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**THE ROLE OF LOCAL CHANGE AGENTS’
BELIEFS IN THE IMPLEMENTATION OF
THE NO CHILD LEFT BEHIND ACT**

A Thesis in
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by
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ABSTRACT

The No Child Left Behind Act (NCLB) mandates that all children will achieve proficiency on assessments of rigorous academic standards, which contradicts what are assumed to be commonly held beliefs about intelligence: namely that not all children are intellectually capable of rigorous academic achievement. This study examines whether this belief is indeed commonly held in one school district by identifying and describing educators' beliefs about intelligence. In educators' discussions of NCLB, conceptions of intelligence were not a salient factor. Implications of this finding are discussed. In educators' discussions of local policies, certain beliefs about intelligence were salient, particularly regarding the development of ability in very young school children. Participants used the rhetoric of NCLB's and the state's mandates in ways that suggest that such policies are influencing some of the rational myths legitimating educational practice.

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Chapter 1

Introduction, Research Questions, and Assumptions

According to Ex-Secretary of Education Rod Paige and President Bush, one of the sources of American public schools' perceived woes is the "soft bigotry of low expectations" (Paige, 2003). Their remedy for these low expectations lies in the mandates of their educational reform, the No Child Left Behind Act (NCLB) of 2001, which call for higher academic achievement within a standards-based curriculum by all students, particularly those who have been traditionally underserved by public education. Research supports the idea that teachers' expectations of students can indeed influence student achievement and, furthermore that students' expectations of their own abilities mediate their achievement (Dweck & Leggett, 1988). Authors of the policy expected that academic standards combined with measures of accountability would combat the dampening effects of low expectations on achievement, particularly for students of poverty.

Definitions and assumptions about intelligence are often implicit in educational policies or unarticulated in decision making (Brown-Miller, 1995). In the rhetoric of NCLB are implicitly *and* explicitly stated beliefs that schools can mitigate the effects of poverty on scholastic achievement, close the achievement gap between minority and white and poor and wealthy students, and that every student is capable of high academic achievement (in contrast to basic skills). Beginning under President George H. W. Bush, educational reformers have called for increasing the cognitive demand of the curriculum

and for more demanding pedagogy, notions that challenged “popular conceptions of teaching, learning, and subject matter” (J. P. Spillane, B. J. Reiser, & T. Reimer, 2002, p. 387). The popular conception Spillane et al. refer to specifically is that all children *cannot* be expected to achieve rigorous academic standards. Since at least the 1930s and until recently, schools have made specific accommodations and created structural and programmatic conditions for the different academic levels children were expected to achieve, as in the cases of tracking and ability grouping. Thus, the rhetoric of school reform under NCLB represents a polar change from the traditional belief that all children *do not* have the ability to achieve high academic standards – which led to curricular differentiation (Persell, 1977) – to the expectation that they will. This rhetoric sets up a potential clash in beliefs by challenging the rationalized myths (Meyer, 1977) that support many of the institutional structures of American public education. This may in turn create opportunities for the misimplementation of policy at the local level.

The shift in policy rhetoric reflects the significant new understandings of the many variables that impact achievement, one of which is intelligence. Theories of intelligence have broadened in the recent decades from a psychometric *g*-based view of intelligence (as a single predominantly hereditary and measurable power that varies among individuals and that has significant influence on life course trajectory) to a conceptualization of ability “as a hierarchy of narrow abilities underlying multiple broad abilities” (Woodcock, 2002, p. 7). Emergent socio-cognitive conceptualization hold that intelligence is significantly responsive to either beneficial or deleterious environmental influences, is partially determined by heredity but which emerges in complex interactions

with environmental circumstances, and which is in some part a product of social interaction.

Two traditionally competing implicit assumptions about schooling are that 1) schooling is provided as a mechanism to allow each person to achieve their potential, and 2) schooling is a means by which personal potential is enhanced. The first assumption is more aligned with psychometric views of intelligence, the second with socio-cognitive views of intelligence. These are not necessarily mutually exclusive ideas; however, at their root they are different in that the first assumes a set level of potential, whereas the second assumes that potential is variable.

Current research on the origins and nature of intelligence suggests that people's performance on tests of intelligence is effected by a range of environmental conditions, from individual level bio-medical influences such as the presence of contaminants (e.g. lead) during fetal gestation and early childhood, to macro-level sociological phenomena in theories which posit that intelligence is socially constructed and socially bound. Thus there are varied and sometimes conflicting beliefs about the nature of intelligence and the role it plays in achievement. Additionally, recent evidence shows that intelligence test scores can be improved through training (is mutable), though few theories dispute that genetic variation plays some role in the differences observed in intellectual ability between individuals (Jensen, 1969; Murray & Herrnstein, 1994; Sternberg, 1996).

Researchers' conceptions of what intelligence actually *is* have changed in the last half century. The debate over the nature of intelligence that has been broiling since the first modern efforts to define it (Boring, 1929) is still active (see conflicting views of g in

Gottfredson, 2004; Sternberg, 1999). The nature vs. nurture debate is considered moot; nature and nurture, it is now believed, interact in complicated and often unpredictable ways to shape a person's intelligent functioning and life trajectory (Ceci, 1990).

For example, in a recent study of twins researchers found that the amount of variance in IQ attributable to environment or heredity differed between low-SES and high-SES families; in low-SES families the amount of variance in IQ attributable to environment was close to 60% while the amount of variance attributed to genes was close to zero. In high-SES families, the result was almost the opposite (Turkheimer, Haley, Waldron, D'Onofrio, & Gottesman, 2003). Thus intelligence proved to be sensitive to environmental conditions for children from impoverished families, but not for children from wealthy families.

