the former outcome rather than the latter.

Historical Background of SBR in Education (Prior to NCLB)

While the scientifically based research mandate of NCLB seems new to the educational community, in reality it should have been no surprise. Research reveals that scientifically based research in education has been around for over fifty years. The federal government's efforts to make education a more scientific field have steadily progressed over the years, from the Cooperative Research Act of 1954, to the creation of the National Institute of Education in the early 1970s, later absorbed by the Office of Educational Research and Improvement (OERI). Two recent federal programs, the Comprehensive School Reform Demonstration Program (CSRDP) and the Reading Excellence Act, also emphasize scientifically research based reforms. In the latest reorganization of the U.S. Department of Education, OERI has been replaced by the Institute of Education Sciences (IES). One of the institute's first projects, the What Works Clearinghouse (WWC), is designed as a resource for educational decision-makers in selecting programs and practices based on scientific based research, while the CSRDP Program Office provides school leaders with guidance on the use of scientific research in initiating comprehensive reform efforts. However, the USDE stops far short of specific product certifications, and sticks to the broader landscape of approving the

research methodology behind many products. Although quite valid, the scope of this guidance is especially narrow when applied to the mandate's original intent. This limited guidance leaves most educational practitioners little certainty when determining which actual products are NCLB compliant. (Beghetto, 2003).

The IES does admit that when allowable SBR studies are lacking, educators might turn to guides to "bring the best available evidence on the types of systemic challenges that cannot currently be addressed by single interventions or programs" (Herman, Dawson, Dee, et al., 2008, p. 31). Characterized by recommendations connected to the level of evidence supporting it, these guides could be consensus compliance reports rather than meta-analyses in terms of the breadth and complexity of the topic addressed (2008).

Historical Instances of Product Verification in Industry

A broad approach was employed toward historical research on the epistemology of review and verification entities that have emerged throughout industrial history. Review of existing literature makes apparent that entities of this type have appeared periodically in answer to quality concerns in emergent industries or technologies and their application (Lizzeri, 1999). Throughout history market economies have devoted substantial resources to certify product quality. When buyers lack information on product quality, independent certification is often proposed as a solution (Akerlof, 1970). Providing independent certification for various consumers are as varied as Educational Testing Services (ETS) offering SAT tests for college applicants, U.S. News & World Report ranking universities, Moody's reporting corporate bond ratings, and accounting companies auditing financial reports for public corporations. While

certification of product quality is ubiquitous, many important questions, both positive and normative, remain. What are appropriate incentives for private, for-profit certifiers to provide truthful and complete information? What circumstances are inappropriate for for-profit certifiers to credibly participate at all? How well does the market for professional certification function and what principles govern its evolution? What role does competition play in the revelation of information? These questions have attracted theoretical attention, but empirical tests are rare (Jin, Kato, & List, 2004).

An independent, for-profit certifier may not have sufficient incentive to reveal full information. For example, a monopoly certifier who commits to a uniform service fee may certify all applicants to maximize its grading revenue (Lizzeri 1999); an investment bank may release a noisy stock evaluation in order to boost its own mutual funds (Admati and Pfleiderer 1990); and a university could adopt coarse and uninformative grades to market its mediocre students (Ostrovsky and Schwarz 2003). These phenomena are often contrasted with full information revelation, trustworthiness, or verisimilitude, which must exist if the market for certification becomes sufficiently competitive. These potentialities and the associated concerns are problematic and have bearing on the direction of this study. Additionally, some entities do emerge that possess a combination of traits that provide incentive and verisimilitude to fill a void in a particular industry.

Well Known “Certification Marks”

It is well known that Underwriters’ Laboratories (UL) has existed within the electrical industry for almost a century to provide consumers with quality and safety assurances in their electrical appliance purchases (Underwriters Laboratories [UL],

2006). Other entities as common as the Good Housekeeping Seal of Approval and Consumer's Union seek to review, rate, and recommend products for consumer use as well (Good Housekeeping [GH], 2006 and Consumers Union [CU], 2006). Although the phenomenon of universally available and accepted consumer consumption of bottled water is relatively new upon the collective consciousness, in fact a seal of approval has been in existence in that industry since 1944. The NSF International, formerly known as the National Sanitation Foundation, "Mark" can be found on millions of consumer, commercial, and industrial products today. Products evaluated and certified by NSF International include bottled water, food equipment, home water treatment products, home appliances, plumbing and faucets, and even pool and spa components. According to NSF, "The next time you are shopping for a food or water-related product that may potentially affect the health of you or your family, look to see if the NSF Mark is on the product." They further assert that, "This Mark is your assurance that the product has been tested by one of the most respected independent certification companies in existence today." (NSF International, 2004). This is a perfect illustration of the power and confidence that a "mark" can have on an industry and the public trust it must have to survive.

Within the educational industry, the Schools Interoperability Framework Association or (SIFA), called SIF compliance within the technology world, has recently come into being to better regulate school management software (SIFA, 2006) and Project Inkwell has emerged in an effort to regulate the optimum educational computer requirements (PI, 2004). This is not particularly rare or even unanticipated as the establishment of "certification marks" or seals of approval is commonplace throughout

industrial history and was codified under US federal statute by the Lanham Act as early as 1946 (Phelps, 1949). Initial research revealed that no major entity existed to certify educational products in light of the NCLB research-based mandate. Economist Erik Durbin suggests that while such an entity may not yet exist, its establishment may indeed be inevitable (2000). In his *Essays on Intermediation in Markets*, Durbin states repeatedly that, “Agents will not enter a market if they cannot trust a potential trading partner” (2000, p. 2). He reasons that “Participants in well-functioning markets thus rely on a range of institutions, from formal legal rules to social norms, to protect them from opportunistic behavior” (2000, p. 2). In the post-NCLB, SBR mandated world, suspect trading partners are products with questionable research, compounded by the lack of an existing entity to provide guidance in this area. Durbin further states, “When buyers are unable to observe the characteristics of seller’s products, both buyers and (high quality) sellers have an interest in communicating information about product quality” (Durbin, 2000, p. 2). Consequently, a need arises for an independent third party to provide reports or ratings on seller and/or product quality.

How Certification Intermediaries Emerge

The scientifically based research mandate of NCLB has exposed a critical mass of need for independent review in this arena. According to Durbin, the provider of independent review is known as a “Certification Intermediary” or CI (2000, p. 6). A CI is an agent designed specifically to inspect the seller’s good or in this case, review scientifically-based research on an educational product and credibly report its relative quality or compliance to the buyer. In this sense, they can provide what neither the government nor the corporate world can successfully achieve at this time. The CI

method provides stability for the industry and the public, a conduit for the buyers of verified compliant goods, and an incentive for sellers to invest in quality. Durbin further suggests that "...there is indeed a role for cooperative action by buyers' and sellers' organizations or associations to advocate certification" or the vacuum may be filled by government intervention (2000, p. 4). This dynamic appears inherent in the wake of the NCLB research-based mandate, though it is by no means unique.

A private, independent intermediary that provides quality information to buyers and confidence to sellers is required by circumstances to inspect the quality of a seller's goods and credibly report on its quality to the buyer. In common industry intermediaries include industrial labs such as UL, credit rating agencies such as Moody's and Standard and Poor's, and publications such as Consumer Reports that rate the quality of retail products and services (Durbin). Some, such as UL, are contracted by the seller or manufacturer. Others such as Consumer Reports are guidebooks funded by the buyer through purchase. This question, "Who pays the bill?" is very interesting and the source of some concern.

Choosing an Appropriate CI Model

Durbin found that certified intermediaries fall into two categories, guidebook and certificate. The buyer pays for guidebook, while the seller pays for certificate. As an illustration, consider that credit bureaus like TRW are guidebooks, while credit rating agencies like Standard and Poor's are certificates (TRW, 2006). It appears that when the financial risk appears greatest, it is more likely that the seller assumes the expense of the intermediary. Guidebooks imply that less information is exchanged and certification implies that everything is on the table (2000).

The search for an appropriate format for a CI, regardless of the applicable industry, begs the question: When is a certificate better than a guidebook and in fact, when does a guidebook become less valuable to the consumer? According to Durbin, it is when the stakes are raised (2000). If most sellers have high quality, the amount a buyer would pay for a guidebook is relatively low; however, with certificates this effect is not present. The amount sellers will pay to be certified depends on the importance buyers attach to quality, not on the frequency of high-quality goods (Durbin, 2000). A reputation mechanism also exerts influence, as the CI must have the perception of success and stature within its arena. Once so regarded, it becomes less susceptible to influence by sellers or potential buyers alike and concerns of collusion dissipate. The need to maintain the incentive for honest reporting remains because the positive value of the buyers' trust must not be underestimated. If the buyers do not value a seal of approval or a certification mark of compliance, then it is meaningless. In the early 21st Century, it is clear that we no longer live in a "flea market" society. Buyers often cannot truly assess the quality of an item first-hand, due either to proximity or expertise (Durbin, 2000, p. 63). Consequently, there must be those who certify to serve those who rely on certification. This is particularly true in today's accountability-driven educational climate.

Summary

Scientifically based research has existed in the educational field for over fifty years, but was magnified by the passage of the NCLB legislation and its SBR mandate for educational purchases in the United States in 2002. Some resist SBR in education on the grounds that it may impede access to products or services otherwise left to

individual preference or circumstance. Even within the USDE some seem to both advocate for and warn against the potential pitfalls associated with scientifically based research in educational products. Of note, upon the SBR mandate, educational product providers were forced to initially comply at a much accelerated rate, exacerbating concerns of poor research quality.

In addition to the United States, the SBR movement has counterparts worldwide. Indeed, the concept of SBR and product verification is widespread throughout international industry. While the medical model of SBR is the intended model for use in education, it is not without its own risks. Instances exist where an unanticipated harm arose from a seemingly successful treatment. In response to market, public safety, and/or governmental pressures, regarding research and product verification, oversight entities or certification intermediaries have arisen throughout industrial history. Well-known examples include Underwriters Laboratories in the electrical industry and NSF International in drinking water. Oversight authority of CIs varies according to the amount of human safety and/or monetary risk at stake in the enterprise. A successful certification intermediary must be trusted and credible and or it is of no value to consumers or vendors.

CHAPTER III

STUDY DESIGN AND METHODOLOGY

Introduction

Since 2002, a mandate has existed from the United States Department of Education that educational products purchased by schools in the United States must be subject to scientifically based research. There currently exists no Certification Intermediary (CI) to assign compliance status and thereby assure school officials of the compliance of products purchased. This places the liability of meeting the mandate on those who have the least time and/or expertise to assess SBR compliance. Historically, when faced with similar market, safety, and/or political pressures, certification intermediaries have emerged to provide credible verification of product compliance. The purpose of this research is to: Examine the NCLB Scientifically Based Research requirement, document the historical development of Certification Intermediaries, and study the potentiality or inevitability of the emergence of a CI. The central research question of this research as it evolved from initial investigation remains: What is the potential for the current climate to produce a certification entity of value to educational product consumers and vendors alike?

Grounded Theory Design

Based upon initial educational product vendor and professional school administrator conversations about SBR compliance verification and the review of existing literature (or the relative lack thereof) in regard to educational products, the grounded theory study method is appropriate here. More specifically, the study design

components of Anselm Strauss and Juliet Corbin are employed. In their view, grounded theory is:

... inductively derived from the study of the phenomenon it represents. That is, discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon. Therefore, data collection, analysis, and theory should stand in reciprocal relationship with each other. One does not begin with a theory, then prove it. Rather, one begins with an area of study and what is relevant to that area is allowed to emerge. (Strauss & Corbin, 1990, p. 23)

In this type of qualitative methodology, the researcher attempts to learn about a particular way of life or the perspective from a particular constituency by studying participants and asking them what and how they feel regarding their own experiences (Yow, 1994). Although similar to the related qualitative research approach of phenomenology, in grounded theory a theory emerges from the data collected and is subsequently grounded to that data. The theory may then be applied to other similar, associated areas, a practice known as transferability. Data from individual interviews is coded and used to find the central categories, which in turn lead to the theory. Since they emerge from the data collected and analyzed, grounded theories offer insight and increased understanding of a particular, specific phenomenon. Valid grounded theory is created when interpretive researchers, using systematic data analysis, find plausible relationships between seemingly differing concepts. The procedures of grounded theory are a way to systematically and rigorously study qualitative data (Piantanida, Tananis, & Grubs, 2002).

Grounded theory studies vary in size, but typically consist of 20-30 or more participants through possible focus groups and/or individual interviews. The concepts that emerge from the data make up the main characteristics of grounded theory, rather than the theory coming first, with the data selection serving to bear out the theory. The narrative approach in collecting data is central to grounded theory. Essential to the successful use of this methodology are the creativity and critical thinking skills of the researcher. The researcher must create an appropriate categorization of data and allow it to group obviously while maintaining its descriptive validity and integrity (Glaser, 1992). Again, grounded theory does not attempt to prove a pre-existing theory; it allows a theory to emerge from what is studied (Strauss & Corbin, 1998). Concept development in grounded theory has been characterized as several theorists as a dialogue with the data (Chatfield, 2000, Sivia, 2005). This phenomenon is further described as a “reciprocal relationship” that is created as the researcher weaves through the processes of data collection, data analysis, and theory development (Egnew, 1994, p. 15).

Independent oversight of educational product compliance with SBR demands a grounded theory study given the fact that little research existed in this specific area. When the field of study lacks a well-developed theoretical framework, it is well-suited to a grounded theory study (Babchuk, 1997) and is “a useful style of research when there is little prior information about a topic” (McCann & Clark, 2003, p. 7). A grounded theory is a set of relationships that proposes a reasonable explanation of the phenomenon under study (Strauss & Corbin, 1998). These emerging statements of relationship are interpreted by the author to form a theoretical framework that explains

an event or action (Strauss & Corbin, 2000). Morse (1994) extends this explanation suggesting that a theory offers "the best comprehensive, coherent and simplest model for linking diverse and unrelated facts in a useful and pragmatic way" (p. 25). Glaser (1992) suggests that there are two main criteria for judging the adequacy of the emerging theory: that it functionally fits the situation; and that it helps the people in that situation understand their experience and manage it better. Further, as grounded theory spawns ideas from the collected data, these ideas, in turn, prompt more focused data collection, which leads to even more theoretical ideas (Parry, 1998). In this case, grounded theory appears especially appropriate in light of the after end and visual model explanations of grounded theory given by Creswell (1998; 2002).

Limitations of Grounded Theory Studies

For a grounded theory study to be valid, the researcher must set aside as much as possible any preconceived theoretical ideas or notions so that the analytical, substantive theory can emerge. Though the evolving, inductive nature of grounded theory research is somewhat deceiving, the researcher must not fail to recognize that it is indeed a systematic approach to research with specific steps in data analysis. Another challenge for the researcher in grounded theory is to determine when the categories are saturated or when the theory is sufficiently detailed (SRM, 1998). "The persuasiveness of the researcher's argument lies in its utility for guiding practice" or more simply put, dependability; meaning what the researcher finds within the data must be usable for those who consult it (Piantanida, Tananis, & Grubs, (2002, p. 3).

In a later work, Piantanida, Tananis, and Grubs, (2004) explained that since grounded theory is "a heuristic rendering of our interpretations, the scientific warrants

of verifiability, reliability, and generalizability are not applicable for evaluating the credibility of the theory” (p. 341). In emphasizing the importance of perspective when creating theory, it is held that in qualitative studies the terms validity and reliability could be more accurately replaced with fidelity and trustworthiness (Gilgun, 2005). Gilgun (2005) goes on to explain that trustworthiness is the researcher’s clear explanation of his or her methods and steps in compiling a theory, while Strauss and Corbin (1994) define fidelity as “theoretical sensitivity” (p. 280). In her 1997 work, Hoepfl offered that credibility is the most appropriate term to describe the finding’s accurate portrayal of the informant’s reality. Credibility, she states, is established through the provision of complete information, replete with rich detail and an apt analysis of the data. Hoepfl also rejected the term generalizability in favor of the term transferability (1997).

Regardless of the topic, a grounded theory should be “accessible and understandable” to practitioners and participants of the study (Jacelon & O’Dell, 2005, p. 50). It should relate in an obvious and useable manner to practitioners within the field studied. A study involving patients receiving treatment should be of benefit to those providing treatment (and thereby the patients). A more succinct term to express this phenomenon is fit. Fit enables external validation of the research to take place (Lomborg & Kirkevold, 2003). Synthesis of these criteria: fit, transferability, credibility, fidelity, are imperative to the successful completion of this study.

Focus and Initial Components of the Study

The intent of a grounded theory study is to generate or discover a theory that relates to a particular, unique situation. This situation is one in which individuals

interact, take action and engage in a process in response to the phenomenon (Creswell, 1998). Within this study, the research focused on both the vendor and school administrator perspectives. In preparation to study this phenomenon, the investigator assembled a pool of educational product vendors and education professionals. Each was interviewed on their understanding of and viewpoints relating to the SBR mandates, their current methods of compliance, liability concerns, and their insights on a viable, mutually acceptable solution. These qualitative interviews were conducted in the semi-structured format, which Merriam (1998) describes as follows:

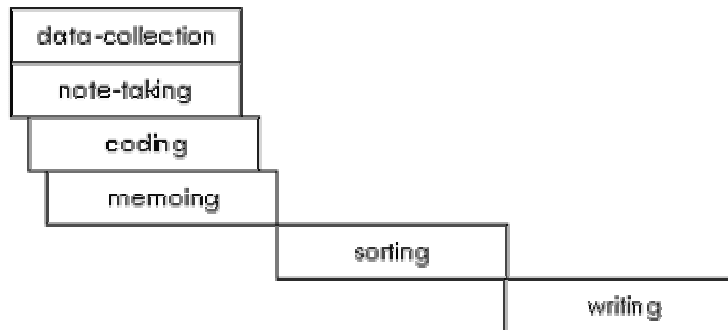
Usually, specific information is desired from all the respondents, in which case there is a highly structured section to the interview. But the large part of the interview is guided by a list of questions or issues to be explored, and neither the exact wording nor the order of the questions is determined ahead of time. (p.74)

These interviews provided the basis for the theories advanced, and conclusions drawn herein. Formal in-person and telephone interviews were conducted with a wide range of educational product vendors and district level public school administrators responsible for both the purchase of educational products and compliance with the SBR mandate to distill valid data and generate relevant theory or propositions about the manner in which these two subgroups (termed vendors and consumers) agree and/or differ in relation to the mandate.

Study Procedures

The procedures involved in conducting this study included coding of responses in an ever-narrowing system described in grounded theory as open coding, axial coding, and selective coding, as graphically described below:

Figure 1. Graphic Summary of the Grounded Theory Process (Dick, 2005).