The relevant implication of Turkheimer's study is that there is new evidence supporting expectations for high achievement from children who have traditionally been "left behind," assuming that schools can contribute to creating a beneficial learning environment for children from impoverished families. Alternatively, it is possible to interpret the findings of studies differently: if the environmental conditions of the home can so strongly effect the realization of intellectual potential then then it is reasonable have lower expectations of children who come to school with poverty backgrounds.

Policy implementation research suggests that local policy results from the intersection between external mandates, local exigencies (such as population served, resource availability or capacity, local history), and personal variables such as the will, values, and beliefs of local policy actors. What has not so thoroughly been explored until

recently is that last factor, of which beliefs about intelligence are a subset. Questions at the root of this study are: What are local educational administrators' beliefs about intelligence, the students from the communities they serve, and the recent changes in policy since the implementation of NCLB? And how do these beliefs operate in local policy implementation? Does NCLB's mandate that all children must achieve rigorous academic standards trigger beliefs about intelligence, and are those beliefs at work in any way when it comes to school-level implementation of policy?

Another question is whether the current shift in the conception of ability embodied in the rhetoric of NCLB has reached school-level actors. Historically, at least since the enforcement of compulsory schooling laws, American education has involved ability grouping in some form, from rigid tracking to the availability of Advanced Placement and remedial courses by subject (Oakes, 1985; Ravitch, 2000; D. Tyack, 1974). In the early twentieth century ability grouping was used as a pedagogical reform to address the perceived problem of educating children of different abilities (see Terman, 1923). Tracking thus reified and legitimized a notion of ability, of "intelligence," in such a way that different levels of ability could be visibly divided from one another (Oakes, 1985).

Theoretically, teachers and school administrators learn their conceptions of intelligence from their "apprenticeship" as students (Lortie, 1975), in their teacher training programs, from their classroom teaching experience, and from their lived experience outside schools as well. Is it not unreasonable to assume that many educators' beliefs about intelligence more likely reflect traditional rhetoric rather than new reform

rhetoric? In fact, this was the finding of a recent study of educational reform in South Carolina (Spillane, 2002a), and a recent study of TIMSS data revealed that there was much greater cultural support for differentiated curricular opportunities (tracking) among educators and parents than had previously been believed by academics (LeTendre, Hofer, & Shimizu, 2003). Do teachers and administrators today indeed believe that all children are capable of achieving high academic standards? If they do not, what are the ramifications for NCLB and other reforms that mandate equality of achievement?

My use of the term intelligence is not to be understood to relate to any particular theory of intelligence, but rather to the “folk” beliefs about intelligence, that is lay theories and popular conceptions educators have gained from informal sources. My interest in how educators think, or at least talk, about intelligence is not related to the accuracy of educators’ beliefs related to any particular psychological or neurological research on intelligence or human learning, but rather in describing what those beliefs are. My specific interest is in whether educators believe that intelligence is “a hierarchical model of abilities, with *g* at the top¹, two major group factors – verbal-educational ability and spatial-mechanical ability – on the second tier, minor group factors on the third, and specific factors on the fourth” (Wagner & Sternberg, 1984, p. 181), which would imply that different expectations for individuals or groups of individuals are possible based on perceptions of their “level” of intelligence. Holding such a belief would have special

¹ Spearman’s *g*, or general factor, arrived at by early factor analyses to identify the abilities that were most closely correlated with performance on early intelligence tests.

ramifications in relation to educators' perceptions of the rhetoric in NCLB that all children are to be expected to achieve rigorous academic standards.

Additionally, since beliefs about intelligence and race or class have been linked since the origins of research on human intelligence (Gould, 1996; Jensen, 1969; Kamin, 1974; Murray & Herrnstein, 1994; Terman, 1923), I was curious to explore whether discussions about students' intelligence seem to carry any proxy relationship to beliefs about different social classes or races. Exploring whether educators have different expectations of children from racial groups or social classes is important, since a stated goal of NCLB is to eradicate the achievement gap, "especially the achievement gaps between minority and nonminority students, and between disadvantaged children and their more advantaged peers" (107th Congress, 2002, p. 1440).

The Non-finding and the turn

As the introduction above suggests, I began this study with the intention of describing the nature of the beliefs about intelligence that local policy agents hold and exploring how those beliefs may be involved in the interpretation of the "all-child" rhetoric of NCLB, and how those beliefs may be involved in policies choices local agents make in response to the mandates of the No Child Left Behind Act. While I found that differing conceptions of intelligence were behind conflicts about local policies (which I detail in Chapters 4 and 9), I did not find that they had any explicit bearing on local policy responses to the mandates of NCLB. Instead I found that educators, especially

principals and school psychologists, were far more concerned about the aggregated achievement of all of their students. They were focused on decisions related to the early identification and remediation of learning disabilities related to reading, but not intelligence or IQ. As one school psychologist reported,

You know the thing is, in school, as far as intelligence, I don't know that it comes up a whole lot. Everything shifted years ago. It's really only achievement that gets out and it's in the same areas that match what schools address primarily nowadays: reading, writing, math.

That schools in the research site primarily target reading and math is not coincidental: reading and math are the first subjects targeted for measurement under NCLB's implementation plan.

The lack of discussion about intelligence (the non-finding) in this district as it relates to policy choices in response to NCLB implies that the current educational policy climate of standards-based accountability has prioritized academic achievement to the extent that it has obviated attention to IQ or intelligence-related factors, such as the importance of innate individual differences to the structures and curriculum of schooling. Attention to IQ, IQ tests, and IQ test scores in education had served as a legitimating ideology for the structure and content of American schooling for decades (Gardner, 1992; Oakes, 1985; Ravitch, 2000; Rosenbaum, 1976; Sarason, 2001; Richard E. Snow, 1982; Stevenson & Stigler, 1992), an ideology that had negative consequences for minority and low-income children (Kamin, 1974; Kornhaber, 1997; D. Tyack, 1974; Valenzuela, 1999; Wrigley, 1982). Thus in Chapter 9, I turn away from much discussion about the importance of beliefs about intelligence to policy responses to NCLB's mandates, and instead to a discussion of the implication of this non-finding, which suggests that new

core myths (J. W. Meyer & Rowan, 1977) about education are extant or emerging in the schools of Central School District. I also report on evidence of how local responses NCLB are “coupling” the process of education according to statements made by educators in this district (I did not conduct observations of classroom behavior). Chapter 4 describes the local policy context, recent changes to policy in the district, introduces policy actors, and presents some of the evidence discussed in Chapter 9. Chapters 5-8 are descriptions of local educators’ beliefs about intelligence. In these chapters I also discuss local reactions to NCLB, and views of how family situations effect learning in school. The latter topic is relevant because study participants overwhelmingly felt that home lives and family situations were the most critical variable explaining success in school for children without disabilities.

Though my findings in part lead me away from my original interest, I present below the original questions with which I began the study, with the addition of a fourth question that arose from and are addressed in the data.

Research questions

How much personal beliefs matter to the implementation of external reforms at the school level is a question that researchers like Spillane have been seeking to answer recently. Scholarship has argued that schools reify and reward (Carson, 2003; Oakes, 1985; Oakes & Guiton, 1995; Snellman & Raty, 1995), or at least are better suited to (Gardner, 1992; Okagaki & Sternberg, 1993; Richard E. Snow, 1982, 1986; Richard E. Snow, 1996) particular conceptions of intelligence. Thus, the purpose of this study was to

explore educational administrators' (principals and school psychologists specifically) conceptions of intelligence and to see if those differing conceptions seemed to have any implications as they react to the rhetoric and mandates of the 2001 reauthorization of the Elementary and Secondary Education Act, commonly known as the No Child Left Behind Act, in the implementation of that bill's mandates. I approached the study with the following questions:

- 1) What are this district's educators' beliefs about intelligence?
- 2) Which, if any, of these beliefs do administrators bring up in discussions of local policies or changes to policy?
- 3) What other beliefs are triggered by the "all-child" rhetoric of NCLB?

An additional question that arose during the analysis of the data is:

- 4) What are the ramifications of the fact that educators do not feel that intelligence is an area of focus during the daily operation of schooling?

Chapter 2

Review of Relevant Literature

Background and Need for the Study

Edmonds (1979) reported that a series of studies conducted in the U.S. in the 1970s found that “effective” schools in Michigan and New York were staffed by principals and teachers who believed that *all students* were capable of improving their low levels of achievement. In contrast, the staff of demographically similar schools in those studies whose students’ scores were declining had more pessimistic views of their ability to raise student achievement. What affected the staffs’ beliefs that all children could improve? Did they have beliefs about intelligence that led them to expect that students who were performing at low levels simply could not achieve at a higher level? The latter question is not answered in the effective schools literature. The original focus of this study was on educators’ beliefs about intelligence. It sought to identify educators’ beliefs about intelligence, and to determine if and how their beliefs operate in decision making at the school level in response to a policy which calls for the success of *all* children.

Recently, state educational officials encountered inconsistent implementation of a reform effort mandating high academic achievement for all students in South Carolina schools. Spillane (2002a) found that “local educators’ comments [about students] echoed popular societal views that some children will do better than others academically because of ‘innate ability.’” This finding is echoed by what McLaughlin and Talbert (1993, p. 242) called the first “constraining myth” teachers may believe about their students: “these

kids can't do it." In Spillane's study, local principals and teachers did not accept the assumption inherent in the South Carolina reform's rhetoric that all students innately possess the intellectual ability required for high achievement. Specifically, they were most doubtful that minority children and children of poverty were capable of overcoming their "deficiencies" well enough to achieve high academic standards². As a result, local educators shelved proposals for more intellectually challenging content and pedagogy they felt were inappropriate for those groups of students, compromising the integrity of the reform. Instead, they focused on courses that reinforced basic skills acquisition for "deficient" students, to the extent that those students never encountered intellectually demanding coursework. Spillane concluded that "it is necessary to consider [policy] enactors' knowledge and convictions about students in relation to their beliefs about teaching, learning, and classroom management." It is also necessary to consider their beliefs about intelligence, as my discussions of local policy decisions will show.

Spillane's findings suggest that what school-level administrators and teachers believe students are intellectually capable of is an important component (directly or indirectly) in students' academic achievement. Of course, the variables that interact to effect student achievement are numerous and complex, and any direct measurable influences of educators' beliefs about intelligence or ability on students' academic achievement would be very difficult to acquire. However, researchers have explored some of the components of the relationship between beliefs about intelligence and

² Participants in Spillane's study indicated that the source of student deficiencies lay in circumstances they identified as cultural and home-environment based; while they located the deficiencies in minority students their descriptions did not go so far as to be overtly racially based.

academic achievement (these will be discussed more thoroughly below). The importance that students' own beliefs about intelligence play in their academic achievement is the most thoroughly studied and conclusively established component. Teachers' beliefs have been found to influence pedagogical practice (e.g. M. Kennedy, 2004; e.g. Thompson, 1992), although efforts to describe the interactions between educators' beliefs specifically about intelligence and their beliefs about teaching and learning (reviewed below) are fairly limited. The literature on teacher expectancy effects (see Babad, 1998 for a review) allows for some inferences to be made between teachers' beliefs about intelligence and student achievement, but they are tenuous. Finally, the exploration of administrators' beliefs about students, learning, and teaching and their policy choices effecting student academic achievement has been fairly limited.