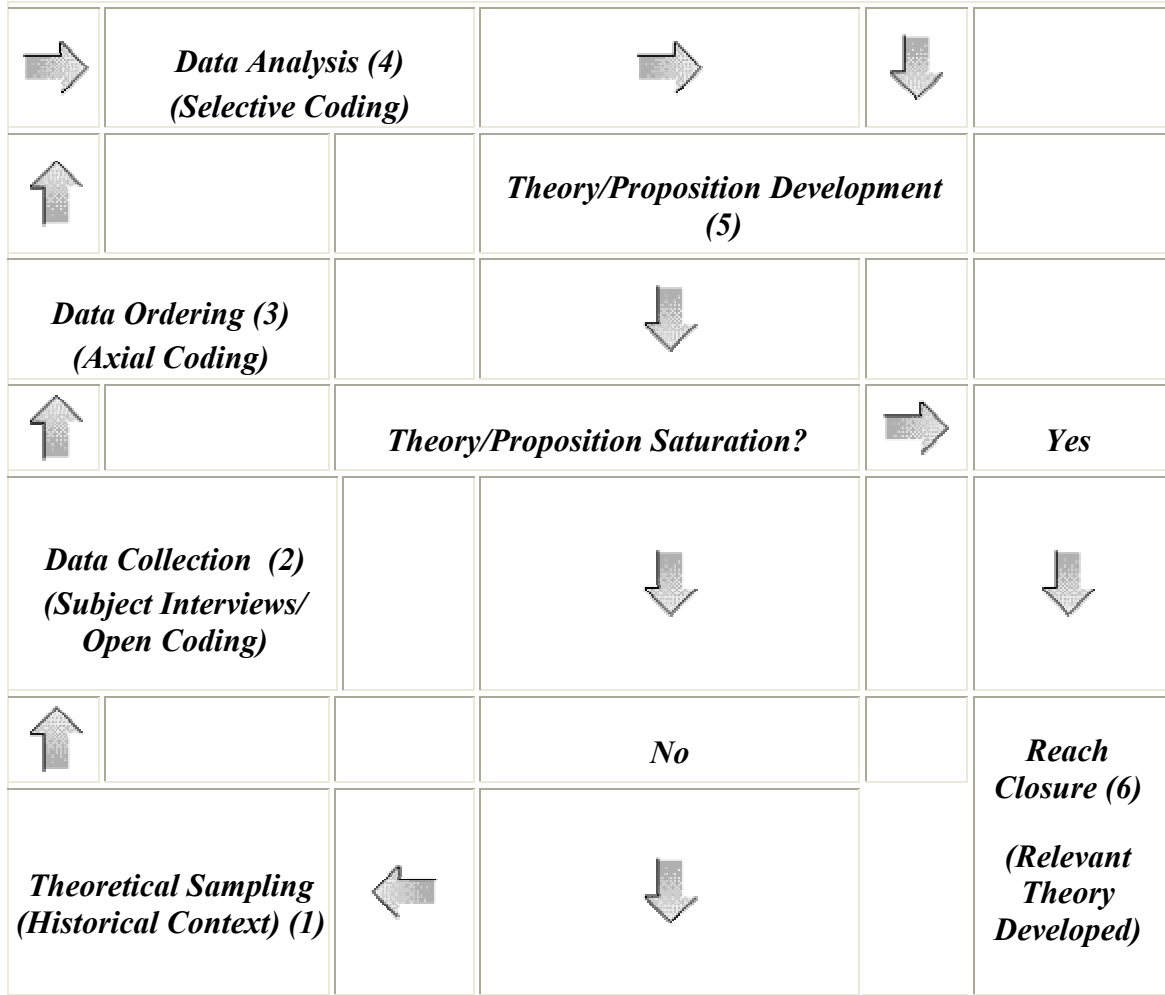
In open coding, the researcher forms initial categories of information about the phenomenon being studied by segmenting information. Within each category the researcher finds several properties or subcategories, and looks for data to dimensionalize or show all the broad possibilities of the data. In axial coding, the researcher reassembles the data after open coding. The researcher presents this using a logic diagram that identifies a central phenomenon, explores causal conditions, and identifies strategies, content and intervening conditions, and delineates the consequences of the phenomenon. In selective coding, the researcher identifies a story line and writes to integrate the categories within the axial coding model. During this phase, conditional propositions or hypotheses emerge. The researcher then develops and portrays a conditional matrix that considers external influences on the central phenomenon as well, such as the social, historical, and economic conditions that are in play (Social Research Methods [SRM], 1998).

In grounded theory the explanations emerge gradually from the data as the study proceeds. All interviews begin relatively open-ended. As interviews progress, more probing questions can emerge becoming more specific in nature. The theory/proposition emerges from the data, from the subjects. In the early stages/phases

it consists primarily of themes that become more elaborated as the study develops (Dick, 2005).

The following table provides an overview of these phases adapted from a Strauss and Corbin inspired design by Pandit (1990):

Figure 2. Grounded Theory Study Design



The Subject Pool

As noted earlier, utilizing the grounded theory methodology of Strauss and Corbin, this study examined the central question the vendor and consumer perspective. Adhering to the accepted standards of dealing with human study subject and the

research ethics mandated by the Institutional Review Board (IRB), study subjects included both educational product vendors and district-level public school administrators. Vendors were recruited from active professionals engaged in development, sales, and marketing of educational products located through trade magazines, web sites, exhibitor lists at state and national conferences, and referrals by other recruits. Administrator participants were recruited from current district-level administrators with SBR purchasing and compliance responsibilities at small, medium, and large public school and CareerTech districts across Oklahoma. In compliance with IRB requests, permission was sought from the districts employing these subjects as well as the subjects themselves. These participants were chosen based on their relative familiarity with federal mandates and consideration was given to broaden the participant pool to include a cross section of size and socio-economic status of the districts represented. The state of Oklahoma currently has 511 school districts ranging in enrollment from under 100 to over 40,000. In this manner, the investigator attempted to obtain and understand “the insider’s perspective” (Ary, Jacobs, & Razavieh, 1996, p. 476). An example of this technique is illustrated in a qualitative study done on intercollegiate athletic cheating (eligibility, recruiting, and perceived injustices surrounding rules) utilizing interviews of six NCAA Division I basketball coaches (4 men’s and 2 women’s) from around the country (Dixon, et al, 2003).

In this study, the author (as principal investigator) personally contacted potential subjects with a consent form specifically designed for the purpose of recruiting participants. The study data stems from the observations of the interviewees, in response to a loosely predetermined framework of questions provided. By utilizing this

framework as a survey, implementing interview techniques, and conducting observations, a form of triangulation emerged to increase the internal validity of the study. As consistent with a structured interview, the subjects stated their name and current position in the educational spectrum thereby establishing their qualification within the study and the validity of notes taken by the investigator during the study period.

Documentation

With the process and challenges of grounded theory study in mind, it was determined to document and distill participant responses as much as possible and return to the interviewee(s) as needed for detail and clarification of their views. In the interest of study accuracy and to aid in transcription, anecdotal field notes were logged from each of the interviews, informal conversations, and subsequent follow-up encounters. The researcher utilized participant checking by encouraging the participants to review notes of their responses to offer clarification or additions as needed (Creswell, 2005). The interviews lasted approximately 30-45 minutes each. All direct identifiers were maintained only during the duration of the study to access and re-assess the respondents during the interview process. All identifiable interviews and data were coded and stored in password-protected or locked files for the duration of the study period for destroyed after the study was completed.

The researcher also kept a log of personal thoughts, impressions, and observations throughout the interview process (Guba & Lincoln, 1981). Since generating a theory is in essence an interpretive act, it is the researcher's responsibility that his interpretations are logical and indeed, make sense (1981). One does not

approach research completely as a tabula rusa, as prior knowledge and experience allows the researcher to enter the study with at least a “participatory mode of consciousness” that substantively allows the researcher his mode of “being in the inquiry” (Piantanida, et al. 2004, p. 336). Still, as stated by Strauss and Corbin (1990) “The core category must be the sun, standing in orderly systematic relationship to its planets” (p. 124). This said, all interpretation, analysis, judging, and conceptual decisions were left to the researcher and filtered through his experience and knowledge base.

Consistent with grounded theory methodology, the resulting information gathered from this study is reported in the narrative style. Memos, assembled throughout the process, constitute a system of tracking, assembling, categorizing and analyzing data. As Strauss and Corbin maintain, “Memos are not merely ideas. They are involved in the formulation and revision of theory during the research process” (1990, p. 10) It is important that although member checks, collaboration, and bias considerations have all occurred, the author remains self-reflexive as theories, propositions, and conclusions emerge from the chosen research process.

CHAPTER IV

RESULTS

Overview

In this chapter, the author shares the findings of this study, guided by the central research question: *How do educational product vendors and education administrators agree and/or differ in relation to the SBR mandate and on the potential to produce an SBR certification entity valuable to each?* With this as a guide and parenthetical boundary, the author assembled and interviewed two sets of subjects: educational product vendors (sales and marketing personnel responsible for marketing individual educational products to public schools); and, educational product consumers (district-level public school administrators responsible for the purchasing of educational products and the assumption of federal liability should these products be deemed non-SBR compliant).

As is common in many studies, there was much more data than the author was able to present. In grounded theory this is especially difficult, because the researcher attempts to flow with the data rather than control it while exploring themes as they emerge. While the author, as a researcher, must conform to the boundaries of the main research question, he does not claim to be completely neutral; as he is a district-level school administrator with the same responsibilities as the consumer subjects. However, each concept must earn its way into the evolving theory by repeated presence and thereby, relevance. In this way, grounded theory guards against researcher bias. Regardless of how fond a researcher may be of a particular concept, it must fit under scrutiny or be discarded (Strauss & Corbin, 1990, p7). Still, as principal researcher, the

author controls this process while making decisions and choosing the data to include or discard. Throughout this chapter the author's interpretations of the data are presented. Through the research the participants' voices are heard, as it is their views, positions, and experiences, as filtered through the author's collective experiences; that make up the heart of this study.

Within this chapter, the author includes responses from selected participants that illustrate or emphasize the collective thoughts of the majority. Some variations do surface since even in similar groups, individual subjects may have different areas of expertise, research interests, and passions. Care was taken to present views most illustrative of the subgroup while contributing depth and texture to this account.

Study Subject Subgroups

To fully explore the research question, it was necessary to assemble two separate subgroups for study. As mentioned above, participants for this study were selected from two associated groups concerning the purchase and implementation of instructional educational products in American public schools, school administrators and product sales associates, or for the purposes of this study, vendors and consumers.

Vendor subjects were recruited from active professionals engaged in development, sales, and marketing of educational products located through trade magazines, web sites, exhibitor lists at state and national conferences, and referrals by other recruits. The vendor group consisted of 22 educational product sales and marketing professionals with responsibility for calling on public schools throughout the state of Oklahoma and other states throughout the region, and, in a few instances, nationwide. Out of convenience, the subjects were contacted for face-to-face interviews

at trade shows and events at which the author was in attendance. These individuals represented educational products ranging from software and web-based tutorial programs, to curriculum enhancement items and specific electronic devices designed to present information in new or distinctly different modalities. All of the products represented by the subjects are subject to the SBR compliance mandate as outlined in NCLB legislation (USDE, 2002). The tenure of the vendor subjects in the educational product field ranged from less than a full year to over 30 years. The average experience within the group was just over 8 years experience. This meant that the average experience of the group predated the inception of the SBR mandate that came with the NCLB legislation of January, 2002.

Similar to the vendor subjects, consumer participants were contacted for face-to-face interviews at professional meetings and workshops in which the author was also in attendance. They were recruited from current district-level administrators with SBR purchasing and compliance responsibilities at small, medium, and large public school and CareerTech districts across Oklahoma. These participants, also numbering 22, comprised a deliberate cross-section of Oklahoma school superintendents in terms of school size and geographic location. Care was also given to adequately represent the varying socio-economic disparities that exist in Oklahoma public schools. In other words, the haves and the have-nots were equally represented. The administrative experience among this group ranged from a high of 41 years, to a low of just over 1 year of district level CEO experience. The average experience of the group was just under 11 years, also collectively predating the SBR mandate.

Throughout the narrative portion of this chapter, the collective voices of the subgroups under study are heard as selected specific responses of the representative group. These voices (represented by 10 participants in each subgroup) were selected based on the representative nature, descriptive qualities, and thoughtfulness of their commentary.

Theme Development

The major focus of the study revolved around a research question concerning how educational product vendors and education administrators agree and/or differ in relation to the SBR mandate and on the potential to produce an SBR certification entity valuable to each. With regard to data analysis, grounded theory provided a systematic approach with specific techniques for coding, sorting, and organizing the data (Berg, 2007; Creswell, 2007; Morse & Richards, 2002; Strauss & Corbin, 1998). Through data coding, the researcher identified patterns directly from the data. The constant comparison method was used to group these as key concepts, or themes, within the data (Creswell, 2007; Strauss & Corbin, 1998).

Through this process a picture developed of how these two associated but very dissimilar groups view the research question and possible solutions to the identified concerns. Though a desire to provide successful and compliant educational products for student benefit was present across each subgroup studied, direct agreement regarding the motivation, design, and implementation of a CI was initially indistinct. Through the data collection and repeated comparative analysis, five broad themes emerged. Patterns were identified and organized around these themes. Making up the planks within each theme, were smaller yet distinct categories and subcategories (or points and sub-points)

identified from the data. Within the vendor subgroup 51 of these planks were identified. In the consumer group, 48 planks were recorded. The overarching themes that were identified from the data analysis were:

- 1. SBR Mandate Awareness**
- 2. Desirability of Compliance**
- 3. Intervention Anxiety**
- 4. Ease and/or Clarity of Compliance and/or Verification**
- 5. Tangible Reward for Compliance**

Study Outcomes

As the overarching themes began to emerge from the data, the author assembled process diagrams that began a process to form a theoretical model in answer to the central research question. In their 1998 work, Strauss and Corbin assert that drawing diagrams during the selective coding phase of the analysis is "...helpful because it enables the analyst to gain distance from the data, forcing him or her to work with concepts rather than the details of the data" (p. 153). It was through utilization of this developmental tool and the constant review of subject data, that a clearer picture of the impressions of each individual subgroup emerged. With subsequent contrast and comparison (coding) of the diagrams presented below and further diagramming, seen later in this chapter, convergence between the two subgroups studied began to take shape and the eventual theoretical model began to emerge in answer to the central research question stated above. See Figures 3 and 4 below

Figure 3 - THEORETICAL MODEL DEVELOPMENT DIAGRAM: VENDOR SUBJECTS

Theme I –SBR Mandate Awareness	Theme II – Desirability of Compliance	Theme III – Intervention Anxiety	Theme IV – Essentials of Ease and/or Clarity of Compliance and Verification	Theme V – Tangible Reward for Compliance
<p>General knowledge of SBR Lack of specific SBR knowledge State and federal mandate confusion State correlates versus Federal SBR mandate SBR vs. AYP Research (types) Confusion Consumer awareness of compliance Customer inquiries* Proclaimed compliance Greater recent SBR awareness within market place</p> <p><i>*Denotes planks later identified as dissimilar with Consumer Subject responses.</i></p>	<p>Customers are ahead of Industry* Confidence in product Compliance = customer acceptance of product Compliance = greater sales* SBR experience = compliance advantage SBR Compliant = High Quality Non-compliance = loss of sales* Level playing field Opportunities to publicize compliance Credit and/or Benefits for compliance Consumer confidence</p>	<p>Red tape Marketing anxiety Fear of political influence Fear of political change of emphasis Vagaries of government certification effort General compliance anxiety Questions about compliance method/mode Apprehension about future; post-NCLB federal focus Financial impact on corporate Research and Development Opportunities for published research/affordable access to researchers* Fewer gov't market barriers Testing-driven market place</p>	<p>Lack of guess work No seal = no compliance Uniform standards of compliance Independent certification/review of compliance Coalition-developed compliance standards Seal of approval/UL listing type User-friendly access</p>	<p>Access to Federal Funding SBR compliance helps my business Coalition within market place can work SBR activism within industry = more recognition Desire to be proactive within industry SBR compliance is essential to market success Opportunity for positive change Credit for compliance Compliance benefits the worthy Trade association or market-based coalition approval desirable</p>
<p>Access to funding drives desire for compliance</p>	<p>Compliance = Leap in market share</p>	<p>Fear/distaste of government regulation</p>	<p>No seal = no compliance</p>	<p>Independent Compliance = increased sales and less government oversight</p>
<p>CONCLUSION: With the allure of increased market share and avoidance of government intervention as primary motivation: Vendors support an independent CI for SBR compliance.</p>				

Figure 4 - THEORETICAL MODEL DEVELOPMENT DIAGRAM: CONSUMER SUBJECTS

Theme I –SBR Mandate Awareness	Theme II – Desirability of Compliance	Theme III – Intervention Anxiety	Theme IV – Essentials of Ease and/or Clarity of Compliance and Verification	Theme V – Tangible Reward for Compliance
<p>General SBR knowledge Lack of specific SBR knowledge State and federal mandate confusion State correlates versus Federal SBR mandate Research (types) Confusion Vendor awareness of SBR mandate Over reliance on vendors* Greater recent SBR awareness within market place Proclaimed compliance SBR vs. AYP</p> <p>*Denotes planks later identified as dissimilar with Vendor Subject responses.</p>	<p>Lessened confusion* Purchasing confidence Compliance = Status in state/profession SBR experience = compliance advantage SBR Compliant = Peace of mind Non compliance = Oversight fear Level playing field for schools Opportunities to publicize compliance Credit and/or Benefits for compliance</p>	<p>Red tape Fear of political influence Fear of political change of emphasis Vagaries of government certification effort General compliance anxiety Questions about compliance method/mode Apprehension about future; post-NCLB Federal focus Financial impact on districts per Federal intervention Increased product costs* Fewer gov't market barriers Testing-driven market place</p>	<p>Lack of guess work No seal = no compliance Uniform standards of compliance Independent certification/review of compliance Coalition–developed compliance standards Seal of approval/UL listing type User-friendly access</p>	<p>Access to Federal Funding Increased access to approved products* SBR compliance helps my school Coalition within market place can work SBR compliance = More recognition; school/self Desire to be proactive SBR compliance is essential to intervention success Opportunity for positive change Credit for compliance; Brownie points Compliance = Worthiness Coalition input=Influence Association or market-based coalition approval desirable</p>
<p>Threat of lost funding drives desire for compliance</p>	<p>Compliance = Peace of mind and validation of efforts</p>	<p>Fear/distaste of government regulation; more red tape;</p>	<p>Must be easily accessed by consumer; No seal = No buy</p>	<p>Independent Compliance = Easier access to compliant goods; less government oversight/sanctions</p>
<p>CONCLUSION: With the desire for “peace of mind” regarding compliance, avoidance of government sanctions, and a “clear pathway” to best serving their students as primary motivation: Consumers support an independent CI for SBR compliance.</p>				

As seen in Figures 3 and 4 above, the various responses of both subgroups were coded into overall matching themes. It is interesting to note the conclusions derived from the subject responses within each group. In Figure 3, the author concluded that the allure of increased market share and the avoidance of greater government intervention, the vendors supported independent verification of SBR compliance of their products. In Figure 4, the author reaches a similar conclusion among consumer participants regarding SBR oversight, with the consumer reasoning being driven by a desire for peace of mind and quality of service to students along with a near identical desire for less government intervention to their vendor counterparts.

The following discussion and presentation of data illustrates the process utilized in the development of the grounded theory. Bluntly, the graphing illustrates that while the subgroups sometimes reveal markedly different reasoning for their attitudes listed within the identified themes, the themes and the thematic planks within are remarkably similar. It is these similarities that generate the emergent theory.

Participant Response Documentation Procedures

In keeping with the somewhat legalistic tenor established by the repeated use of terms such as mandate, regulation, compliance, penalty, and others throughout this dissertation, the author employed a documentation technique most similar to that used in the issuance of judicial opinion, in which a majority opinion or consensus is assembled from representative respondent subjects. Representative comments were chosen from the body of subjects that best illustrate the consensus viewpoints gathered. While their responses concur with the overwhelming majority of their respective fellow subgroup members, the specific participants whose comments are noted in the body of

this chapter were chosen due to the richness of data that they provided. These representative subjects numbered ten from each subgroup, in an effort to present a manageable and standardized representation, and remained consistent throughout. Throughout the remainder of Chapter IV their comments are organized in relation to their fit into the five emergent themes as outlines above. In the interest of clarity and continuity, the author offers an anecdotal introduction and description of each participant listed by code name and subgroup participation. After these participant introductions, the author provides a synthesis of the impressions of the subjects within each subgroup (separately) that constitute the planks within each of the five overarching themes. The author then provides combined commentary on the individual themes in further development of data. Following this process, the shared overarching themes generated by the responses of each subgroup are compared to one another or synthesized in terms of similarity or convergence in the development of an emergent phenomenon or conclusion to be illuminated further in Chapter V.

As alluded to above, consistent with grounded theory methodology, the respondents are coded to insure anonymity. For the purposes of this study, vendor subjects are identified by the letter V accompanied by a corresponding number to differentiate them within this study such as V-1, V-2, and so on. Consumer subjects (district level administrator) are similarly coded as C-1, C-2, and so on.

Selected Subgroup Participant Introductions: Vendors and Consumers

Vendor Subgroup Participant Selections

Subject V-1: Subject V-1 was somewhat different from the rest of the participants in the vendor subgroup as she was a former academic with a PhD in Physics. She was the

owner-operator of her company engaged in the marketing of a product designed to enhance student test scores in math and reading.

Subject V-2: Subject V-2 is a long-time (over 26 years) product vendor who currently serves as national marketing liaison for an international educational publishing and manufacturing concern. He does not sell his product directly, but is responsible for the sales force and marketing team under his supervision.

Subject V-3: Subject V-3 has been an educational product representative (for a national vendor) for over 22 years. As a middleman, he represents several national and international products through his independent educational product marketing firm. A seasoned sales veteran, he has seen mandates come and go during his career.

Subject V-4: Subject V-4 was a younger representative for a web-based curriculum tutor product. He was among the least experienced members of the vendor subgroup and was perhaps somewhat less world weary than some of his counterparts. Still he displayed a grasp of the situation and was open in his assessments.

Subject V-5: Subject V-5 is the youthful, European, and seemingly competitive CEO of an American subsidiary of a foreign-based scientific product company. His view of the SBR mandate and its ramifications to education and business alike differed from most of the other subjects initially in that he understood it very well. He articulated a desire to exploit his products apparent SBR advantage throughout the interview process.

Subject V-6: Almost the mirror opposite of V-5 is Subject V-6, a 20-year veteran of educational product sales. V-6 represents a well-established, regional leader in web based (originally software-based) core curriculum tutorial programming. He comes across as a somewhat stereotypical salesman and tended to be very representative of the

account manager-type participants, appearing skeptical of anything he perceives as new or outside the routine. The SBR mandate seemed to have taken him a bit by surprise.

Subject V-7: Subject V-7 is the founder, CEO, and chief designer of a web-based curriculum drill and practice tutorial program. He is older and has literally invested his life savings in a product that he believes in. Belying his stereotypical “absent-minded professor” persona, he is well-versed on the SBR mandate and spoke of an independent scientific research study verifying his product. At that point, he reached in his worn, brown leather brief case and pulled out a bound copy of a published dissertation on the effectiveness of his product, smiling ear to ear.

Subject V-8: Subject V-8 is a multi-state sales manager responsible for an electronic educational device. He is proud of his company’s research and development background and thinks they are “out in front on the SBR thing.” As a very competent and veteran salesman of over 20 years experience, V-8 peppers his answers, and, the author suspects, almost all sales-related conversation, with SBR acumen. He speaks confidently and easily (though not completely accurately) about the prospects that verifiable compliance has for his product which he believes is well-positioned in the market place. Again, he is proud that his product in all likelihood complies and is observably happy that that may result in more money for both his company and himself.

Subject V-9: Subject V-9 is a 30-year veteran of educational product sales. He is a charmer and a self-styled philosopher. Clearly, he had been very recently schooled in the SBR mandate and its potential impact on the company’s and his own bottom line. As a long-time school product man he provided a lot of insight and observation

concerning his new company which he viewed as very SBR aware and his previous employers whom he deemed as much less SBR savvy.

Subject V-10: As a former career science teacher and a true believer in his product, V-10 was interesting indeed. This subject mentioned that his company founder had originally been a university professor and researcher. V-10 was very knowledgeable about the SBR mandate and to that degree, ahead of his class so to speak; particularly for those subjects with ostensibly just a “sales stake” in their product. This teacher-turned-salesman sees SBR compliance almost as a mission. It is something that he has to have, the author suspects, because of his love for the product and what it does and because it is required to get the product into schools where it belongs. He is passionate about his product and was a customer in his own classroom before he signed on to sell the product. He is a rare find, and is in some ways both a marketer’s and a consumer’s dream. He can see the situation from both sides of the conundrum. He knows that consumers need the SBR compliance documentation or proof and at the same time has pride and confidence in his product; that it works and is compliant.

Consumer Subgroup Participant Selections

Subject C-1: Subject C-1 is a 14-year, veteran superintendent of a medium-sized (bordering on smaller) southwest Oklahoma school district. He is considered a technology guru by his peers. His programs have been recognized time and again as innovative and somewhat cutting edge.

Subject C-2: Subject C-2 is the superintendent of a very large, urban district that has a reputation for excellence throughout Oklahoma. Although he has led his present district

a relatively short time, he is a veteran superintendent with an impeccable reputation for quality.

Subject C-3: This consumer subject is a long-time superintendent from a small college town in southern Oklahoma. He serves on several administrative boards and although his district is small to middle-sized he views it like a larger and somewhat urban district.

Subject C-4: This subject is a veteran school superintendent in the western quadrant of Oklahoma. His school district is located in a small, self-contained community. His district is somewhat geographically isolated, but he is well-connected through professional associations.

Subject C-5: Subject C-5 differs somewhat from the majority of his fellow administrative study subjects in that he is the superintendent of a CareerTech, formerly called Vocational Technical schools. His district is located in rural, central Oklahoma and is branching into suburban Oklahoma City soon. After several years as the second-in-command, he is entering his second year as the boss. He was extremely forthcoming and initially assumed that the SBR compliance mandate had little to do with him. As we progressed it became apparent that the CareerTech did indeed have considerable federal presence in terms of money received and programs involved.

Subject C-6: This district superintendent has well over 25 years experience as a district CEO. He oversees a district just outside the state capital suffering from growing pains that accompany its metamorphosis from a rural to a suburban district. As such, he copes with urban sprawl, white flight, and a constant pressure to build to keep up with increased student enrollment. He also must cope with the raised profile in the media and the public perception that this type of growth demands.

Subject C-7: This superintendent leads a mid-sized district in eastern Oklahoma that is heavily Native American and receives a disproportionate amount of federal funding. He is just entering into his second year of his first superintendent position. Though a veteran of many and diverse educational positions including teacher, counselor, principal, and assistant superintendent, this is his first recognized opportunity to assume full liability for this sort of mandate and its accompanying liability.

Subject C-8: A female with over 10 years service as superintendent in two districts, this subject now represents a small, western Oklahoma district with a heavy federal presence, due mainly to the socioeconomic and ethnic composition of her student body. She appears confident and well-versed in the federal requirements associated with her position.

Subject C-9: A female with over 30 years of overall experience and 13 years tenure in her current position as superintendent of a large, central Oklahoma suburban district, this subject was forthcoming and forthright in her comments. Given that the average superintendent tenure in a single position in Oklahoma is less than 3 years, she has shown considerable talent as a pragmatic survivor during her career.

Subject C-10: An old pro in the superintendent's seat, this subject's latest assignment is in a large, suburban district in northeastern Oklahoma. After serving mostly small districts across the state of Oklahoma, it is his biggest to date. He has a reputation for knowledge but can also be somewhat glib on occasion.

Theme I. SBR Mandate Awareness

Vendor Views: Theme I

Subject V-1

In response to her take on SBR mandate awareness V-1 responded that she was "...very aware of the SBR mandate" and she added that "...most of the certification sites are jokes." When asked about her involvement in product research before and after the NCLB/SBR mandate, V-1 stated that "I've done a lot of research. I have a research background and feel that it is essential, but so far I have been disappointed with the SBR mandate." "We want people to know that our product is SBR compliant, but we have had trouble getting our point across."

Subject V-2

V-2 stated that he too was "very aware" of the SBR mandate and repeatedly mentioned that although his products were "research based" and that he would like "to make that work for me." In terms of company impact of the mandate, V-2 admitted that "We have been slow to respond with a company plan;" and "There has been some confusion within our company, and ...with me." He further admitted that although "We refer to research in our sales materials, we aren't sure if it is research based ...er, really compliant." We do have a large research arm and I'm sure they are working on this."

Subject V-3

When asked about his knowledge of the SBR mandate, this subject replied, "I have been asked by our clients (school people) about it ...if we comply. It makes me a little less sure of our funding sources as I visit schools." When commenting on whether SBR was directly referred to in sales materials he stated, "No, testimonials are our big

carrot.” He went on to add that “It does seem important and I’m sure we have it. I don’t know if we are fully compliant.

Subject V-4

When asked of his awareness of the SBR mandate, he answered with a very straight forward, “I know that the product must be research based to qualify for Title money.” He followed with, “I’m sure that we are research based;” although he later offered that, “We have questions concerning compliance.”

Subject V-5

Regarding the SBR mandate V-5 stated, “We are a scientific company that evolved into education.” “SBR has a 100% role in all that we do.” Since his product, an electronic device designed to enhance teacher-to-student communication and maximize instructional comprehension, was born from a research and development setting, he was strongly in favor of the SBR mandate and seeks recognition for what he sees as his product’s role as a “compliance leader.”

Subject V-6

When asked about his awareness of the SBR mandate he replied, “I know that it exists, I get asked about it on sales calls.” He followed with, “We have almost always concentrated on compliance with individual state standards and correlate with them to help our clients make AYP (adequate yearly progress). We are just now going to a more national approach to marketing and SBR is becoming more and more important.”

Subject V-7

Subject V-7 is very well versed on the SBR mandate. He knows the ramifications that it holds for his product and education in general. In his words, “We

are aware and I think that we comply, I have a dissertation from a study on our product right here, but I'm having difficulty getting the word out." In some ways, it appears that V-7 views SBR as a panacea for the salvation of his product launch, if people (consumers) grasp what SBR really means.

Subject V-8

Subject V-8 is well aware of the SBR mandate as he states, "If we can capitalize on our scientific background we can do well." Some of his use of jargon is a little off the mark such as, when he speaks of "...always being specific research based, since we never outsource." He is clear however when addressing how the SBR mandate may give his company "separation from our competitors."

Subject V-9

When asked of his awareness of the SBR mandate, V-9 stated almost immediately, "I haven't been with this company long but we are scientifically research based, it is a company focus." As for SBR prowess of his prior firm, he commented, "Not so much. We focused on state requirements without much concern about where the money to purchase came from. These new guys are more on the ball."

Subject V-10

Upon questioning concerning his (and his company's) awareness of the SBR mandate his reply initially echoed that of several other respondents, "I am aware of the requirements, and I become most aware of it through inquiries from my customers." He followed with, "They began asking me if we were SBR compliant and if they could pay for the product with Title funds." Since our product was started by an active researcher

and college professor, and since we have to be compliant with other requirements for our electronics, a little research helped me represent my product better.”

Consumer Views: Theme I

Subject C-1

Subject C- 1’s comments concerning SBR awareness were forthcoming and easily obtained. “We are aware, and have been for some time now, that products should be SBR before we spend Federal dollars on them.” “Product research is important to us and the probability that a product is SBR compliance makes a difference to us in a positive way in terms of our selection process.”

Subject C-2

Assessing his awareness of the SBR compliance mandate, C-2 offered, “We’re very aware of the SBR compliance mandate. Although I oversee the selectors and in that way their selections, I rely on these people (IT directors, curriculum and instruction officers and site level selection team members) for SBR compliance.” To punctuate his point he continued with, “These (compliance requirements) are not suggestions.”

Subject C-3

Revealing the extent of his awareness to the SBR compliance mandate C-3 states, “...Oh yes! Compliance is a big concern for us. We’re not going to spend Federal ...Title I or IDEA or whatever funds if it (the product) has not been communicated as SBR compliant.”

Subject C-4

In reference to SBR awareness C-4 states that “I don’t know much about SBR compliance in relation to the products that we buy. I know the requirement exists, but I

feel a little powerless to prove that the purchases (products) are compliant. I think our purchases have positively affected our API (state testing) scores but, I feel a little ill-equipped to say so (that they are compliant).”

Subject C-5

Subject C-5’s initial responses indicated some distancing from the topic at hand (SBR compliance), such as, “no ...really not;” when asked about his awareness of SBR. As he proceeded it became obvious that knew much more than originally indicated. “I guess we do deal with it more than I said in the first place. We receive over \$100,000.00 (each year) from Carl Perkins funding alone. We don’t buy many products, most of the money goes into salaries for counselors ...but we do have to be compliant and stay up with all mandates.” He followed with a statement that proved telling as well, “Still, given a choice between complying with this (SBR) mandate and making AYP or whatever (adequate yearly progress or hitting the government benchmarks with student testing) with our test scores, I’ll take making AYP. I’ll risk SBR non-compliance if it’s one way or the other.”

Subject C-6

In terms of his awareness of the SBR mandate, C-6 responded with a resounding, “I am absolutely aware of the SBR mandate. I have to be aware of every mandate, and try to get up on it as fast as I can. We can’t afford to give back any money. We’ve got to get it right the first time.” In the authors’ view this statement is telling. Though legislation mandates compliance, those affected currently have no way of effectively gauging actual product or purchase compliance.

Subject C-7

Pondering the extent of his awareness of the federal SBR mandate, C-7 says, “I guess I’m limitedly aware of the SBR requirement.” He continued with, “I am just beginning to realize that the liability really ends up with me. I know I need to learn more about it ...and I want to be in compliance.”

Subject C-8

Subject C-8 took a principled stand in assessing her awareness of the SBR compliance mandate saying, “I’m very aware of the SBR mandate. It is probably correct that we adhere to a greater standard. I remember when you could spend Title dollars on almost anything. There should be parameters ...products and programs should work before we buy them.”

Subject C-9

Subject C-9 offered a realistic and reasoned approach in describing her overall knowledge of the SBR mandate offering, “I can say that I am aware that we are supposed to be SBR compliant. I’m not sure that we always are. Even though we try to see if the research is there, we seem to be ...still ...most concerned with whether a program worked somewhere else first.”

Subject C-10

This subject plays by the rules and expects his staff to be aware of all mandates and stay compliant. Of the SBR mandate he states, “I’m a stickler. I try to see that our people are up on this (SBR compliance). I have tried to stay current and relate this to my staff throughout ...since SBR (the mandate) came about.”

SBR Mandate Awareness Summary

The vendor subjects were very aware of the SBR mandate; however they were somewhat less aware of the specific requirements delineating actual compliance. The companies that they represent are aware of the research mandate conundrum and are actively searching for a viable solution that certifies compliance and in turn helps publicize their product to consumers. The vendors time and again stated that they (their products) were compliant, but weren't really sure what that truly entailed. Many seem to be somewhat stuck in the old model of marketing educational products which was basically, getting the product into a few schools, seizing on the success stories, and marketing through testimonials. This thought seemed more prevalent with products that were better established, particularly prior to the SBR mandate. Those vendors with products that were developed or at least marketed after the SBR mandate seemed much more concerned with compliance and displayed a deeper understanding of the SBR compliance mandate.

Actual proof notwithstanding, virtually all vendors were sure that their products were probably compliant anyway. There were marked differences in their awareness based on the length of time they had been in sales, the personal connection they had with the product, and the personal stake that they had in the products actual development. Those with a higher corporate profile seemed most aware of the SBR mandate from a policy standpoint as well, compared to those who seemed to be more sales oriented. Of special note were the few, represented here in the comments of V-10, who had actually used the product themselves to evoke positive results in their own

classrooms. His awareness and willingness to learn about the mandate seemed to surpass a simple monetary motivation to sell more products, and he differed from those who had a stake in development. He simply appeared to want to get it into as many classrooms as possible because he knew it worked.

The consumer participants were also very aware of the SBR mandate and the fact that verification of product compliance and the subsequent liability associated with noncompliance rests squarely on their shoulders. While there were pervasive feelings that this threat is another of many that they contend with, the school administrators (consumers) are aware of the financial consequences should purchases be disallowed for federal reimbursement. This group also readily acknowledged that in relation to other federal mandates, the financial ramifications of SBR are substantial and potentially devastating to their district budgets and by extension, their own careers.

Consumer subjects in general felt that regardless of their status as competent detail or authority oriented individuals, they needed to know more about SBR and the mandate in general. This relative weakness in the face of otherwise very competent individuals was glaring and virtually universal among consumer subjects.

This theme appears to clearly illustrate a glaring problem within the educational complex. While each of the subgroups are aware of the mandate that educational products must be SBR compliant to be eligible for purchase with federal funds, currently neither displays adequate means to assure that their products (whether offerings or purchases) truly comply with the mandate.

Theme II. Desirability of Compliance

Vendor Views: Theme II

Subject V-1

Extremely enthusiastic about SBR compliance and the perceived upside of compliance for herself and her company, V-1 stated, “I (the product) can be compliant quickly, and that is good for business. We are ready; we came into existence after NCLB did.” “But,” she added, “It must be real.”