Addressing this omission in the literature is needed for several reasons. Knowing how personal beliefs about intelligence direct educational leaders' behaviors in the fulfillment of their roles seems crucial to understanding the formulation or implementation of school policy related to student achievement. In loosely coupled organizations like schools, the "street level bureaucrats" (Lipsky, 1980) have some fair influence on the success or failures of reforms (Coburn, 2001; M. M. Kennedy, 2004; Loveless, 1999; McLaughlin, 1987; Spillane, 1998a). Sabatier (1986) argued that

...the most useful aggregate unit of analysis for understanding policy change in modern industrial societies is not any specific governmental organization but rather a policy subsystem, i.e. those actors from a variety of public and private organizations who are actively concerned with a policy problem or issue....

Much of the traditional policy analysis literature is dominated by the rational-actor model in which the will of school-level actors to implement reforms or policies is

described as being effected by incentives or sanctions written into the mandates. However, there are compelling arguments that this model is incomplete without discussion of the role that prior knowledge, beliefs, and attitudes play in the sense-making process that policy implementers go through as they deal with reform mandates (J. Spillane, B. Reiser, & T. Reimer, 2002; Weick, 1995). In the case of achievement-related reforms, the sense that local level policy implementers make of the reform hinges on their beliefs about the efficacy and utility of those policies.

School-level decisions are made by individuals whose motivations to some extent have been outside the purview of organizational-level influences such as incentives and sanctions. The accountability measures in NCLB were specifically designed to bring incentives and sanctions within reach of principals and teachers, however. Still, the intriguing fact that individuals influence the local quality of broad-based reform implementation has been the focus of some policy research. As McLaughlin put it, “[t]he idea that policy-directed change is a problem of the smallest unit shifts analysis from institutions and their goals to individual incentives, beliefs, and capacity” (McLaughlin, 1987, p. 173; McLaughlin & Talbert, 1993).

Before I examine the roles that local actors play in policy implementation at the school level, it is necessary to define “beliefs” as used in this particular study.

Beliefs

Beliefs are personally held constructs of phenomena “embedded in frames such as ideologies or paradigms, that influence what people notice and how events unfold.”

(Weick, 1995)³. Weiss (1983) described the basis of policy positions as rooted in ideology, interests, and information. Beliefs are a subset of the information, or “factual assumptions” (some of which may be “partial, biased, or invalid” (p. 225), which policy actors bring to bear on their decisions. Information may also be based on “craft lore” (p. 227) or a product of formal or informal education or training in a professional field. As such, beliefs are at the root of the “rationalized patterns, models, or cultural schemes” that may be incorporated by organizations “through professional and scientific analyses or the models set by exemplary organizations” (J. W. Meyer, 1994, p. 33).

Information is different from ideology in Weiss’ model in that ideology is a normative construct encompassing moral and ethical values; information is descriptive and embedded in an individual’s explanatory model of some phenomenon. As you will see reflected in the comments made by different participants in this study, “the model may be more or less complex, dealing only with X or Y, or also encompassing intervening and countervailing changes in T, U, V, and W, en route to changes in Y. The model may be supported by scientific research, experienced judgment, folk wisdom, or gut feeling” (Weiss, 1983, p. 225).

McLaughlin (1987) argued that since educational policy cannot “mandate what matters” at the local level, specifically the capacity and will of actors, incentives and individual actors’ beliefs become the salient variables explaining their responses to external policy mandates. The structure of these beliefs is often so deeply engrained in

³ This theory is assumed in the theoretical framework I detail in Chapter 3.

the culture of schooling, or in cultural beliefs about the nature of knowledge that policymakers' and educators' decisions are unconsciously guided by them (Cuban, 1993).

Information in Weiss' model, including beliefs, may also be communicated through organizational channels. In schools, this may take the form of official statements such as mission or policy documents, or state standards documents. At the school level as well, beliefs are communicated directly or indirectly for example by conflict resolution programs, or a particular focus on problem solving skills throughout the curriculum as opposed to being covered separately.

Finally, beliefs are learned through lived experience, both in and out of institutions in which those beliefs may be pertinent to the job actors do as functionaries of them.

Beliefs About Intelligence

Beliefs about intelligence differ among and between experts and laypeople (i.e. neither psychologists nor educators), but can be grouped under one of seven "metaphors of mind," which generally describe differing paradigms for intelligence (Cianciolo & Sternberg, 2004; Sternberg, 1990).

Metaphors of Intelligence

Sternberg labeled the seven different metaphors: Geographic, Computational, Biological, Epistemological, Anthropological, Sociological, and Systems metaphors of mind. I will describe here the five metaphors that were raised by participants in the study (see Cianciolo & Sternberg, 2004, or Sternberg, 1990 for descriptions of the others).

The geographic metaphor conceptualizes a structural order to the mind that theoretically be mapped. Psychometricians typically follow this paradigm in factor analytical studies of intelligence. The geographic metaphor is typified by the theory of the general factor (Spearman's *g*) of intelligence. Under this metaphor, intelligence composed of measurable and hierarchical abilities; people too are hierarchically rankable according to their performance on *g*-related tasks. The classical conception of intelligence, defended by Terman, Goddard, Yerkes and other psychologists and test creators in the first half of the century, is a geographical metaphor. Modern proponents of this metaphor include Jensen, and Murray and Herrnstein.