Subject V-2

When quizzed about the desirability of SBR compliance this V-2 spoke in true marketing fashion, “My sales force tells me that they are asked for proof of compliance. It would make their job easier.” He followed with a statement, “welcoming” a coalition to address compliance.

Subject V-3

Responding as to the desirability or not of SBR compliance for his company V-3 stated that, “Real compliance would help us sell products.” His confidence in his product was tempered by uncertainty and a little bit of longing as he continued with, “We have a great product that works. I want to be sure we can tell people that we are OK (SBR compliant).”

Subject V-4

On his views of the desirability of SBR compliance for his product, Subject V-4 was somewhat plaintive in his response. “I wish we were compliant, we have some concerns about compliance, and we have searched for compliance entities. We even looked at CERC in California (an effort in that state that began as a full fledged

certification effort and ended up as a \$150.00 association fee seal with no real standing outside the state and little within) for a while, but that wouldn't really work." He then offered a sentiment that the author had seldom heard from the vendors in the study; "SBR compliance has got to be good for kids. It's confusing for us right now, but it's got to be good for them ...eventually.

Subject V-5

V-5 addressed the desirability of compliance with a self-assured statement in which he declared, "We want to be a compliance leader and market that fact. This can be a real positive, for us and our clients, if it is marketed well and people know what it is all about." Again, the scientific background of his parent company puts him a little bit ahead of his vendor colleagues in "getting" the advantages of compliance with a set of standardized requirements.

Subject V-6

On the compliance desirability issue V-6 got right to the economics of the issue. He said, "People want to know if they can pay for our products with Federal money. If I can definitively tell them yes it is good for them and good for me. That makes compliance very desirable to me."

Subject V-7

Subject V-7 saw the desirability of compliance almost as a brass ring for his company and in a way his own validation. SBR compliance offers a chance to set his product apart from his competitors and in a way show off a little. He states, "I'm trying to capitalize on it. We have had a research study (experimental) done on us that became a dissertation at a university. The SBR mandate allows us to tout this and spotlight the

fact that some of our competitors don't have one. Hey, where is theirs? Ours is right here. It's great."

Subject V-8

Excited at the potentiality the SBR compliance mandate has for his product, V-8 said, "We have been using references to SBR for years now, partially because of our scientific background, and you know, we want to use it as a sales tool, we just didn't know how to give us separation (in the marketplace) until NCLB (and the SBR mandate) came along."

Subject V-9

When asked about his feelings on the desirability of SBR compliance for his product, V-9 responded smoothly and most probably from the company playbook. With a sincere look in his eye he recited, "We are active in this area. It has been mentioned at sales meetings and we use compliance as a marketing tool ...because we can. Some folks can't, but with our product we can." (The author has no real doubt that he is telling the truth, but even during this interview he is still sealing the deal.)

Subject V-10

Regarding the desirability of SBR compliance V-10 states, "We are aware that we must have SBR compliance for our products and have moved in that direction. From our original applied research we are commissioning some research directly on our product (specific) but it is slow and expensive. Still, we want to publicize the SBR nature of our product and we think it can be a positive experience for all if we see it that way." He finished the point with, "It's too important to assume that we can get by with

what we have now, I don't know how long our sales will hold if we try, and I don't think our customers will let us (try).”

Consumer Views: Theme II

Subject C-1

Of the desirability of compliance with the SBR mandate, Subject C-1 says that “...compliance (SBR) is important and we do research (as a district) on the effectiveness of a product, based on the information that we can get on our own.” “Sometimes we do have to make an assumption that a product is verifiably SBR compliant.” He responded directly that a verification seal or mark “...would make things easier for my special projects director, who is a researcher, to make a presentation to our leadership team or me as superintendent.” He further stated that “...it is the research that counts, not marketing, nobody sells me anything.”

Subject C-2

When pressed on the desirability of compliance C-2 offers that, “Compliance (verifiable) ...I think it would be a good thing. It may not float a product all the way to the top by itself, since all (other) products theoretically would be compliant too, but it would get a product a look.” “I know that product compliance (SBR) is on the top for us.” “We are more focused than ever on research and getting away from just feeling a product will work.” “We (as a profession) have got to get away from that.”

Subject C-3

Subject C-3 takes SBR compliance seriously saying, “To meet compliance with federal law ...it is pretty important. It's probably a 9 on a scale of 1-10, still we often

just take the word of a vendor for compliance ...we feel a little short-handed here (verifying SBR compliance).”

Subject C-4

Subject C-4 exhibits some apprehension when addressing the desirability of SBR compliance stating, “Finding data that really spells out SBR compliance is a concern. We (administrators) need that. What I do now is mostly word of mouth, almost testimonial stuff. It used to be, “Does this work for you?” And now it is “This looks pretty good, do you have data to support it?” “In some ways it is still just word of mouth. If we had access to a data base or something that had specific research and hard statistics regarding student success it would be helpful.”

Subject C-5

This superintendent (C-5) continued to warm up when he discussed what later became Theme 2, or Desirability of Compliance. “You bet, we deal with lots of state and federal mandates and we try to comply with them all. We don’t want any nasty audits, no pay backs (to the government), and no names in the paper.”

Subject C-6

Subject C-6 would like to be sure he was fully compliant with the SBR mandate, saying, “I would be very happy to know for sure that our purchases are all really compliant with SBR. I want to be compliant ...we try to be ...we can’t afford not to be. Really knowing that we were compliant is a great deal if it can be done equitably and it has the right clout.”

Subject C-7

Full compliance with the SBR mandate is highly desirable for C-7 but his statements reveal some concern as to how this can occur. “It would be good to know for sure if we were in compliance or not. It’s moderately to highly ...quite desirable to be in that position. I’d enjoy knowing that we were compliance. It would be very good ...to just know.”

Subject C-8

Though she is desirous of full compliance with the SBR mandate, the comments of C-8 reveal an air of helplessness in terms of how she might get there. “Sometimes I feel we’re at the mercy of the vendors ...and the government too. I get the purpose of the mandate and I agree that it needs to be. We need to show that we are capable of playing by the rules and doing what it takes ...coming through, for our students. Compliance shows that we care enough to do the right thing by our students.”

Subject C-9

Also indicating a strong desire for SBR compliance within her system, C-9 contends, “I want us to be compliant, but I want to also find out where success has been ...I need to have both ...a program or practice must have demonstrated success. Knowing this before we purchase is difficult now, but that’s the way it should be ...I don’t disagree with the SBR mandate.”

Subject C-10

When asked about the desirability of SBR compliance for his district, C-10 says, “It just makes sense to do it right ...if we know what right is. We (administrators) can’t afford (financially or professionally) to be non-compliant ...with any mandate.”

Desirability of Compliance Summary

Both subgroups studied see a definite value to compliance with the SBR mandate. It is the author's view that this extends beyond simple acknowledgement that a product born from scientifically based research is desirable in terms of student benefit. Compliance means assurance that they are doing it right and that they can go about their business, which means complying with the next mandate with a degree of satisfaction and calm. Both vendors and consumers alike see verified compliance as a plus. Verified compliance makes doing business easier for the vendor and less of a risk for the consumer. It is almost universally seen as win-win. The desirability of easily defined compliance gives the salesmen a foot in the door, where suspicion may now dwell somewhat; and for the consumers, a more than fair chance at a good night's sleep, for the good of their budgets, the well-being of their students, and their own careers.

Theme III. Intervention Anxiety

Vendor Views: Theme III

Subject V-1

There was little apprehension when V-1 described her attitudes toward the advent of a Certification Intermediary for SBR compliance. She stated that "The establishment of an oversight arm (her words) should be industry-based. It will be a positive thing, at least for appearances sake, but it has to be good research. The entity may be mostly for the ease of the vendor, but for us, if the research is good, it should

bear out. I'm not worried, I just want a standard. It can be (and is) government established, I just want the seal to come from an industry-based source.”

Subject V-2

In response to apparent concerns about how certification could play out, V-2 stated that he was, “Pretty positive about the onset of a seal or mark of compliance, we need a stamp as a guide, or a guide for our consumers. WWC (What Works Clearinghouse, set up by the USDE) isn't it.”

Subject V-3

Subject V-3 was blunt in his disdain for government, particularly the USDE's oversight as he stated, “We need an independent source of verification on the topic of SBR compliance. We sure don't need any more government oversight until we see how we (his products) fit with this or the next version of NCLB.” The fear of government regulation was almost palpable as he spoke.

Subject V-4

Subject V-4 was somewhat philosophical as he mentioned his anxiety concerning SBR compliance. “I'm ready for some certainty in our situation. I wonder about the political impact that a new administration may bring.” (This, it appears has come to fruition which is discussed later in this chapter and at length in Chapter V.) Repeatedly he spoke of a need to “get out in front” of government regulation and trying to “beat them to the punch.”

Subject V-5

When expounding on his concerns about the possibility of government intervention, V-5 spoke as if it was a foregone conclusion barring swift action by

industry stakeholders. “It needs to be industry driven like it is in the electronics industry, which we already comply with.” “My parent company is based in Europe and the regulation there is unbelievable. By our (European) standards, the US is lagging a bit. Still, if we (the industry rather than the government) can get to the issue (compliance) first, we’ll be fine I’m sure.”

Subject V-6

On the issue of possible government intervention, V-6 was representative of those who had little or no thoughts on the matter, until he got started talking. When initially quizzed on this point, he had no immediate answer and only later did he warm up on the subject eventually offering that, “I want the seal or whatever to be level. I mean I want it to be fair to all; would it have to be governmental? ...and I want to know what happens if we don’t make it, of course I’m sure that we would. I wouldn’t want to be shut out of business.” (This response illustrated a good portion of the respondents thought on the issue. He, like others, really wasn’t sure what intervention would entail, but the threat of a government stoppage of business seemed real to him. His demeanor on this issue was somewhat surprising to the author, since he had been in the business so long.)

Subject V-7

Subject V-7 seemed to be worried about the cost of compliance if government regulation or even some other type of compliance regulator caused business costs to escalate. This mirrored several other participants regardless of business size. “I’ve heard of industries like meat-packing where they have to pay the salary of a full-time inspector that works on site. UL Listing also has that in the big manufacturing plants

too.” “We are very small,” he continued, “If requirements pile up from the government without a way out (a reachable seal of approval?), we are out of business.” He ended his thought with, “Regulations could and would be good, if we can work out some sort of verification ...and they’re not too expensive to do. If not, I think I might be sunk.”

Subject V-8

In a statement that underscored his (and those respondents like him) confidence in his product’s compliance, V-8 spoke little on this item. He welcomed some intervention in the area because he assumed his product was probably already compliant. Still, he offered the following, “I would rather there not be a governmental process involved. If we can come up with a (generally) common standard as an industry I’m all for it. We might even pilot the thing.”

Subject V-9

Concerning his feeling about government intervention toward the compliance mandate, V-9 stated, “If we don’t get it together ourselves, the politicians will do it for us. That will be a pain if we can’t standardize ourselves. On this item he again repeated as he had stated earlier, “We (the industry) can use it as a sales tool. I think we (our products) comply as much or more than our competitors. We (ourselves and the industry as a whole) can use compliance as a marketing tool.” He ended the thought with, “This would go much better, if the industry does it willingly.”

Subject V-10

V-10 views possible government intervention with trepidation, “I would rather there be no governmental effort to certify compliance. It might be too big and everyone could get in or take too long and good stuff gets lost, or maybe just the big boys could

afford it. I want the field to be level and know that gaining compliance (or not) has benefits or consequences.” He is confident that given an open shot at compliance his product will do well. “Maybe a consortium or association is the way to go. That way those of us who welcome the scrutiny can reap the benefits of the compliance seal.”

Consumer Views on Theme III

Subject C-1

On the issue of possible intervention by the government in certifying products as SBR compliant, C1 states that, “The government has already established guidelines, but I haven’t thought about it, really haven’t. I’ve assumed compliance because of our diligence.” As he thought deeper on the question, his gaze deepened and he stated, “I’ve had a lack of concern ...but I guess it is true though that oversight really doesn’t exist now until after the fact, like a punishment deal from a government standpoint. The medical model is not so good for us ...we can’t duplicate that if that’s what the government wanted us to do.”

Subject C-2

Addressing possible government intervention on the SBR compliance issue, C-2 offers, “I have faith in my people but we have acted (as a profession) on feel for so long.” “Intervention may have to come from the government, if we don’t get more ...there has to be more consistency, sound R and D (research and development).” “There hasn’t been so much sound data analysis up to now; we better prove ourselves or they (the government) may do it for us.” “They may have already, in a way.”

Subject C-3

Asked to comment on his views on possible government intervention, C-3 continued in an almost chastened tone, “As mentioned earlier, and I guess I’m a little embarrassed about it, we just take the vendors word on compliance most of the time. I don’t know that we really document like we should ...we do consult scope and sequence, but right now we’re really just taking the vendors word.” After a short pause he shifted in his chair and continued, “I haven’t really thought about it directly in terms of full liability. We (administrators) are wide open to government scrutiny without an association approval or something. That is already happening with erate funding right now.”

Subject C-4

On the topic of possible government intervention on SBR in the future C-4 states, “I still say what we do now is mostly word of mouth stuff. I really don’t know if we are completely in compliance to the letter of the law. We try to stay true to the spirit. I feel a little ill at ease ... I could be liable if the government looked with a highly critical eye. My budget couldn’t afford much pay back to them and I might not last too long (in his current position) either if that were to happen. I’m more comfortable if it (intervention) came somewhat from within.”

Subject C-5

Future government intervention concerned C-5 quite a bit as he stated, “I worry a lot about more government intervention. More monitors and inspections or inspectors just add to the cost of everything we do. We have compliance officers to a certain extent now and we even contract with consultants to get ready for audits sometimes. An association or self-regulation has got to be better than that.”

Subject C-6

C-6 took a pragmatic view of possible government intervention in terms of SBR saying, “You know I’m sure the government has plenty on their plate to do right now, but if we (those involved) don’t get this dealt with, I know they’ll come in with some teeth and do it for us. I want this to be taken care of on the inside if we can. It’s not the biggest thing we contend with, but I don’t need more intervention ...I really don’t.”

Subject C-7

Starting off somewhat defeatist on the issue of possible government intervention about SBR C-7 picked up some steam as he continued, “I’m not really in favor of a government solution. If it had to be government, then I would rather it be state ...if any. It would be better if it were independent or an association ...if there were checks and balances in place. It couldn’t be beholden to a company. It must be independent. It can’t be under the control of government or a company’s influence.”

Subject C-8

Though she is respectful of the government role in education policy, C-8 offered the following concerning possible increased intervention by the government about SBR compliance: “In terms of a solution to compliance ratings or whatever, I’m not sure that the government is the way to go. I don’t think that they can move as fast as we need to. I’m concerned about their ability to be responsive. It could be OK I guess, if it has to be that way, but I would prefer some kind of coalition or grassroots move toward self-policing in a way.”

Subject C-9

Ever a pragmatist, C-9 stated her opinion concerning government intervention of SBR verification this way, “I think that a stamp of approval from practitioners, or at least a good mix of consumers and vendors would be good. Not government ...or too much vendor either really.”

Subject C-10

Concerning possible government intervention in the certification of SBR compliance, C-10 states, “I don’t want and we (administrators) probably don’t need any more government intervention per se. I (we, practitioners) would like, I think, to be involved in the process, not dictated to.”

Intervention Anxiety Summary

While the notion that no viable entity currently exists to measure educational SBR compliance concerns vendors and consumers alike, the fear of more government intervention is also evident of both subgroups studied. A desire to move toward independent certification of SBR compliance rather than await further government intervention is present among study participants. The overwhelming sentiment among vendor and consumer participants alike is to avoid and predate the possible establishment of a government-run certification entity.

The creation of a marketplace stakeholder regulatory coalition or, barring that, a trade association, to facilitate a CI figured prominently among the majority of vendor subjects. The idea of a corporate-controlled verification entity is not palatable to the consumer subjects; however a coalition of vendors and consumers alike (stakeholders)

is supported. The almost palpable fear of more government intervention is worth some discussion. That this sentiment is present among corporate America, regardless of industry, is no surprise. That this sentiment is so deeply pervasive with the educational consumers, school administrators, is somewhat less expected and all the more sad. The school people feel boxed in and beaten up, by the very government that their calling serves. They want to comply and will willingly do so, if a safe, sure, and representative means emerges.

Theme IV. Ease and/or Clarity of Compliance and/or Verification

Vendor Views: Theme IV

Subject V-1

Vendor participant V-1 appeared to consider her company a good candidate for gaining a compliance mark “if the process is straightforward ...and if they value real research. It (this process) will depend on the attainability of the benchmarks or checklist. I wish it could be like the American (Educational) Research Association. It would be good for the industry.”

Subject V-2

Concerning ease of compliance and related issues, this respondent seemed to keep his options open, sometimes signaling that his company will survive either way. “We would like a chance to just comply on our merits, up or down,” says V-2. “We have a research arm in our company...and we do our best. We have 52 different sets of standards to meet (all 50 states, Puerto Rico, and the Department of Defense schools) with thousands of schools out there...and they all want to make AYP (adequate yearly progress). Maybe a single set of defined compliance steps would not be too bad and

might give us some continuity.” “Still”, he continued. “We think that we are compliant anyway, but we would listen to any proposals that we can reasonably attain.”

Subject V-3

Speaking with some authority on the need for ease or clarity in SBR compliance verification, V-3 stated that, “We know we comply with all the state standards, they are black and white. If a compliance mark was very clear too, we’d be for it. It has to be a standard thing. Maybe that is more like it, a set of standards that we either reach or don’t ...with a process built in so we know we can get there. I’m not sure how that would work, but it is interesting.”

Subject V-4

On the topic of SBR compliance and the ease of verification V-4 offered, “We are an authorized reseller of several educational products. I’m sure they are research based or we couldn’t sell them. I wish we could ...if a mark of some sort emerges, we would seek it for our products, either through the manufacturers or through some coalition. That is unless we can’t afford it. But, we really can’t afford not to if the industry heads that way. It just has to be easy for us to show to clients or it will not help us.” When reminded that SBR was really supposed to help kids, he smiled and said, “I know, but I can’t help kids either if I’m out of a job.”

Subject V-5

V-5 tended to be pretty pointed in his confidence in being able to comply with a “reasonable” verification process. “We went from applying existent research to our product to initiating full studies specific to our products.” As he stated under Theme II,

“We want to be a compliance leader. It shouldn’t be too difficult and we want to market that fact.”

Subject V-6

When asked about the desires for his company concerning compliance, V-6 offered some optimism. “We have researchers now on staff and we’re almost there I think.” He went on to mention that, “...if the rules were really clear I know we’d get certified pretty easy.” “We are more proactive now I think and we are taking a more national approach to marketing. A simple compliance seal would really work for me as a salesman.”

Subject V-7

Upon the subject of what a compliance seal might mean or involve, Subject V-7 again mentioned the dissertation written on his product. “It is my understanding that if a product has real research (specific rather than applied) on it then it is in.” He also showed more than a little bit of apprehension again, as he had earlier under what became Theme III. “That’s what I need, something very simple. If it (certification) can be clouded by money or a convoluted process, I (my product) will never see the light of day.”

Subject V-8

In addressing the need for relative simplicity in a compliance mark or seal, V-8 responded, “I lead with telling our perspective clients about our research base,” again bringing up his company’s research origins. “The more straight ahead the requirements are the easier it will be for us.” “I want compliance and see it as a very good thing. We need it and we need it to be a separator;” echoing an earlier statement. Since his

company is “already there” in his eyes, the compliance mark will just be a technicality, if one is set up. Until then he’s (his product is) only as compliant as he says he is, and his clients believe it is, but “...so are his competitors.”

Subject V-9

Subject V-9 highly covets the availability of a product compliance seal that he can easily market to his customers. He says, “We have had PowerPoint’s and brochures printed up touting our compliance, but I still get questions every day if we are “really” compliant;” says V-9. “If it is a clear process, I know we’ll go for it.”

Subject V-10

In expressing his desires for the potential design or make-up of a compliance seal, V-10 stressed the need for open standardized requirements, bringing home the point with, “We have had applied research and now we have specific research with empirical data, the boss pushes this. If the process can be kept to good, accepted research practices, our product can be certified, based on what I know.”

Consumer Views: Theme IV

Subject C-1

Citing a need for clarity and ease in SBR verification C-1 states that, “We need clear guidelines, almost like a checklist ...or a compliant products list would even make it easier in terms of making compliance work.” He continues with, “We are diligent but certainty is needed. We would probably comply anyway because we make on effort, but a list or something would make our jobs easier.”

Subject C-2

Advocating a simple form of SBR verification, C-2 offers, “From my perspective it (SBR certification) almost has to come from a governmental or quasi-governmental association like a UL Listing-type entity.” “That would take away the guesswork and make it doable.”

Subject C-3

Of his preference for an SBR verification system C-3 says, “If a standardized product approval was simple that would be best. A simple stamp of authenticity based on standards set by an entity ...which were based on the government guidelines, would be advantageous.”

Subject C-4

In comment on his wishes for an SBR compliance seal or similar evaluation mark, C-4 says, “Anything to make our job easier and provide some piece of mind in terms of compliance is good to me. I get testimonial recommendations from vendors all the time ...I bat those down and try to wade through all of that ...but I wouldn’t be suspect of a mark or seal ...if a mark or seal were reputable and highly visible.”

Subject C-5

Clarity and simplicity of an SBR compliance mark are high on the list for C-5, as he states, “Ease of compliance or proof of compliance is absolutely advantageous. We’ve got enough on our plate. I think it would help sales people and the consumer too. That really should be the goal ...to out a straight up compliance in front of us and see if we can all comply. Almost at a glance, we could see if we’re there (compliant).”

Subject C-6

Ease of application and a reduction in SBR liability each loom large for C-6 in his wishes for an SBR compliance seal. “Certainly we have enough to do? We have enough to take care of ...the easier and quicker to verify (the compliance of) a product, the better I would like it. If we could deflect the liability (of non-compliance) from us back on the certifier, I’m all for it. Even the Good Housekeeping Seal takes the heat if a product breaks with their seal on it ...and H and R Block is supposed to pay in an audit (IRS). A simple verification, with some degree of cover is ideal.”

Subject C-7

Simplicity and uniformity are revealed as high on C-7’s want list in relation to an SBR compliance mark when he says, “It needs to be a rating scale or something ...and it has to be user-friendly. Maybe a rating or symbol like high, medium, or moderately compliant ...we could check the code (and evaluate accordingly).”

Subject C-8

Of her concern about ease of use of an SBR compliance mark, C-8 states, “A compliance mechanism should be responsive ...with no red tape, the same way for everyone who looks at a given product. I just need to see a rating of some type of independent validation of a product. We (consumers) really need an expedited process that is simple and the same ...to get it right every time.”

Subject C-9

C-9 reveals her desire for a clean, open verification seal or mark with the following, “The cleaner the better is how I’d like it. We need a list almost like approved

curriculum list is in the states ...with a visible seal ...and it (the criterion) should be based on Best Practices and AERA standards.”

Subject C-10

C-10 advocates a simple, seamless SBR verification system, stating, “I would recommend almost a branding ...like Energy Star is for green electronics. A line of sight approval ...if it’s there you’re OK (having a visible seal of approval indicates compliance).”

Ease and/or Clarity of Compliance and/or Verification Summary

Perhaps the most commonly held concept by research subjects in the study, regardless of subgroup, is the idea that both compliance itself and verification of compliance should be of relative ease. The belief that compliance or verification thereof should be a straight forward and methodical process was widespread and universally held among participants.

Adherence to a clearly stated and unchanging set of constants is desirable to the vendor population. This is best described by the age-old request; just tell me what you want? The consumer desire is even simpler; they only need a trustworthy seal of approval not unlike the UL listing. With a trusted seal in place, those with the most rudimentary research skills may ascertain the compliance of a given product with SBR. In this scenario, actual verification of product compliance is done by the certification intermediary prior to the reception of the seal of approval and the actual marketing of the product. Vendors also mentioned the need for such a seal with several citing that

their products had already complied with other similar hurdles such as UL listing or Energy Star compliance seals. In their collective view, vendors and consumers alike believe that SBR compliance verification could and should be a straight forward exercise if a certification intermediary were in place.

Theme V. Tangible Reward for Compliance

Vendor Views on Theme V

Subject V-1

Concerning the potentiality for gain in relation to verified SBR compliance, V-1 stated, “There should be an incentive for a company to comply with SBR ...some sort of market-recognized seal.” She went on to say, “Any oversight should be industry-based or at least supported.”

Subject V-2

Subject V-2 spoke up for a reward or recognition, for compliance with SBR and he wanted the credit (for his product and company) if and when his products made the grade, “We want credit for compliance if indeed we comply.” Adding, “We would welcome a coalition of interested parties; I could make that work for us ...everybody really.”

Subject V-3

As to a possible reward or credit for SBR product compliance V-3 said, “There could be a plus or minus to compliance unless we get credit for doing it right.” (A sentiment echoed repeatedly throughout the vendor interviews referencing the perceived

cost of verified compliance versus apparent compliance.) He ended with repeating something he had said earlier, “We need to be able to assure our customers that their purchases of our product are OK. That could lead to the best type of pat on the back, the green kind.”

Subject V-4

V-4 saw value in incentivizing SBR compliance, saying, “As a reseller, I can see the benefit to (standardized) compliance. We represent several products at any given time. If the benefit were obvious we could get ...try to get all of our products together in a combined effort. Otherwise, if a compliance mark emerges, we will all have to comply anyway, or we’ll be behind.”

Subject V-5

V-5 was blunt in his desire for reward upon gaining SBR compliance for his products, adding, “We (our company) want credit for compliance, for being a leader in compliance. We would like to get in early and have a seat at the table in developing oversight standards or a seal of approval.”

Subject V-6

V-6 saw a compliance seal as a reward in itself. To him it meant more sales as he stated, “I would like to be able to lead (in a sales call to a client) with a statement or proof of compliance. Something like that could carry weight with my customers and be worth the hassle and expense it might take to get.”

Subject V-7

Concerning tangible rewards for SBR compliance, V-7 stated “I know we comply right now, but we need to find a means to capitalize on compliance...something

weightier than my word with the customers who have never seen me. School people know enough to ask, but they are leery of something they can't really see." As a small operation he again revisited the financial burden that compliance him in, "I'm all for an industry supported compliance group, but until that emerges, I can't afford to do much about it."

Subject V-8

V-8 anticipates big rewards upon gaining a standardized SBR compliance seal, saying, "If we can comply I want to show it off and use it to increase business ...and help kids." If this (emergence of a CI) happens, it can be a big deal for our company (products). It needs to be."

Subject V-9

A marketable compliance seal means business to V-9. After lamenting that he needed one sooner rather than later, he stated, "I wish that we had a seal of approval for SBR compliance. It could be a deal maker with the purchasers ...and it could make our product stand out. If we positioned ourselves correctly, it (a compliance seal) can be a coup of sorts in our market segment."

Subject V-10

In spite of his love of and confidence in his product, regarding tangible rewards for SBR compliance V-10 stated, "I'm proud of our research background but at the end of the day a compliance seal has got to be worth money. It has to be worth the corporate while, or regardless of what I say (as an account guy) it may never happen."

Consumer Views: Theme V

Subject C-1

On knowing for sure that his purchases were SBR compliant C-1 offered, “This (a certification mark) would be positive from our standpoint.” “We would have a set of specs (from the entity) ...we almost do this (a certification process) ourselves (my school district) anyway, but it is time consuming.” He ended with a final statement of “This (independent certification) would make things better for us and lessen our concerns that I didn’t think we had so much just a few minutes ago.” He ended this point with a nod to his calling in a way. “We want to help our kids learn first and foremost and be compliant ...that is our goal.”

Subject C-2

Concerning the benefits of verified compliance at the point-of-sale, C-2 stated, “Our payoff of compliance would be certified data and verifiable purchases. I have faith in my people and their analysis, but this would streamline the process and make it black and white.”

Subject C-3

When asked about the benefits of verifiable SBR compliance C-3 said, “The major benefit that I need (as an administrator) is easy and direct proof, up or down that a product makes the cut. It would be great then, because any liability would shift to the certification entity. They made the call. It could be set up in the association bylaws. That would be best. We might even get some sort of value-added bonus on grant proposal if compliance was easily verifiable. ”

Subject C-4

Reflecting on the possible benefits of a compliance seal system for SBR, C-4 offered, “If we had a simple check list or something of standards ...the government standards that could be placed on products that would help me. Like I said; my payoff ...no graft though ...my payoff would be peace of mind ...at least on this issue.”

Subject C-5

In words almost identical to Subject C-4 above, regarding a compliance seal system, Subject C-5 echoed, “I want some peace of mind. My reward would be vindication ...that our efforts were right. That our district took the time and effort to play by the rules and won the game ...that recognition or acknowledgement is nice.”

Subject C-6

On the topic of a possible system in which by purchasing a product with a verification seal indicating SBR compliance C-6 said, “It would be nice if I didn’t feel this way but the older I get and the more I’ve been around sometimes I think that the biggest reward for SBR compliance and probably lots of other compliance is ...the reward is not having a non-reward.” “Just knowing we weren’t under threat of punishment would be my best reward. If I got some goody for doing it (compliance) right would be gravy. I just don’t want to be punished anymore. I’m ashamed to say it but sometimes I almost feel like a kidnap victim that sides with his captors ...Stockholm syndrome? Not getting kicked anymore just feels like a reward at this point.”

Subject C-7

C-7 is somewhat excited at the potential that a seal system could bring him, stating, “If we could look and see instant approval ...that would be smooth sailing.

There would be less red tape and we could have pride in our judgment or service. We could have mission accomplished there and move on. That would do it for me.”

Subject C-8

Echoing her earlier statement concerning a seal-type verification system for SBR, C-8 continued, “I think I said it earlier ...expedite the process. I’d probably pay a little more if I knew a product had backing of some type (a warranty) concerning SBR compliance. We could have self-satisfaction and the comfort of knowing we had our money well-spent.”

Subject C-9

On the benefit of a standardized compliance seal for SBR compliance C-9 adds, “As with everything that we do; our end result (and payoff) should be greater student learning. We should take pride in their (the students) enhanced performances (on mandated tests).”

Subject C-10

Commenting on the perceived payoff or reward from an SBR compliance seal system, C- 10 stated, “We need, and I think want, as a profession or as administrators, recognition as leaders. Open participation (in an industry-based SBR verification coalition) could do that.”

Tangible Reward for Compliance Summary

This study revealed a pervasive view of vendor subjects that certification as SBR compliant would translate into greater product sales. It is perceived as good for

business. Compliance is also seen as a point of pride by the vendor subjects and they want some form of recognition that would benefit them for their efforts toward compliance. Some suggested that this would serve the dual purpose of perhaps exposing the perceived shortcomings of their non-compliant competitors. Although from different market segments, this group shared a common desire for an independent entity to verify research quality and thereby individual product compliance with SBR. Several participants mentioned an internal attempt to declare compliance had previously been considered, but the idea had been discarded amid concerns of impropriety.

Among the consumer subjects, considerable support surfaced for a type of insurance policy associated with compliant products, thereby insulating a consumer, or by default, his school district, from monetary reprisal from the federal government. Like their corporate counterparts, compliance with the SBR mandate is seen as a point of pride by the subjects and they too desire some form of recognition that would acknowledge them (and their districts) for compliance and by extension, differentiate them from districts and colleagues perhaps less diligent in their efforts. They also see a compliance seal or mark as legitimate cover from government reprisals in the form of withheld or returned funding. Some came right out with a desire that their reward is actually no punishment. They want out from under the gun, so to speak.

General Impressions of the Study Data

In addition to the themes discussed above, during the interview process and throughout the data coding component of the study an interesting side note concerning the current state of academic focus both in the schools and the corporate psyche

surfaced. At some point during the individual interviews virtually all the subjects mentioned what could be generally termed as the testing-driven marketplace (Sung, 2004). This may be a carry-over from the early days of No Child Left Behind, but is no less prevalent in impression. It appears that the respondents, vendors and administrators alike, fear and feel some responsibility for the current climate of test paranoia that is rampant in American schools. When directly pressed, individual test correlation of the products (and the promise of achieving higher test scores) is still a more pressing concern of both product developers and school administrators, than achieving SBR compliance. This may be because the milestones and benchmarks (USDE, 2002) set for reaching NCLB testing perfection are looming ever larger with the march of time. For school administrators the pressure is there for a quick fix to increase test scores. The research compliance mandate seems to take a backseat to the Adequate Yearly Progress (AYP) mandate contained in the same NCLB legislation. Frankly, though they are generally thoughtful and want to appear confident on the matter, the school administrator subjects are concerned, bordering on stressed about test scores above almost all. For the vendors an ever present pressure to be the next big thing or be perceived a panacea for mass test improvement is almost palpable. The stakes are high and getting higher as the calendar marches forward. This pressure is exponentially magnified in uncertain economic times, for vendors and consumers alike. Quotas must be met, benchmarks must be met, bills must be paid, federal claims must be paid ...and, kids really should learn better. There seems to be a little bit of a chicken or the egg dynamic going on here.

Further, and in keeping with the poultry analogy presented above, there appears to be at least the suspicion of a pecking order afoot here as well. Most of the vendors interviewed were from relatively large companies, with annual revenues reaching into the millions, while a few were from rather meager start-up companies. Still, most feared, regardless of their own relative size, that the big boys (i.e. any company larger than them) had a vested interest to keep the SBR picture as cloudy as possible. The connotation was that with a well-funded research and development team and great lawyers on board, the larger companies had no real incentive to simplify the process. Among vendors and consumers alike, this concern culminated in the common desire of the study subjects to repeatedly mention a certification entity or regulator that created a “level playing field for all vendors (and thereby schools),” regardless of size. This was illustrated more than once with comments by the sales staff on how “a simple seal of approval” could enhance their sales pitch to school personnel. The collective feeling among the vendors was that; “If someone besides me (a vendor, essentially a salesman) vouches for my product (or its SBR status) I’ll have an easier in with the schools.” By the same token, consumer participants voiced a desire for a simple, up or down rating for products that relieved some of the perceived liability connected with Federal purchases. The collective tone of the consumers could be described as a mix of bewilderment, desperation, desire, and need for relief. They want to do what is right for their kids, they are not sure what’s around the next corner in terms of mandate, they have real budgetary constraints, and they crave some acknowledgement that they are heading in the right direction.

Subgroup Theme Agreement and Theory Development

In the Figure 5 below, one can see how both vendor and consumer responses converged or matched and then emerged as relevant theory. As mentioned earlier in this chapter, the vendor diagram produced a total of 50 categories or planks within the five overarching themes identified. The corresponding consumer diagram revealed 49 subsequent planks as well. Most significantly, as illustrated in Figure 5, the vendor and consumer categories and sub-categories had a common convergence or substantial similarity of over 84% spread across the five emergent themes. While all categories had overwhelming similarities among the subgroups studied, Theme IV – Essentials of Ease and or Clarity of Compliance and Verification matched at 100% in terms of identified categories within. Theme V – Tangible Reward for Compliance virtually matched from a vendor point of view, while the vendors included an additional, dissimilar plank within that theme. It is important to emphasize that these groups arrived at relatively the same conclusions for sometimes very different and admittedly, somewhat self-serving reasons. As included in Figures 3 and 4, some dissimilar planks did exist between subgroups within the emergent themes. These dissimilar planks, numbering ten overall, included responses largely attributable to the specific culture of the subgroup in response. Examples of these culture specific responses included concerns over market share and production costs within the vendor subgroup and concerns about potentially increased retail costs and a desire for professional peace of mind by the consumer subjects. The author invites future empirical study on these dissimilar planks as well as the similarities discovered and welcomes further discourse on the matter.

Although the research question asks how the views of the subgroups “...agree and/or differ” in light of the great similarity of responses among subgroups, for the purposes of this study the differences proved somewhat inconsequential as the theoretical ends are the focus here, rather than the means. Accordingly, though of possible interest to future empirical study and interesting in relation to the current overall study, the dissimilar planks are not included in Figure 5 and only the similar or shared planks of the subgroups are included. Also included are short inferences by the author, termed “of interest” synopsis content within each theme. In accordance with the edicts of theoretical and contextual selectivity, these data responses, present within both subgroups, constituted basis for emergent theory as illustrated in Figure 5 below:

Figure 5 – FINAL THEORETICAL MODEL DEVELOPMENT DIAGRAM: SUBGROUPS MERGED

<u>Theme I –SBR Mandate Awareness</u>	<u>Theme II – Desirability of Compliance</u>	<u>Theme III – Intervention Anxiety</u>	<u>Theme IV – Essentials of Ease and/or Clarity of Compliance and Verification</u>	<u>Theme V – Tangible Reward for Compliance</u>
<p>General knowledge of SBR Lack of specific SBR knowledge State and federal mandate confusion State correlates versus Federal SBR mandate SBR vs. AYP Research (types) Confusion Greater recent SBR awareness within market place Proclaimed compliance Of interest: (Both subgroups suspect the other may be somewhat more knowledgeable of SBR)</p>	<p>Confidence Greater SBR experience SBR Compliant = High Quality SBR compliance highly desirable Level playing field Opportunities to publicize compliance Credit and/or Benefits for compliance Of interest: (Non-compliance brings fear of loss of business and fear of government intervention. Non-compliance = universal displeasure)</p>	<p>Red Tape Anxiety Fear of political influence Fear of political change of emphasis Vagaries of government certification effort General compliance anxiety Questions about compliance method/mode Apprehension about future; post-NCLB Federal focus Financial impact Fewer gov't market barriers Testing-driven market place Of interest: (Financial concerns in each subgroup for different reasons)</p>	<p>Lack of guess work No seal = no compliance Uniform standards of compliance Independent certification/review of compliance Coalition-developed compliance standards Seal of approval/UL listing type User-friendly access Of interest: (Virtual agreement within this theme)</p>	<p>Access to Federal Funding SBR compliance helps Coalition within market place can work SBR = more recognition SBR compliance is essential Positive change Credit for compliance Compliance = Worthiness Desire to be proactive Trade association or market-based coalition approval desirable Of interest: (Though wary, desire trumps trepidation in willingness to form coalition)</p>
<p>Access to funding drives desire for compliance</p>	<p>Compliance = Leap in confidence</p>	<p>Fear/distaste of government regulation; Perceived increased costs</p>	<p>No seal = No compliance</p>	<p>Independent Compliance = increased peace of mind and less government oversight; Approval</p>
<p>THEORY: Concerning SBR mandate, vendors and consumers have more in common than initially known: Vendors and consumers support the emergence of an independent CI for SBR compliance through a marketplace stakeholder coalition.</p>				

Theory Emerges

As stated earlier, in their 1998 work, Strauss and Corbin assert that drawing diagrams during the selective coding phase of the analysis is "...helpful because it enables the analyst to gain distance from the data, forcing him or her to work with concepts rather than the details of the data" (p. 153). This process, though somewhat difficult for the author at the onset, proved cathartic and instrumental to the development of theory in this study. In side-by-side comparisons of the diagrams of overarching themes theory emerged as trends; and, perceptions gained clarity and relative weight within the study.