The biological metaphor situates intelligence in the brain and its physiological components, as opposed to the mind. Under this metaphor, intelligence is a product of the structure and organization of the brain. For example, biological studies of intelligence relate intelligence to synaptic organization ("wiring" to participants in this study), inherent propensities for certain abilities such as language, the regionality of specific performances, electrocortical activity, even brain volume.

The epistemological metaphor is primarily a product of Jean Piaget's stage theory of the development of intellectual competence. Piaget's original theories have been expanded by neo-Piagetian theorists (e.g. Fischer, Siesler, Case) who propose that cognitive development progresses in stages roughly related to physiological maturation.

The sociological metaphor is stems primarily from the work of an individual, in this case, Lev Vygotsky. Under this metaphor intelligence is a product of a bi-directional interaction between the individual and social structures that range in scope and size from interpersonal relationships (e.g. with a teacher), to symbolic representations of

knowledge (books), to structures of governance. Participants in this study were most concerned with the effect of family systems on the development of a child's willingness or ability to function in a school setting.

Finally, the systems metaphor describes intelligence as a product of multiple interdependent phenomena that encompass dimensions of other metaphors of mind. Systems theories, for example, may see the expression of a general factor of intelligence as socially mediated. The most notable systems theory of intelligence is Howard Gardner's theory of multiple intelligences, which many participants in this study discussed as playing an important in their personal beliefs about intelligence. One systems theory of intelligence, Ceci's (1990) bioecological model, encompasses all of Sternberg's metaphors.

I am most – but not exclusively – concerned with the educational implications of one particular dimension of a person's beliefs about intelligence namely the mutability of intelligence, or the extent to which heredity, or environment, or an interaction between heredity and environment influence one's intelligence. Within the above framework of the seven metaphors of intelligence, people may generally subscribe to one of two competing conceptions of the nature of intelligence, either: 1) that intelligence is a quantifiable entity that exists inside people's heads, the bounds of which are fixed and which may be used to rank individuals (entity theory), or 2) that intelligence is a malleable set of mental processes which can be improved through effort (incremental theory)(Dweck & Bempechat, 1983; Dweck & Leggett, 1988; Mugny & Carugati, 1989; Nicholls, Patashnick, & Mettetal, 1986; Schommer, 1990).

The terms entity and incremental theory are taken from Dweck and Bempechat's (1983) study; other epistemological research has described parallel constructs. Entity theory corresponds roughly with classical and psychometric conceptions of intelligence, and the geographical metaphor. Incremental theory roughly corresponds to systems and sociological metaphors of intelligence.

Much research on intelligence recently has posited that environment and heredity interact in complicated ways to influence the expression of intellectual potential. "Interactionists" argue that genetic propensities predispose individuals toward certain environments, and conditions in those environments in turn reward and strengthen those genetic propensities (Scarr, 1986). Ceci's bioecological model of intelligence is deeply interactionist, and Ledoux (2002) has pushed the perspective further by positing that genes and environment act *in the same way* on an individual by influencing the development of synaptic structures. Researchers who have presented these theories of intelligence define it with computational, biological, and epistemological, and systems metaphors. Their views are commonly referred to herein as *cognitive* conceptions of intelligence. Computational, biological, and epistemological metaphors all reflect the interactionist perspective, and are concerned with the role of genetic factors.

Metaphors of mind that downplay (but don't deny or concern themselves with) the role of genetics relative to environmental phenomena in the phenotypic expression of intelligence include the sociological and anthropological metaphors. Their views are commonly referred to herein as the *socio-cultural* conceptions of intelligence. While both the epistemological and sociological metaphors are interactionist, they begin at oppositional points. The epistemological metaphor (which is rooted primarily in Jean

Piaget's theory of intellectual development) begins with internal factors and moves outward to social and cultural phenomena that act with and upon them. The sociological metaphor (which is rooted primarily in Lev Vygotsky's theory of the social nature of cognitive performance) begins with social phenomena that act with and upon the internal conditions of the learner (Sternberg, 1990).

Other researchers have raised serious concerns with hereditarian views and argue that environmental, social, and cultural variables have significant impact on individual attainment of what is measured as IQ on intelligence tests; indeed there are many who have grave issues with the notion of IQ at all (e.g., Kamin, 1974). The views of these oppositional groups are not monolithic or characterized necessarily by many commonalities in their views on the nature of intelligence, excepting in many cases their opposition to the classical or psychometric conception of intelligence.

I will review later the ways in which students' and educators' conceptions of intelligence are relevant to learning and teaching. First, however, it is necessary to review general publicly held conceptions of intelligence and ability because intelligence is in some measure socially constructed (Ceci, 1990; Gardner, Kornhaber, & Wake, 1996; Greenfield, 1997; Kamin, 1974; Mugny & Carugati, 1989; Oakes, Wells, Jones, & Datnow, 1997; Okagaki & Sternberg, 1993). Reform efforts that challenge common conceptions of intelligence (such as mixed-ability grouping and detracking) have occasionally met with stiff public resistance (Kohn, 1998; Oakes & Wells, 1998). I therefore review the context of common beliefs about intelligence prior to discussing of student's and educators' conceptions of intelligence.

European studies

There is a significant body of work that demonstrates that conceptions of intelligence differ significantly across nations and between cultures (e.g. Gardner, 1983; Greenfield, 1997). Cultural differences, as well as differences in intelligence orientation generally, have implications for child rearing practices (Miller, 1988; Okagaki & Sternberg, 1993; D. Rosenthal & Gold, 1989). However, citizens of Western industrialized nations share a great deal of commonalities and some notable differences in their conceptions of intelligence.

Studies of popular beliefs about intelligence are relatively rare, do not necessarily specifically describe respondents' intelligence orientations, and produce findings that conflict with experts' theories of intelligence. For example, in a sample of Finnish respondents, people believed that genes were the main determinants of intelligence, but "the notion of intelligence as a fixed inborn gift was largely rejected" (Raty, Snellman, & Vornanen, 1993, p. 64). Nonetheless, the first factor Raty, et al. extracted from their analyses was labeled "the theory of natural inequalities."⁴ This factor was characterized by responses that indicated a belief in "intelligence construed as a real thing: a general, inherited, and fixed capacity that can be measured objectively and should be tested widely" (Raty et al., 1993, p. 63). Their findings confirmed the results of another study using a sample of Italian and Swiss subjects, in which Mugny & Carugati (1989) found that "...popular views of intelligence seem to be closer to the psychometric approach, in which intelligence tests enable an intellectual quotient to be assessed...."

⁴ There were three factors, which explained 33.9% of the variance; their first factor explained 17.1% of the variance alone, and had an eigenvalue of 3.92.

A Finnish study confirmed a “theory of natural inequalities” that emerged in factor analyses, although the sample was designed to assess the responses of school teachers, and university faculty and students (Snellman & Raty, 1995). Raty, et al. (1993) reported that two earlier British studies of popular conceptions of intelligence exist, dated 1947 and 1975. The findings of the 1975 study were comparable to the results of the above studies. Finally, a cross-national study of British and Portuguese elementary school teachers’ and students’ conceptions of intelligence found that “teachers’ implicit conceptions of intelligence reflect a view of intelligence that is similar to what IQ tests measure” (Pretzlik, Olsson, Nabuco, & Cruz, 2003, p. 579).

Thus, Europeans from five nations (Britain, Finland, Italy, Portugal, and Switzerland) across twenty years adhered to a conception of intelligence most closely associated with the psychometric paradigm, in which *g* is superordinate, with crystallized and fluid skills subordinate to *g*, with other specific skills subordinate to those. Almost all of these studies, however, also describe a public conception of intelligence that is often contradictory and that resists absolute definitions of intelligence.

American studies

In American studies of lay and expert adults, Sternberg and his colleagues found that Americans also have a view of intelligence that reflects the psychometric view (Sternberg, Conway, Keton, & Bernstein, 1981). Respondents identified components of intelligent behavior that parallel to fluid and crystallized intelligence, plus a third factor, social intelligence.

Sternberg's study did not address people's conceptions of the fixed or malleable nature of intelligence but a later study of adults' conception of intelligence across the lifespan did. In that study, Berg and Sternberg (1992) found that, unlike the findings from the European studies, a very small proportion of adults surveyed (3.8%) believed intelligence is fixed. Most (78%) believed that a person's intelligence can increase or decrease over time, and another large minority believed that it can increase, but not decrease. In the European studies which included participants ranging in age from 20 to their late 60s, age was significantly related to views on intelligence, with older respondents generally having more traditional views of intelligence (Mugny & Carugati, 1989; Raty et al., 1993; Snellman & Raty, 1995). Berg and Sternberg's sample, however, was composed of 30- to 70-year old adults⁵.

However, most other studies of Americans' beliefs about intelligence reviewed here, many of which occur in school contexts with students and teachers primarily the research participants, find that Americans are more evenly divided on the issue of whether intelligence is fixed or malleable. Dweck's series of studies typically show that about 43% of respondents see intelligence as fixed, 43% as modifiable, with 10% not strongly favoring either position (Dweck, 1996). In Butler's (2000) study, 34% of participants were entity theorists, 55% incremental theorists, and 10% did not strongly endorse either position. Other studies reviewed here did not provide this information.

Does specifically holding either an incremental or entity perspective of intelligence have any impact on learning in schools? In fact it does, but before returning

⁵ The results of Berg and Sternberg's study may have been skewed by the questionnaire items, which were designed to assess adults' conceptions of *changes* in intelligence over the adult lifespan.

to explorations of how intelligence orientation effects student achievement and teacher behavior in schools, it is necessary to expand our lens to the structure of schooling to understand the context influencing the development of theories of intelligence.

Institutionalized Beliefs about Intelligence in Schools

Universally, schooling is organized around particular definitions of intelligence (Gardner, 1992; Greenfield, 1997; Kornhaber, 1999; Martinez, 2000). Scholars have extended sociological arguments⁶ about schools' roles in social reconstruction to argue that schools are structured around beliefs that reflect the psychometric view of intelligence (Morgan, 1979; Oakes, 1985; Oakes, Selvin, Karoly, & Guiton, 1992; Oakes et al., 1997). In fact, Chapman (1988) argued that school administrators who implemented tracking reforms in the 1930s did so to address a problem with student failure that they believed was due to differences in ability, and not to differences to school readiness or desire to learn. Wagner and Sternberg (1984, p. 187) concur with Oakes, stating that “the psychometric approach to intelligence has been closely tied to education since the turn of the century.”