Based on the data revealed by this study, evidence suggests that the establishment of an oversight entity for SBR compliance is a desirable and perhaps inevitable outcome. Overwhelmingly, the vendor and consumer participants viewed the establishment of an independent certification intermediary as a somewhat urgent need. No participants saw the establishment of a valid, independent CI as unneeded or misguided. Citing the inherent need, these subjects voiced a desire to participate and utilize an independent entity should one emerge. This study and the associated review of literature in historical context appears in agreement that establishing a structure of independent review benefits the research establishment, the educational industry, and educational practitioners alike (Merriam, 1998). As surveyed, the educational product vendors appeared very receptive to some form of independent certification intermediary should one emerge. Though somewhat leery of an entity over-influenced or completely controlled by the vendor interests, consumer subjects nonetheless supported the development of a coalition in partnership with their vendor counterparts to establish

SBR oversight. While acknowledging that the government must embrace an effort by the market to self-regulate, the notion of further government intervention in the form of a sanctioning entity via the Food and Drug Administration model was universally discouraged by study participants.

The task of developing a grounded theory here culminated in the identification of an emergent phenomenon (the apparent desire that a CI be developed for SBR compliance) toward which the five interrelated overarching themes all point. This process of concept or theme integration resulted in the narrative, or story line, which conceptualized the core phenomenon or outcome (Strauss & Corbin, 1990). The story line that emerged from subject interviews (outlined in detail above) revealed a critical mass of feeling and concern that may well lead to further discussion of this phenomenon and possible (eventual) fruition of a viable solution to the problem. For these participants, the experience of living with a mandate that currently has no reliable means of verification, surety, or risk abatement has produced the climate in which they currently exist and responded from within. This study suggests that perhaps they (the subgroups, vendors and consumers alike) are up to the challenge of proving that they were ready and capable of assuming responsibility for self-regulation through a development of a credible CI in this arena. In answering the central research question theory emerged in this manner:

As to the question of agreement (or difference) or more appropriately, convergence in relation to the SBR mandate there are far more points of similarity (illustrated in Figure 5 above) than previously known. With respect to the potential of producing a credible SBR certification entity of mutual value, the prospects appear very

favorable if such an effort was mounted involving all market stakeholders including vendors and consumers alike. Bluntly stated as illustrated in Figure 5, the following theory emerged from the research data:

Concerning the SBR mandate, vendors and consumers have far more in common than initially known; and, Vendors and consumers support the emergence of an independent certification intermediary for SBR compliance through a marketplace stakeholder coalition.

CHAPTER V

DISCUSSION/RECOMMENDATIONS

Overview

This research study has its roots in federal legislation from over seven years ago (USDE, 2002). The subsequent research process has taken shape over the past two years with very clear results. As noted in Chapter IV above, the data produced within this study exhibit overwhelming similarities between subgroups examined. These similarities between subgroups (vendors and consumers of educational products) and the accompanying review of the overall topic in historical context, suggest a favorable climate for the establishment of a market-based coalition to certify, verify, or review SBR compliance of educational products. Although confident in the data reviewed, the resulting theory produced, and the following recommendations within the chapter, the author realizes that this study has not occurred within a vacuum. As such, some attention must be paid to the current world stage onto which this theory emerges.

Post NCLB Developments

An interesting side note concerning the current state of academic focus both in the schools and the corporate psyche surfaced along with the development of relevant theory during this study. Virtually all the subjects interviewed mentioned what could be generally termed the testing-driven marketplace (Sung, 2004). This may be a carryover from the early days of No Child Left Behind, but is no less prevalent in impression. It appears that the respondents, vendors and administrators alike, fear and feel some responsibility for the current climate of test paranoia that is rampant in American schools. It seems that state test correlation of the products is by far the most urgent

concern of both product developers and school administrators, far outpacing NCLB research-based compliance. This may be because the milestones and benchmarks (USDE, 2002) established for reaching NCLB testing perfection for all students by 2014 are looming ever larger with the march of time. The pressure is there for a quick fix to increase test scores. While the SBR mandate is mentioned over 111 times in the original NCLB legislation, the research compliance mandate often takes a backseat to the Adequate Yearly Progress (AYP) mandate contained in the same NCLB legislation. The dilemma of which threat appears greater at a given moment, SBR compliance or maintaining Adequate Yearly Progress on standardized tests, plagues all study participants, educational consumers and vendors alike.

NCLB Becomes Race to the Top

The above notwithstanding, in the this new era of The American Recovery and Reinvestment Act (ARRA), signed into law by President Barack Obama on February 17th, 2009, along with another huge education-only stimulus plan, dubbed Race to the Top, both aimed to "...put a down payment on addressing long-neglected challenges so our country can thrive in the 21st century" (USDE, 2009), there is a renewed emphasis on SBR. This is prevalent in the responses given by the administrators and the vendors to acknowledge this concern. As more federal money is available for spending on educational products, the SBR compliance marketing machine within the companies appears to be ratcheting up as they tout their self-anointed SBR compliance to once again somewhat unsuspecting administrators. This time however, the feared strings of compliance attached to the money seem to be causing pause for administrators in light of their knowledge of the more universal transparency sought by the Obama

Administration in tracking of expended funds (USDE, 2009). The administrators questioned in this study repeatedly cited the requirement of SBR compliance of each product that they purchase with federal funds and are aware that there appears to be renewed vigor in this direction along with a monthly federal expenditure report tracking ARRA funding. Several respondents even cited documentation as recent as February of 2009 by the USDE's Institute of Educational Sciences, (IES) report on software products (in this case math software) and relative compliance with SBR and test scores (Campuzano, et al., 2009). The administrators almost plead for outside product compliance verification of some sort to shield them from some liability on the compliance issue. The establishment of a credible CI to address these concerns is a viable solution to study participants from each subgroup.

Limitations of the Study

There were limitations associated with the study. It must be stated that the quality of the findings in any qualitative study is dependent on the individual skills of the interviewer. The author freely admits limitations in this area and therefore has leaned heavily on the methodology of Strauss and Corbin (1990) and the direction of faculty advisors throughout this process. This was particularly true in the development of the central research question.

As noted earlier, the author is currently a full-time, district level public school administrator (superintendent) and as such has fiscal responsibility over all district purchases including those with federal funds along with the compliance responsibilities that that entails. It must also be noted that the author has explored the possibility of establishing an independent certification entity with colleagues, and various other

concerned parties, including researchers, academics, and product vendors. This was disclosed in the IRB approved consent form. The author is, as it were, “in the inquiry” (Piantanida, et al. 2004, p. 336). It is possible that these details affected the interpretation of data to some degree, regardless of intent. Though care was taken to assure that the participants were honest and forthcoming during the interview process; it is true that the author is acquainted with many of them by reputation, as a potential customer, or through professional circumstance. The author has taught a class to First-Year Oklahoma Superintendents for many years and is active on various boards, advisory panels, and seminars throughout the state and region. Though unlikely, this may have influenced some responses from participants.

Another limitation of the study could be in the geographical limitation given that all of the consumer subjects and a majority of vendor subjects live and work in the state of Oklahoma. Vendor subjects not living in the state of Oklahoma have a responsibility to do business here as well, notwithstanding their other duties. As such, there may be a less than optimum mix in the subject pool in terms of national flavor, although this effect was lessened in that all subjects were responding with their impressions and thoughts concerning a federal rather than state mandate.

With these stated limitations in mind, the author encourages further investigation and research in this subject area (including empirical research testing the theory itself) while making the conclusions and recommendations listed below.

Conclusions

The results of the research study foster a better understanding of the function and need of a CI in light of the scientifically research-based mandates of NCLB and

similar regulations worldwide. The study illuminates the consequence brought about by the current lack of a CI in this area, NCLB mandates notwithstanding. More succinctly, the lack of an independent agency of research review supported by vendors, researchers and practitioners, hampers all stakeholders (Merriam, 1998). The investigator views the indicated desire of the participants for greater participation within the educational research community positively and feels that it illustrates well the opinion of educational authors Pellegrino and Goldman that "educational research is often better served by the multidisciplinary, researcher-practitioner team approach" (Jacob & White, 2002, pg. 16). In their experience, one of the most important criticisms of educational research is that it often lacks a meaningful connection to practice. They assert that educational researchers must include practitioners in their research community so as to better understand and address problems of practice (2002).

Educational publishers and product vendors should also participate in greater consistency with the Merriam citation mentioned earlier. As alluded to earlier in this work, a blind approach of focusing only on what works can shield educators from important aspects and unanticipated outcomes of education processes, therefore, the author encourages vendors, educational researchers and educational product consumers to develop a critical and realistic stance toward science. This study supports the establishment of an independent entity expressly dedicated to verifying and promoting conducting educational research is desirable and a means for promoting positive educational change. No Child Left Behind mandated the requirement that all federal educational funds be expended only on research-based products (USDE, 2002).

Unfortunately, NCLB has not as of yet accounted for the necessary oversight needed to ensure success.

Superfine (2005) attributes the government's inability to effectively establish accountability to politics. Politics have made it "difficult to develop and implement coherent accountability systems" (p.34). Up until very recently, the penalties for SBR non-compliance are relatively weak (Weiner, 2005); however, that may change with the political winds. There is some evidence that it already has (Campuzano, et. al., 2009). The underwriter (credible CI) can help insulate education from politics (Superfine, 2005). Vendors cannot fill this void due to a conflict of interest. Practitioners need the research support but cannot perform the service. Researchers lack insight into the day-to-day functioning of schools. None of the parties alone can legitimately create a fully credible oversight entity; cooperation must exist among these three interests to insure effective implementation of NCLB mandates and best practices. According to Durbin (2000) due to the amount of revenue potentially at risk, it is likely that the participating market stakeholders will fund the independent and ideally, non-profit entity, perhaps through a dues-paying or membership structure. Researchers must independently perform the research (or at least help devise the rubric or matrix determining compliance) and practitioners must be involved to insure their needs and concerns are met by the oversight entity. This oversight entity must therefore be simultaneously independent and interdependent. It must be completely independent of individual vendors, practitioners, and researchers while being responsive to the needs of each and the government. It must also answer to those very interests in its quest to raise educational standards and to meet the intent of NCLB or subsequent federal mandates

while providing some insulation for education from the prevailing political winds. No existing agency performs this educational service. Irrespective of the feeling that educators are currently pushed to be “less concerned about what’s good for kids and more concerned about compliance with NCLB” (Popham, 2005, pg. 3), cooperative efforts must transcend politics or semantics and return to the initial intent of the scientifically based research mandate, increased student learning. A vehicle must exist for researchers to validate vendors’ research for the benefit of teachers and administrators while insulating reputable researchers from their more mercenary brethren (Boardman, 2005). The federal government has created the requirement for research-based practices. Vendors have responded with product research. Practitioners must be able to sort the valid from the self-serving while complying with the SBR mandate.

In answering the central research question around which this study exists, “*How do educational product vendors and education administrators agree and/or differ in relation to the SBR mandate and on the potential to produce an SBR certification entity valuable to each?*,” the author believes that this study has been successful. There is ample data to support that there is far more similarity on the matter of SBR compliance among the subgroups studied, (vendors and consumers) than had been previously known. An entity, therefore, might well be created which brings practitioners and vendors together (along with their research and bureaucratic counterparts) for the common good of students, the educational industry, and ultimately, modern education. Further, the author believes that based on the theory produced here, this outcome is sorely needed. Simply, the means does not currently exist for vendors or consumers

alike to accurately assess the compliance of a given product in a timely and efficient manner. This lack of verification leads vendors to offer non-compliant product which in turn, is purchased by uninformed consumers to the continual detriment of our students. This study is a call to arms on this issue.

Implications Beyond NCLB and SBR

Although the stated intent of this research undertook in part to “*Examine the NCLB Scientifically Based Research (SBR) requirement,*” the outcomes of the study appear to have implication in areas beyond that initially narrow scope. The agreement between educational marketplace stakeholders exhibited in this study could extend to common issues beyond that of SBR compliance leading to other instances of mutual agreement and cooperative opportunities if pursued. The author invites further discourse on this possibility and the constructive impact that it may have within the educational marketplace at large in the future.

Recommendations for Theoretical Investigation

From this study, five themes emerged from the participants exhibiting broad similarities among each subgroup. From these themes, a grounded theory was developed that substantial agreement exists between vendors and consumers of educational products concerning the current SBR mandate and that substantial support currently exists among vendors and consumers for the establishment of a certification entity through a marketplace stakeholder coalition for the verification of product compliance.

According to Eisenhardt (1989) in her work on case study research, theory that is emergent from grounded studies “is likely to be testable with constructs that can be

readily measured and hypotheses that can be proven false” (p. 547). Due to the close connection between theory and data, it is likely that the theory generated, such as that offered here, can be further tested and expanded by subsequent studies. This does not imply that the methodology is unreliable or theoretically unsound, in fact she goes on to say that the “resultant theory is likely to be empirically valid” (p. 547). This level of validation is implicitly achieved by constant comparison, questioning the data from the start of the process. As Eisenhardt states, “This closeness can lead to an intimate sense of things” that “often produces theory which closely mirrors reality” (p. 547).

In concurrence with this, the author invites empirical study of this theory and the five emergent themes upon which it is based, in order to confirm or disconfirm its validity. Empirical study of the differences between the vendor and consumer subgroups, as noted in the dissimilar planks mentioned in Chapter 4, may also provide fodder for future researchers. Though the author is confident in the data developed and the subsequent theory produced, future study must resolve whether it is verifiable in a quantitative manner.

Recommendations for Practice

As stated above, the author theorizes that sufficient agreement exists between vendors and consumers of educational products to warrant the establishment of an independent entity or certification intermediary for the review and potential certification of individual educational products as SBR compliant. Based on the knowledge gained from this study, it is the author’s view that the optimum structure of this entity would be some form of registered or trademarked non-profit corporation or association that reviews educational programs and products to verify compliance with NCLB

requirements and high educational standards. As stated earlier, this entity would ideally be funded through grants, fees for reviews, by membership dues (consumers and vendors alike), and by possible government contract. Through its compliance standards and the placement of a corresponding mark or seal of approval on compliant products, this entity would directly support educators in choosing SBR compliant educational products and programs. However, as stated above, these recommendations may be altered by the outcomes of future empirical research.

To viably establish a valid CI according to Durbin, a fixed certification technology or “a signaling mechanism” must be designed (Durbin, 2000, pg. 15). From this notion comes a sample Research Review Instrument (RRI), designed by the author and a colleague, found in the appendix, based both on the American Educational Research Association, or (AERA) standards (American Educational Research Association [AERA], 2006) and the USDE scientifically based research mandate as codified in federal statute (USDE, 2002). It is loosely modeled on the requirement rubric designed by the Schools Interoperability Framework Association in their quest to standardize school management software across the nation (SIFA, 2004). The instrument is meant, at this juncture, as a suggestion to provoke thought; the sample RRI integrates specific components into a point accumulation rubric that indicates a threshold of minimum through maximum compliance with the research-based mandates. Ideally the CI would apply its seal of approval to products and programs as a simple and effective tool to allow educators to make effective decisions. The CI certification would present a uniform standard for vendors as they voluntarily submit research for independent review to serve the common good of education. In order to

receive the CI seal of approval, a vendor would be required to submit the research backing its product to the scrutiny of educational researchers. Within the CI/RRI process, the research itself, rather than the product application by a consumer, would be scrutinized. The product researchers' credentials and professional affiliations would also be investigated and verified. The forum in which the product research was published (if any) would be necessarily rated as to whether or not it is a legitimate educational research journal. Ideally, vendors would receive the CI seal for their product only after the research supporting their products meets NCLB requirements for "rigorous evidence" (USDE, 2002).

Venturing beyond the academic realm and into a more market-based subtext, it must be noted that despite the best of intentions, no CI can survive, let alone thrive, without the perception that it is credible (Durbin, 2000). To assure that current and strident research standards (AERA, 2006) are followed and to help achieve credibility, established research collaborators (and practices) should be sought. In the view of the author, ideally, this association would be through a research university of national or international standing. So organized, the CI could be housed within the research university as a non-profit affiliate. Though the CI would not actually conduct or replicate research on its own, circumstances could arise in which this affiliation could prove essential. Indeed, a final, functioning Research Review Instrument could, and should, be designed with input from such collaboration. The more pristine the reputation of the collaborators, the more perceived credibility the CI may hold. Even so, as stated earlier, an independent certification intermediary must remain independent to maintain its credibility (Durbin, 2000). Therefore, should a particular product under

review by the proposed CI fail to meet the standard of “rigorous evidence” of scientifically based research as mandated by NCLB (2002), it must be referred to an appropriate research entity for consultation and possible further research contracting by the vendor. The proposed CI must not be contractually bound to any specific researcher, but rather would be free to assess the relative fit of the product with the forte of the research entity. In this manner the referral is based on the experience of the researcher most compatible with the product in question. It is foreseeable that a credible, functioning CI could potentially assume a role as a quasi-trade association for its successful mark bearers. Since vendors voluntarily submit their products to the scrutiny of the CI, earning its seal of approval may help them market SBR compliance to customers. Conversely, consumers may seek out a seal in their product selection process, increasing the value and desirability of mark bearers.