Most specifically, Oakes (1985, p. 3; Oakes, 1992) argues that tracking, the process by which students are “identified in a rather public way as to their intellectual capabilities and accomplishments and separated into a hierarchical system of groups for instruction,” reflects the Social Darwinist philosophy with which the racial and social American majority were enamored at the turn of the century, the time when the modern

⁶ (e.g., Bourdieu, 1973; Bowles & Gintis, 1976, 2002; Durkheim, 1961; Ferguson, 2001; MacLeod, 1995; Weber, 1946; Willis, 1977).

form of schooling was established (Cravens, 1978; Cummings, 2002; Higham, 1988).⁷

She goes on to argue that the reason tracking persists, beyond the momentum of tradition, is that the public generally holds the same conception of intelligence that the school structure reflects, evidenced by the resistance to detracking reforms (Oakes, 1992; Oakes & Guiton, 1995; Oakes et al., 1997). This argument has been echoed by other researchers as well (e.g. W. A. Firestone & Louis, 1999).

The perceived need for assessment data pushes schools to rely heavily on both classroom and standardized assessments. Standardized assessments draw particular favor from policymakers who want aggregate data with which to assess general educational progress or quality, and use the data to call for, design, and assess reforms. Gardner (1992) argues that educators have become so enamored of tests based on hereditarian and hierarchical views of intelligence that the structures and practices of schooling reflect them. The Stanford-Binet test of intelligence articulated the view of intelligence as a unitary general ability in 1916, which persisted until the last few decades when cognitive assessments incorporated broader conceptualizations of cognitive ability (Woodcock, 2002).

Sociologists have argued that classical conceptions of intelligence underlie the common “achievement ideology” which operates in schools. According to this ideology, every individual has available to them an equal opportunity to avail themselves of the opportunities that schooling effectively provides. The implication is that student failure is

⁷ That is, universally available schooling with mandatory attendance laws, separated into primary, secondary, and occasionally, middle schools.

the fault of the individual, rather than the system of schooling as a whole (MacLeod, 1995; Willis, 1977).

When cultural conceptions of intelligence in the home differ from those embodied in the school structure, student achievement can suffer (R. Cohen, 1968; Okagaki & Sternberg, 1993; Valenzuela, 1999). Cohen (1968) argued that low-SES children's cognitive orientations were organized around a "relational conceptual style," whereas academic achievement in schools demanded an "analytic conceptual style." She claimed that differences in achievement could be attributed to clashing conceptual styles of intelligence. In their study, Okagaki and Sternberg (1993) found that the ranked class order of elementary school pupils could be perfectly predicted by the extent to which their parents and teachers shared, or did not share, conceptions about cognitive and non-cognitive skills, as well as conceptions about conformity and non-conformity.

Schools communicate – if not reify – particular conceptions of intelligence in ways that influence teaching and learning as teachers and administrators daily reinforce certain behaviors, scholastic or otherwise, and prohibit others. Educators are at once members of the public and professionals in an institution concerned with the promotion of human intellectual aptitude (Richard E. Snow, 1982). It has been argued that teaching certain academic abilities has contributed to the "Flynn effect," the phenomenon of increasing average human intelligence over time (as measured by intelligence tests) (Blair, Gamson, Thorne, & Baker, 2005). Educators are therefore at the forefront of the ongoing social dialogue from which pupils' conceptions of intelligence are built. Teachers generally reconstruct through their classroom behaviors the conceptions of

intelligence in which they were socialized (Lortie, 1975; MacLeod, 1995; Valenzuela, 1999; Willis, 1977).

The shift toward standards-based assessments and curricula is based on a different model of student assessment than that which existed when most of these scholars posed their arguments. Most of the arguments above, Oakes' in particular describe a mostly norm-referenced system. Over the last 15 years, however, States' adoption of standards-based curricula has moved assessment to a criterion-referenced model, which has been reinforced with the enactment of NCLB. This policy shift resulted in the challenges to educators deeply held beliefs about teaching and learning described by Spillane (2003). I will examine in Chapter 9 whether beliefs about intelligence have been similarly challenged in the new policy environment.

Still, "however it is defined, the subject of intelligence is necessarily relevant to those who have made, or want to make, teaching their profession." (Mugny & Carugati, 1989). How, then, do intelligence orientations operate for students, teachers, and administrators in educational settings, and with what effect? Below I discuss these three different groups.

Students' beliefs about intelligence and academic behaviors

"There is increasing evidence that learning and academic performance cannot be explained in purely objective, individual, or cognitive terms. Subjective beliefs, expectations, goals, emotional processes, as well as socio-cognitive transactions should be recognized as essential constituents of academic achievement" (Salonen, Lehtinin, & Olkinuora, 1998, p. 112).

The implications for the different theories for an individual's motivation, learning goals, and learning behaviors are striking. Dweck and Bempechat (1983) found that students generally hold two functional theories of intelligence, either an entity theory or an incremental theory. Students who believe that intelligence is a fixed capacity are termed entity theorists, and those who believe that intelligence is modifiable through effort and practice of skills are termed incremental theorists.

Children whom Dweck and Bempechat termed entity theorists are more likely to engage in self-handicapping behaviors, such as avoiding new learning situations in which they perceive that their performance will not match prior assessments of their ability, and consciously withdraw effort in the face of increasing task demand. Children whom they termed incremental theorists are more likely to engage in, and persist through, challenging situations. This finding has been replicated in all educational settings, including internationally, by Dweck and her colleagues (Dweck & Bempechat, 1983; Dweck & Leggett, 1988; V. L. Henderson & Carol S. Dweck, 1999; Y.-y. Hong, C.-y. Chiu, C. S. Dweck, D. M.-S. Lin, & W. Wan, 1999). These findings are also reflected in the work of other researchers (Rhodewalt, 1994; Schommer, 1990; Slate, Jones, & Charlesworth, 1990).