The author suggests that the establishment of a CI may lead to a more confident implementation of technology into the schools of tomorrow, and thereby help insure that the integration of these products will be more universally complete. The author further believes that the establishment of a credible CI may potentially, as with the UL listing in electronic devices, become a way of life within the educational community regarding the implementation and integration of educational products. This desired end greatly depends on the quality of the product at hand and the credibility of the CI certifying it.

The consequence of no viable CI at present is already apparent. Even with the SBR mandate as an established fact, the research bears out that educational product continue to be marketed somewhat through “buzz words” or word of mouth. In the

author's view, if the research validity of a product is not determined by an independent, credible entity, this trend will continue.

The grounded theory presented here states that vendors and consumers of educational products are far more similar in their attitudes concerning the current status of the SBR compliance mandate than previously known. It further states that there is ample potential for the establishment of a credible CI for SBR compliance for the benefit of all concerned. As such, the author believes that the market truths listed by Durbin (2000) hold true in this market as well. A credible CI may indeed change the way that schools do business. The future may see consumers checking for a certification mark as a first line of business in selecting educational products. Likewise, vendors may seek to earn an SBR compliant certification for their products before they hit the market. From this research, the author believes that a credible CI can make these things happen. Mr. Durbin (2000) and the historical context of market literature says that it is inevitable. In such a future, the author advocates that the best practices of education and AERA standards be followed by the Educational Industrial Complex not only the verification of their products but in their very development as well.

In conclusion, it is the authors' desire that this research project encourage the eventual establishment of a certification intermediary for scientifically research-based educational products. Although confident of the interpretations stated within this study, the author encourages further discourse, study, and empirical research on the independent oversight of scientifically based research in the educational product industry and its stakeholders in support of greater focus and illumination on the matter.

Epilogue

The opportunity to research this subject has been both gratifying and enlightening. In its earliest stages, while attending a technology conference in Austin, Texas, the author had the opportunity to converse with the Editor-In-Chief of a national educational publication on the lack of a SBR certification entity in the educational product arena and the current and potential impact on the education community. The editor was gracious and the author was bolstered by his apparent thoughtfulness on the matter. Most striking was a statement he uttered no less than five times during a forty-five minute conversation. Repeatedly, in reference to the lack of an independent certification intermediary for SBR, he expounded on “What an “enormous gap” there was to be filled.” (G.W. Downey, personal communication, February 6, 2007). In an instant a subtitle became apparent for this dissertation. In those few words of informal conversation research, he crystallized the potential that this area holds. If indeed those words hold significance, the original niche the author began to investigate may in actuality be a crevasse.

REFERENCES

- Achilles, C. M. (2003). Educational administration and capacity for school improvement: Restructuring public education. *Educational Management*. Retrieved June 12, 2006, from ERIC Documents Reproduction Service # ED478772
- Achilles, C. M., & Price, W. J. (2001, Winter). What is missing in the current debate about education administration standards? *AASA Professor*, 24(2), 8-13.
- Admati, A., & Pfleiderer, P. (1990). Direct and indirect sale of information. *Econometrica*, 58(4), 901-928.
- Akerlof, G. (1970). The market for lemons: Qualitative uncertainty and the market mechanism. *Quarterly Journal of Economics*, 84, 488-500.
- Alliance for Excellent Education (2005). *Education programs receive little funding*. Issue Brief 6, Washington, D.C.
- American Educational Research Association (2006). *AERA task force on reporting research methods*. Retrieved April 21, 2006, from <http://www.aera.net/?id=1194>
- Ary, D., Jacobs, L., & Rasavieh, A. (1996). *Introduction to research in education*. Fort Worth, TX: Harcourt Brace College Publishers.
- Babchuk, W. (1997). The rediscovery of grounded theory: Strategies for qualitative research in adult education. *Dissertation Abstracts International*, 58(12), 4523A. (UMI No. 9819689)
- Beghetto, R. (2003, Spring). Scientifically Based Research. *Clearinghouse on Educational Policy and Management*, 19 (3). Retrieved September 16, 2006, from <http://www.eric.uoregon.edu/publications/roundup/spring2003.html>

- Berg, B. (2007). *Qualitative research methods for the social sciences* (6th ed.). Boston: Pearson.
- Best Evidence Encyclopedia (2006). *Center for Data-Driven Reform in Education. Johns Hopkins University*. Retrieved December 23, 2006, from <http://www.bestevidence.org>
- Boardman, A.G.; Arguelles, M. E.; Vaughn, S.; Hughes, M.T.; Klingner, J. (2005). Special Education Teachers' Views of Research-Based Practices. *Journal of Special Education*, 39(3), 168-180.
- Bogdan, R. C., & Biklen, S. K. (1982). *Qualitative research for education: An introduction to theory and methods*. Boston: Allyn and Bacon, Inc.
- Brookings Institution (1999). *Can we make education policy the basis of evidence? What constitutes high quality research and how can it be incorporated into policymaking? Washington, DC*.
- California Educational Research Cooperative (2001). *University of California, Riverside*. Retrieved February 12, 2007, from <http://cerc.ucr.edu/about.html>
- Campuzano, L., Dynarski, M., Agodini, R., and Rall, K. (2009). *Effectiveness of Reading and Mathematics Software Products: Findings From Two Student Cohorts—Executive Summary* (NCEE 2009-4042). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Chatfield, R. (2000). Sustainable use-design and skill: Social and material dimensions of relational databases. *Sociological Perspectives*, 43, S73-S92.
- Cochran-Smith, M. (2005). The new teacher education: For better or worse?

American Researcher, 34, 3-17.

Comprehensive School Reform Program Office, Office of Elementary and Secondary Education, US Department of Education (2002, August). *Scientifically based research and the comprehensive school reform (CSR) program*. Retrieved March 18, 2007, from <http://www.ed.gov/offices/OESE/compreform/appendc.pdf>

Consumers Union (2006). Retrieved March 5, 2006, from <http://www.consumersunion.org>

Cook, T.D. (2001). *A critical appraisal against using experiments to assess school (or community) effects*. Retrieved January 18, 2008 from <http://www.educationext.org/unabridged/20013/cook.html>

Cook, T.D. (2001). Randomized experiments in educational policy research: A critical examination of the reasons educational evaluation community has offered for not doing them. *Educational Evaluation and Policy Analysis*, Fall 2002, 24 (3), pp. 175-199

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions* (1st ed.). Thousand Oaks, California: Sage Publications.

Creswell, J. W. (2002). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. New Jersey: Merrill Prentice Hall.

Creswell, J.W. (2005). *Educational Research: Planning, conducting, and evaluating qualitative and quantitative research* (2nd ed.). Upper Saddle River, NJ: Pearson Education.

- Creswell, J.W.: Hanson, W.E.: Clark, V.L.; Plano, A.M. (2007). Qualitative Research Designs: Selection and Implementation. *The Counseling Psychologist*, Volume 35, Number 2, pp. 236-264. Retrieved September 1, 2009 from <http://ejournals.ebsco.com/direct.asp?ArticleID=44C0BBB2EF05E85B3B1B>
- Deubel, P. (2008) *Education Decisions: Looking for Strong Research and Better Implementations*, T.H.E. Journal. Retrieved February 1, 2009, from <http://www.thejournal.com/articles/23169>
- Dick, B. (2005). *Grounded theory: A thumbnail sketch*. Retrieved January 16, 2007, from <http://scu.edu.au/schools/gcm/ar/arp/grounded.html>
- Dixon, M; Turner, B.; Pastore, D.; & Mahony, D. (2003). Rule Violations in Intercollegiate Athletics: A Qualitative Investigation Utilizing an Organizational Justice Framework, *Journal of Academic Ethics*, 1 (1) 1570-1727 Retrieved March 8, 2009 from <http://www.metapress.com.ezproxy1.lib.ou.edu/content/wm673208147x74g4/?p=38a882e4e176482e8a7e7be8edee968c&pi=6>
- Durbin, E. (2000). Essays on intermediation in markets. UMI, Ann Arbor, Michigan
- Education Commission of the States. (2004). *No child left behind: ECS Report to the nation*. Retrieved January 17, 2007, from <http://nclb2.ecs.org>
- Educational Underwriters, Incorporated (2006, July). *Educational underwriters, inc.: Taking ownership of no child left behind*. Retrieved August 4, 2006, from <http://www.educationalunderwriters.org>
- Egnew, T. (1994). On becoming a healer: A grounded theory. *Dissertations Abstracts International*, 55 (11), (UMI No. 9509030).

- Eisenhardt, K. M. (1989). Building Theories from Case Study Research. *Academy of Management Review*, 14 (4), 532-550. Retrieved November 21, 2009 from citeseer.ist.psu.edu/context/72342/0
- Eisner, E. W. (1991). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. New York, NY: Macmillan Publishing Company.
- Erickson, F., & Gutierrez, K. (2002). Culture, rigor, and science in educational research. *Educational Researcher*, 31 (8), 21-24.
- European Commission/Europa/EU (2006). *Erasmus education and training project*. Retrieved January 6, 2007, from http://ec.europa.eu/education/policies/educ/eit/index_en.htm
- Gilgun, J. (2005). Qualitative Research and family psychology. *Journal of Family Psychology*, 19, 40-50.
- Glaser, B. G. (1992). *Basics of grounded theory analysis: Emergence vs. forcing*. Mill Valley, California: Sociology Press.
- Glaser, B. G. (1998). *Doing grounded theory: Issues and discussions*. Mill Valley, CA: Sociology Press.
- Glaser, B. G. (2002). Conceptualization: on theory and theorizing in grounded theory. *International Journal of Qualitative Methods*, 1 (3). Retrieved January 16, 2007, from http://www.ualberta.ca/~ijqm/backissues/1_2Final/html/glaser/html
- Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory*. Chicago: Aldine Publishing Company.

Good Housekeeping (2006). . Retrieved March 5, 2006, from

http://magazines.ivillage.com/goodhousekeeping/consumer/institute/articles/0,,284511_290570,00.html

Guba, E. & Lincoln, Y. (1981) *Effective evaluation: Improving the usefulness of evaluation results through responsive and naturalistic approaches*. San Francisco: Jossey-Bass

Gueron, J.M. (2002) The politics of random assignment: Implementing studies and affecting policy. In F. Mosteller & R. Borush (Eds.) *Evidence Matters: Randomized trials in education research (pp.15-49)*. Washington, DC; Brookings Institution Press, 2002.

Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., & Darwin, M. (2008). *Turning around chronically low-performing schools: A practice guide (NCEE #2008-4020)*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved February 1, 2009 from <http://ies.ed.gov/ncee/wwc/practiceguides/>

Hess, F. M. (2005). Commentary: Accountability policy and scholarly research. *Educational Measurement: Issues and Practice*, 24 (4), 53-57.

Hoepfl, M. (1994). *Closure of technology teacher education programs: factors influencing discontinuance decisions*. Morgantown, WV: Unpublished doctoral dissertation.

Hoepfl, M. (1997). Choosing qualitative research: A primer for technology education researchers. *Journal of Technology Education*. 9 (1).

- INFACT Canada Newsletter (1998, summer). *Research and conflict of interest: How truthful is corporate funded research*. Retrieved November 9, 2005, from <http://www.infactcanada.ca/research.htm>
- Jacelon, C., & O'Dell, K. (2005). Case and grounded theory as qualitative research methods. *Urologic Nursing*, 25, 49-52.
- Jacob, E., & White, C. S. (2002, November). Theme issue on scientific research in education. *Educational Researcher*, 31 (8). Retrieved September 16, 2006, from <http://222.aera.net/pubs/er/toc/er3108.htm>
- Jin, G., Kato, A., & List, J. (2004, March 10). *Evolution of professional certification markets: Evidence from field experiments*. Retrieved April 26, 2007, from <http://cramton.umd.edu/workshop/papers/jin-kato-list-evolution-of-certification-markets.pdf>
- K20 Center (2006). . Retrieved March 7, 2006, from <http://k20center.org>
- Lashway, L. (2002, November). Trends in school leadership. *Clearinghouse on Educational Policy and Management*, 2002, November. Retrieved February 17, 2007, from <http://eric.uoregon.edu/publications/digests/digest162.html>
- Lauer, P. (2004). A policymaker's primer on education research: How to understand it, evaluate it, and use it. *Mid-continent Research for Education and Learning and the Education Commission of the States*. Retrieved February 1, 2009 from <http://www.ecs.org/html/educationIssues/Research/primer/index.asp>
- Levin, B. (2004, October 17). Making research matter more. *Education Policy Analysis Archives*, 12, 56. Retrieved December 14, 2006, from [http://epaa.asu.edu/epaa/12\(56\)](http://epaa.asu.edu/epaa/12(56))

- Liston, D., Whitcomb, J., & Borko, H. (2007, March/April). NCLB and scientifically-based research: Opportunities lost and found. *The Journal of Teacher Education*, 58(2), 99-107.
- Lizzeri, A. (1999, Summer). Information revelation and certification intermediaries. *The RAND Journal of Economics*, 30 (2), 214-231.
- Locke, L., Spirodo, W., & Silverman, S. (2007). *Proposals that work: A guide for planning dissertations and grant proposals* (5th ed.). Thousand Oaks, California: Sage Publications.
- Lomborg, K., & Kirkevold, M. (2003). Truth and validity in grounded theory – a reconsidered realist interpretation of the criteria: fir, work, relevance, and modifiability. *Nursing Philosophy*, 4, 189-200
- Martin, P., & Turner, B. (1986). Grounded theory and organizational research. *The Journal of Applied Behavioral Sciences*, 22, 141-157
- McCann, T., & Clark, E. (2003). Grounded theory in nursing research; Part 1 – Methodology. *Nurse Researcher*, 11 (2), 7-18
- Merriam, S. B. (1998). *Qualitative research and case study applications in education* (1st ed.). San Francisco, California: Jossey-Bass Publishers.
- Millot, M.D. (2007). Where provider accountability went wrong. *Education Week.org*, Retrieved January 18, 2009 from <http://blogs.edweek.org/cgi-bin/mt-tb.cgi/3161>.
- Moghaddam, A. (2006). Coding issues in grounded theory. *Issues In Educational Research*, 16(1), 52-66. Retrieved April 19, 2006, from <http://www.iier.org.au/au/iier16/moghaddam.html>

- Morse, J. M., & Richards, L. (2002). *README FIRST for a user's guide to qualitative methods*. Thousand Oaks, CA: Sage Publications.
- NSF International (2004). *About NSF*. Retrieved March 23, 2008, from http://nsf.org/consumer/about_NSF/mark.asp?program=AboutNsfMar
- National Research Council. (2002). *Scientific research in education*. Washington, DC; National Academy Press.
- Neuman, S. & Reyna, V. (2002, February). *Use of scientifically-based research in education*. [U.S. Department of Education Working Group Conference on Scientifically-Based Research] Washington, D.C., Retrieved January 27, 2008, from <http://www.ed.gov/nclb/methods/whatworks/research/index.html>
- No Child Left Behind (2002). *No child left behind: A new era in education*. Retrieved November 10, 2005, from <http://www.ed.gov/nclb/overview/intro/presentation>
- Ostrovsky, M., & Schwarz, M. (2003). Equilibrium information disclosure: Grade inflation and unraveling. Harvard Business School Working Paper.
- Pandit, N. (1996). The creation of theory: A recent application of the grounded theory method. *The Qualitative Report*, 2 (4) Retrieved April 16, 2009 from <http://www.nova.edu/ssss/QR/QR2-4/pandit.html>
- Parry, K. (1998). Grounded theory and social process: A new direction for leadership research. *Leadership Quarterly*, 9 (1), 85-96.
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods* (2nd ed.). Newbury Park, CA: Sage Publications, Inc.
- Phelps, D. M. (1949, April). Certification marks under the Lanham Act. *Journal of Marketing*, 13 (4), 498-505.

- Phelps, R. (2003). *The rigor of scientifically-based research on doctored data may be mortis*. Retrieved March 5, 2006, from <http://www.thirdeeducationgroup.org/RigorMortis.htm>
- Piantanida, M., Tananis, C., & Grubs, R. (2002). *Claiming grounded theory for practice-based dissertation research: A think piece*. Retrieved May 24, 2007, from the University of Georgia website: http://coeuga.edu/quig/proceedings/Quig02_Proceedings/claim.pdf
- Piantanida, M., Tananis, C., & Grubs, R. (2004). Generating grounded theory of/for educational practice: the journey of three epistemorphs. *International Journal of Qualitative Studies in Education*, 17, 325-346.
- Popham, W. J. (2005). The age of compliance. *Educational Leadership*, 63(2), 84-85.
- Project Inkwell (2004). *Strategic news service initiative: Managing a synthesis of functional specifications for a ubiquitous computing platform*. Retrieved February 23, 2007, from <http://www.projectinkwell.com>
- Raudenbush, S. (2002, February). *Scientifically-based research*. [U.S. Department of Education Seminar on Scientifically-Based Research] Washington, D.C., Retrieved March 16, 2007, from <http://www.ed.gov/offices/OESE/esea/research/>
- Russek, B. E., & Weinberg, S. L. (1993). Mixed methods in a study of implementation of technology-based materials in the elementary classroom. *Evaluation and Program Planning*, 16(2), 131-142.
- Schools Interoperability Framework Association (2004). Retrieved March 5, 2006, from <http://www.sifainfo.org>

- Shavelson, R. J., & Towne, L. (2002). *Scientific research in education: Committee on scientific principles in education, National Research Council. Washington, D.C.*, Retrieved March 16, 2007, from <http://www.nap.edu>
- Simpson, R. L. (2005). Evidence-based practices and students with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 20 (3), 140-149.
- Sivia, D. S. (2005). *Data analysis – A dialogue with the data*. Rutherford Appleton Laboratory. Chilton, England, Retrieved January 28, 2009 from bayes.wustl.edu/sivia/lisbon05.pdf
- Snell, M.E. (2003). Applying research to practice: the more pervasive problem? *Research and Practice for Persons with Severe Disabilities*, 28(3), 143-47.
- Social Research Methods (1998). *Characteristics of a good qualitative research: Grounded theory*. Retrieved February 10, 2007, from <http://www.socialresearchmethods.net/tutorial/Mensah/Blank%20Page%203.htm>
- Stake, R. E. (1978, February). The case study method in social inquiry. *Educational Researcher*, 7(2), 5-8.
- St. Pierre, E. A. (2002). Science rejects postmodernism. *Educational Researcher*, 31(8), 25-27.
- Stanford Daily Online (2005). *Corporate-funded research questioned*. Retrieved November 9, 2005, from <http://www.stanforddaily.com/tempo>
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.

- Strauss, A., & Corbin, J. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. *Qualitative Sociology*, 13, 3-21.
- Strauss, A., & Corbin, J. (1994). Grounded theory methodology: An overview. In *Handbook of Qualitative Research*, pp 273-285, Thousand Oaks, CA: Sage.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.
- Sung, Youl-Kwan (2004). *Market-driven education reform and curriculum commodification*. Ph.D. dissertation, The University of Wisconsin - Madison, United States -- Wisconsin. Retrieved July 11, 2009, from Dissertations & Theses: Full Text. (Publication No. AAT 3128073).
- Superfine, B. M. (2005). The politics of accountability: The rise and fall of goals 2000. *American Journal of Education*, 112 (1), 10-42.
- TRW (2006). . Retrieved March 5, 2006, from <http://www.trw.cpm/home/main/0,,FF.html>
- Underwriters Laboratories (2006). . Retrieved March 5, 2006, from <http://www.ul.com/about>
- United Nations Educational Scientific and Cultural Organization (2006). Retrieved April 22, 2006, from http://www.unesco.org/education/efa/ed_for_all/dakfram_eng.shtml
- United States Department of Education (2002). . Retrieved March 5, 2006, from <http://www.ed.gov/nclb/methods/whatworks/edpicks.jhtml?src=1n>

- United States Department of Education (2002). Retrieved April 22, 2006, from <http://www.ed.gov/offices/OESE/reference>
- United States Department of Education (2008). *Title I, Part A; Improving Basic Programs Operated by Local Educational Agencies, Subpart 1, Basic Program Requirements*. Retrieved December 27, 2008 at <http://www.ed.gov/policy/elsec/leg/esea02/pg2.html#sec1111>
- United States Department of Education (2009). *American Recovery and Reinvestment Act of 2009*. Recovered from <http://www.ed.gov/policy/gen/leg/recovery/index.html> on July 16, 2009
- Weiner, R. (2005) *Adequate Yearly Progress Under NCLB. Paper prepared for the National Center on Education and the Economy Policy Forum. Implementing the No Child Left Behind Act*, April 9, 2003, Washington, D.C. Retrieved January 18, 2008, from <http://www2.edtrust.org/NR/rdonlyres/F7F160C3-DE70-4F63-BF0C-2DC47911DA66/0/AYPUnderNCLB.pdf>
- Whitehurst, G. (2002, June). *"Statement of Grover J. Whitehurst, Assistant Secretary for Research and Improvement, Before the Senate Committee on Health, Education, Labor, and Pensions."* Washington, D.C. [U.S. Department of Education]. Retrieved September 16, 2006, from <http://www.ed.gov/offices/IES/speeches>
- Wright, P. W., Wright, P. D., & Heath, S. W. (2003). *Wrightslaw: No child left behind*. Haitfield, Virginia: Harbor House Law Press.
- Yell, M. L., Drasgow, E. L., & Lowrey, K. L. (2005). No child left behind and students with autism disorders. *Focus on Autism and Other Developmental Disabilities*, 20 (3), 130-139.

Yow, V.R. (1994). *Recording oral history: A practical guide for social scientists*.

Thousand Oaks, CA: Sage Publications

APPENDIX A

Glossary of Qualitative and Grounded Theory Study Terminology

Abstract – A brief summary of what is in an article

Accuracy-A term used in survey research to refer to the match between the target population and the sample.

Case study -A form of qualitative research that is focused on collecting data in a comprehensive and systematic format and providing a detailed account. Case studies are often done with individuals, but they can also be collected for groups, organizations, communities, or programs.

Data-Recorded observations, usually in numeric or textual form

Dependability- A sufficiently clear account of the research process to allow others to follow the researcher's thinking and conclusions about the data and thus assess whether the findings are dependable.

Descriptive Validity - The factual accuracy of an account as reported by the researcher

Epistemology - The study of how knowledge is generated and justified

Ethics - The principles and guidelines that help us to uphold the things we value.

Field Notes -Notes taken by researchers to record unstructured observations they make “in the field” and their interpretation of those observations.

Generalizability-The extent to which research findings and conclusions from a study conducted on a sample population can be applied to the population at large.

Grounded Theory – A qualitative approach to generating and developing a theory from the data that the researcher collects; a general methodology for developing theory that is grounded in data systematically gathered and analyzed

Grounded Theory Methodology - An approach for developing theory based on continuous comparison and interpretation of the various findings in the data that is gathered during a research process. Users of this methodology demonstrate how evidence, as a necessary requirement for any theory, can always be found in the real world patterns demonstrated in the data collected.

Heuristics - simple, efficient rules, developed through evolutionary processes or learned, which have been proposed to explain how people make decisions, come to judgments, and

solve problems, typically when facing complex problems or incomplete information.

Historical Research - Research about events in the past; the process of systematically examining past events or combinations of events to arrive at an account of what happened in the past.

Informal conversation - A qualitative research method whereby questions emerge from natural conversation, as opposed to responses to specific questions.

Informed consent - An ethical requirement that subjects understand why they are participating in the research, what will happen to the data that they contribute, and whether there are any negative or positive consequences of their participation.

In-Person Interview - An interview conducted face-to-face

Institutional Review Board – The degree-granting university’s institutional review committee that assesses the ethical acceptability of research proposals.

Internal Validity-The rigor with which the study was conducted (e.g., the study's design, the care taken to conduct measurements, and decisions concerning what was and wasn't measured).

Interviews-A research tool in which a researcher asks questions of participants; interviews are often audio- or video-taped for later transcription and analysis.

Open Coding - The first stage in grounded theory data analysis.

Paradigm- The entire constellation of beliefs, values and techniques shared by a scientific community; the kinds of theories or explanations that are regarded as acceptable, and the kinds of procedure that are used to tackle particular problems.

Participant Checking- Discussion of the researcher’s transcription, characterization, and conclusions with the actual participants during the qualitative research process.

Phenomenology-A qualitative research approach concerned with understanding certain group behaviors from that group's point of view

Proposition – A term somewhat interchangeable with *theory*, more preferable due to the conceptual rather than measurable nature of grounded theory.

Qualitative Research- Research relying primarily on the collection of qualitative data rather than quantitative data. Case study, observation, and ethnography are considered forms of qualitative research.

Qualitative Research Question - An interrogative sentence that asks a question about some process, issue, or phenomenon to be explored.

Reliability-The extent to which a measure, procedure or instrument yields the same result

on repeated trials.

Research Design - the outline, plan, or strategy used to answer a research question

Research Ethics - a set of principles to guide and assist researchers in deciding which goals are most important and in reconciling conflicting values

Research Method - Overall research design and strategy

Research Methodology-Different approaches to systematic inquiry developed within a particular paradigm with associated epistemological assumptions (e.g. experimental research, grounded theory).

Research Problem - An education issue or problem within a broad topic area

Research Proposal - A written document that summarizes the prior literature, identifies the research topic area and the research questions to be answered, and specifies the procedure that will be followed in obtaining an answer to these research questions

Research Topic -The broad subject matter area to be investigated

Rigor-Degree to which research methods are scrupulously and meticulously carried out in order to recognize important influences occurring in an experiment.

Scientifically Based Research - Research that employs systematic, empirical methods that draw on observation or experiment; involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions; relies on measurements or observational methods that provide valid data across evaluators and observers, and across multiple measurements and observations; and is accepted by a peer-reviewed journal or approved by a panel of independent experts through a comparatively rigorous, objective, and scientific review.

Selective Coding - The final stage in grounded theory data analysis

Structured Interview-The interviewer asks the respondents the same questions using an interview schedule - a formal instrument that specifies the precise wording and ordering of all the questions to be asked of each respondent.

Survey-A research tool that includes at least one question which is either open-ended or close-ended and employs an oral or written method for asking these questions. The goal of a survey is to gain specific information about either a specific group or a representative sample of a particular group.

Theme-A recurring issue that emerges during the analysis of qualitative data.

Theoretical Validity - the degree to which a theoretical explanation fits the data

Transcription - Transforming qualitative data into typed text

Transferability-The ability to apply the results of research in one context to another similar context. Also, the extent to which a study invites readers to make connections between elements of the study and their own experiences.

Trustworthiness - A term used to describe whether naturalistic research has been conducted in such a way that it gives the reader confidence in the findings.

Triangulation-The use of a combination of research methods in a study. An example of triangulation would be a study that incorporated surveys, interviews, and observations.

Validity-The degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure. A method can be reliable, consistently measuring the same thing, but not valid.

Verisimilitude-Having the semblance of truth; in research, it refers to the probability that the research findings are consistent with occurrences in the "real world."

APPENDIX B

Consent Form

**University of Oklahoma
Institutional Review Board
Informed Consent to Participate in a Research Study**

Project Title:	INDEPENDENT OVERSIGHT OF NCLB'S RESEARCH-BASED MANDATE: FILLING THE CERTIFICATION GAP OF EDUCATIONAL PRODUCT RESEARCH
Principal Investigator:	Bill Caruthers
Department:	EACS

You are being asked to volunteer for this research study. This study is being conducted by a doctoral student at the University of Oklahoma. You were selected as a possible participant because you are currently active in the educational product industry or are a current district level school administrator with purchasing and compliance responsibility of educational products. Of particular interest are those in administrative or marketing positions with responsibility for specific products. Please indicate your current responsibility below or route this communication to the appropriate respondent.

Please read this form and ask any questions that you may have before agreeing to take part in this study.

*Disclosure of Potential Conflict of Interest – The Principal Investigator in this study, Bill Caruthers, has formed a non-profit organization, Educational Underwriters, Inc. The purpose of this organization is to provide compliance requirement services to educational institutions with No Child Left Behind (NCLB), the common name for the Federal Elementary and Secondary Education Act effective as law since January 2002 in the United States. It is possible that information gained through this research project could be used for proprietary purposes in the future, since Mr. Caruthers may use the information you provide to develop processes and practices for this organization. There is no plan to reimburse you for any profit gained by the organization as a result of information you may provide during these interviews.

Purpose of the Research Study

The purpose of this study is:

To provide information on the educational product industry's knowledge and response to the NCLB scientifically research-based mandate for federally funded school purchases of educational products. The research design is a grounded theory study, driven by the subject responses. It is intended to provide information on the educational

product industry's understanding of and response to the NCLB scientifically research-based mandate for federally funded school purchases of educational products.

Number of Participants

Up to 100 people

Procedures

If you agree to be in this study, you will be asked to do the following:

The subjects will be asked to respond to a pre-determined set of questions. These face-to-face or telephone interviews should last from 30-45 minutes. Interviews will be conducted at the convenience of the participant. Please indicate your preferred method of interview by circling you desired response.

In Person By Telephone

Contact the investigator at: 405-884-2930 or at Bill.J.Caruthers-1@ou.edu

Length of Participation

Subjects may to be re-contacted for clarification of responses. Such contacts will be limited to a single, brief session lasting less than 30 minutes. The study is expected to fully terminate no later than December 31, 2009.

This study has the following risks:

None anticipated.

Benefits of being in the study are

No direct benefits to the participants, however, they will be offered a copy of the results of the full study upon its completion.

Alternate Procedures:

Alternate means of participation beyond face-to-face have been addressed by allowing participation through telephone.

Injury:

Though no reasonable personal risk is foreseen, in case of injury or illness resulting from this study, emergency medical treatment is available. However, you or your insurance company may be expected to pay the usual charge from this treatment. The University of Oklahoma Norman Campus nor the investigator has set no funds to compensate you in the event of injury.

Confidentiality

In published reports, there will be no information included that will make it possible to identify you without your permission. Research records will be stored securely and only approved researchers will have access to the records.

There are organizations that may inspect and/or copy your research records for quality assurance and data analysis. These organizations include OU study Sponsor Dr. Courtney A. Vaughn and the OU Institutional Review Board.

Individual records will be destroyed upon completion of the study.

Compensation

You will not be reimbursed for you time and participation in this study.

Voluntary Nature of the Study

Participation in this study is voluntary. If you withdraw or decline participation, you will not be penalized or lose benefits or services unrelated to the study. If you decide to participate, you may decline to answer any question and may choose to withdraw at any time.

Waivers of Elements of Confidentiality

Your name will not be linked with your responses unless you specifically agree to be identified. Please select one of the following options

_____ I consent to being quoted directly.

_____ I do not consent to being quoted directly.

Audio Recording of Study Activities

To assist with accurate recording of participant responses, interviews may be recorded on an audio recording device. You have the right to refuse to allow such recording without penalty. Please select one of the following options.

I consent to audio recording. ___ Yes ___ No.

Contacts and Questions

If you have concerns or complaints about the research, the researcher(s) conducting this study can be contacted at:

405-884-1041 or at Bill.J.Caruthers-1@ou.edu

Faculty Sponsor: Dr. Courtney A. Vaughn 405-325-1518 vaughn1@ou.edu

Contact the researcher(s) if you have questions or have experienced a research-related injury.

If you have any questions about your rights as a research participant, concerns, or complaints about the research and wish to talk to someone other than individuals on the research team or if you cannot reach the research team, you may contact the University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at 405-325-8110 or irb@ou.edu.

You will be given a copy of this information to keep for your records. If you are not given a copy of this consent form, please request one.

Statement of Consent

I have read the above information. I have asked questions and have received satisfactory answers. I consent to participate in the study.

Signature

Date

APPENDIX C

Sample Interview Questions Outlined for Research Participants (Vendors)

1. What is your connection to the educational product industry?
2. Describe your awareness of the “Scientifically Based Research” requirement for federal reimbursement to schools within the No Child Left Behind legislation?
3. How has the “Scientifically Based Research” requirement impacted your business practices?
4. To your knowledge, prior to NCLB was scientifically-based research sought or referred to in developing or marketing educational products?
5. What role does research play in relation to product development in your firm?
6. How has the role of research changed within your company as a result of NCLB?
7. What role does research play now in marketing your products?
8. Please characterize your market concerns in reference to compliance with the “Scientifically-Based Research” requirement of NCLB?
9. Overall, do you see the greater emphasis on research as a positive or negative on education today and why?
10. What are your perceptions on the role of oversight in the educational industrial complex, now and in the foreseeable future?

APPENDIX D

Sample Interview Questions Outlined for Research Participants (Consumers)

1. What is your role in the selections of educational products?
2. Describe your/your school's awareness of the "Scientifically Based Research" requirement for federal reimbursement to schools within the No Child Left Behind legislation?
3. How has the "Scientifically Based Research" requirement affected the educational product selection process at your schools?
4. How can you/do you assure SBR compliance at your school?
5. Does a claim of SBR compliance enhance a product in your selection process?
6. How important is product research in your selection process?
7. What role does marketing play influence purchasing at your district?
8. Do you have concerns at your school in reference to compliance with the "Scientifically-Based Research" requirement of NCLB?
9. Overall, do you see the greater emphasis on research as a positive or negative on education today and why?
10. What are your perceptions on the role of oversight in the educational industrial complex, now and in the foreseeable future?
11. As an administrator, what could be most helpful to your selection process in relation to liability and the SBR mandate?

APPENDIX E

RESEARCH REVIEW INSTRUMENT

Product/Vendor	Points Awarded
<p>Application SubmissionPossible Points: 30</p> <p>(5 Possible) -- Researcher Credentials/ Professional Affiliations</p> <p>5 points -- Head researcher must hold a doctoral degree in Education or related field to qualify for any points in this section. Graduation date, university name(s)/locations, and dissertation title(s) must be included. Co-researchers hold doctoral degrees in education or related field. Head researcher shows history of publication or professional presentation in peer-reviewed journals and holds active memberships in research-related professional organizations.</p> <p><u>Deduct 1 point for each of the following:</u></p> <ul style="list-style-type: none"> • Co-researcher(s) do not hold doctoral degrees • Title of dissertation not included. • Evidence of publishing not provided • Evidence of active membership in research-related professional organizations not provided. <p>(5 Possible) -- Research Publication</p> <p>5 points -- Research has been published under the name of the head researcher in Peer-Reviewed Journal (or) printed in book form as a dissertation or publication of University-Affiliated research organization, and presented at professional venue sponsored by research organization.</p> <p><u>Deduct 1 point for each of the following:</u></p> <ul style="list-style-type: none"> • Date of publication is greater than 10 years from application date. • Research has not been presented at a professional venue sponsored by research organization. • Research is presented as an unpublished dissertation. <p><u>Deduct 2 points for each of the following:</u></p> <ul style="list-style-type: none"> • Research publication was not peer-reviewed. • Research publication was not university-affiliated. <p>(5 Possible) -- Product/Company History</p> <p>5 Points – Company has a long history of providing quality educational products and product associated with research being reviewed has adequate track-record of successful implementation in school settings.</p> <p><u>Deduct 1 point for each of the following:</u></p> <ul style="list-style-type: none"> • Company is fewer than 5 years old. 	<hr/>

<ul style="list-style-type: none"> • Product has been on the market for fewer than 5 years. • Product has been implemented in school setting for 2 years or less. <p>_____ (5 Possible) -- Company Mission Statement/Educational Philosophy</p> <p>Company must have a clear educational mission statement which includes a description of its guiding educational philosophy. Mission statement must promote the common good of public education, express a commitment to research-based practices, and describe the company’s underlying educational philosophy.</p> <p><u>Deduct 1 point for each of the following:</u></p> <ul style="list-style-type: none"> • Mission statement lacks promotion of common good of public education. • Mission statement does not express a commitment to research-based practices. • Company does not describe its underlying educational philosophy. <p>_____ (10 Possible) -- Assurances</p> <p>“Assurances” refers to the overall completeness of the application, submission of supporting documents, and appropriateness of the information provided.</p> <p>Deduct one point for each of the following:</p> <ul style="list-style-type: none"> • Incomplete information or blank sections. • Incorrect number of copies of research materials provided. • Supporting documents/certifications of head researcher incomplete. • Other necessary supporting evidence not included. • Other: <p>_____</p> <p>Total _____</p>	
<p>Research RequirementsPossible Points: 70</p> <p>_____ (70 Possible) Direct Experimental or Quasi-Experimental</p> <p>_____ (50 Possible) Applied Experimental or Quasi-Experimental</p> <p>_____ (30 Possible) Direct Qualitative</p> <p>_____ (20 Possible) Applied Qualitative</p> <p>_____</p> <p>To qualify for full possible points, all research must satisfy AERA Standards for Reporting on Research Methods:</p> <ol style="list-style-type: none"> 1. Problem Formulation 2. Design and Logic 	

<ul style="list-style-type: none"> 3. Sources of Evidence 4. Measurement and Classification 5. Analysis and Interpretation 6. Extrapolation 7. Ethics in Reporting 8. Title, Abstract, and Headings 	
<p>Total Points</p>	
<p>SBR Compliance Rating: RRI review components comprise a 100 point score. Products which are listed receive a rating based on their review:</p> <p style="padding-left: 40px;">90 -100 Superior 80-89 Excellent 70-79 Satisfactory 69 or Below – Provisional: Improvements, additions, or clarifications need to be made according to reviewer recommendations. (See accompanying Report.)</p>	<p>Rating:</p>