These differential beliefs have been shown to affect student achievement measured in experimental conditions and by assessing student transcripts. Entity theorists consistently scored lower on the tasks involved in Dweck's experiments (Dweck & Leggett, 1988). Dweck and Sorich (1999) found that as students of equal achievement levels and self-esteem entered junior high school, those who held the incremental

perspective had higher grades and scores on achievement tests⁸. At the college level, research has shown that college students' grade-point averages similarly vary (Dweck, 2002). As noted earlier, students' intelligence orientations can differ from that which is most prominently rewarded in the schools, to the detriment of achievement (Okagaki & Sternberg, 1993).

Teachers' beliefs about intelligence and teacher behaviors

Administrators and teachers, of course, are the main human (as opposed to structural or symbolic) conduits through which beliefs about intelligence are conveyed to students in schools and teachers have been identified as the most important in-school factor affecting student achievement (NCES, 1996). Teachers have particular beliefs about intelligence, and according to Good & Nichols (2001, p. 117) "...it has become clearer over time that teacher's [sic] beliefs about the malleability of intelligence interacts [sic] with beliefs about individual students." Thus one would expect that the way administrators view several important components of intelligence influences the decisions they make for students. There are not many studies related specifically to teachers' intelligence orientation and their goals and behaviors. Most of the research suffers from the typical limitations of self-reported behavior studies, cross-sectional explorations, and cross-national comparisons. Taken in the aggregate, however, their findings support the statement by Good & Nichols above.

⁸ However, not all researchers were able to replicate Dweck's finding that intelligence orientation effects achievement for elementary and Junior High School students (Leonardi & Gialmos, 2002).

The broader literature of teacher expectancy effects is informative of the role of teachers' beliefs generally, and their expectations, play in their classroom behavior. The seminal study in this field is Rosenthal and Jacobson's (1992) *Pygmalion in the Classroom*, originally published in 1972 and revised twenty years later. Rosenthal led teachers to believe that a particular set of average-IQ students had very high IQ scores, and reported that those students showed marked academic improvement over the following term. He argued that teachers' expectations created a self-fulfilling prophecy. He did not observe teachers' behaviors systematically, however. For this and other reasons the study has received some criticism (R. Rosenthal & Jacobson, 1992), although it is generally considered to have strong findings.

A strong surge in research on teacher expectancy effects followed *Pygmalion*, not all of which found self-fulfilling prophecy effects. In a review of the overall body of research Babad (1998) reported that findings show that the type of academic achievement a teacher expects from his or her students *has the potential* to strongly influence, positively or negatively, those students' achievements. This is particularly true for low-achieving students, especially when students encounter cumulative years of negative expectations. Teachers' expectations are likely to be characterized by dynamic interactions of school cultures, home learning styles, personal behaviors, perceptions, and cultural influences, that take place between each teacher and student (Farkas, Grobe, Sheehan, & Shuan, 1990; Good & Nichols, 2001). In controlled experiments, experimenters' expectations can influence subjects' behavior, but in the real world of schools, the effects of teacher expectations are hard to measure (Babad, 1998).

Four recent studies discuss the implications of teachers' beliefs about intelligence for their expectations of their students. The first is the Okagaki and Sternberg study discussed earlier. In the second, teachers' implicit theories of intelligence were found to have a considerable impact on students' perceptions of themselves as learners (Pretzlik et al., 2003). In a third study, which did not involve any exploration of specific conceptions of intelligence, Zohar, Degani, and Vaaknin (2001) found that teachers in an Israeli sample resisted teaching higher-order thinking skills to low achieving students because they did not believe those students to be capable of mastering those more cognitively demanding skills. The fourth is Spillane's study mentioned previously, in which both teachers and administrators withheld enriched content from low achieving students.

Other studies have explored the connections between teachers' implicit theories of intelligence and their goals and teaching behaviors. A study of pre-service teachers revealed that entity theorists and incremental theorists hold different preferences for pedagogical method. Incremental theorists were more likely to report a preference for using a variety of teaching methods, rewarding effort, stressing critical thinking, and emphasizing cooperation. Entity theorists preferred a single method, rewarding success, and emphasizing competition (Slate et al., 1990). The self-reporting nature of the data, and the population, limit the conclusions that can be drawn from this single study.

However, another study of practicing teachers reached consistent findings. Lee (1996) used a hypothetical student scenario and an implicit theories questionnaire to assess whether teachers would recommend different actions for the same student, depending on whether they ascribed to an entity or incremental view of intelligence. His

sample consisted of Korean teachers, which limits generalizability to the American context, but is suggestive. He found that (1) entity-theorist teachers recommended different treatments than incremental teachers, and (2) entity-theorist teachers were more influenced by their perceptions and expectations than incremental teachers. Entity-theorist teachers were more likely to recommend homogenous grouping than heterogeneous grouping; the opposite was true of incremental theorists. Teachers' judgments, independent of the actions they would recommend, differed as well: regarding their expectations of the hypothetical student, entity-theorist teachers based their expectations on the test score, while incremental teachers had expectations independent of the score. This is consistent with Bulter's (2000) finding that people make different inferences about ability from performance based on whether that person subscribes to an entity or incremental theory.

To summarize, conceptions of intelligence influence teaching behaviors and student achievement. Some research suggests that holding an incremental view of intelligence supports better teaching habits (Good & Brophy, 1986). School level administrators, particularly principals and school psychologists, make decisions effecting students, but what their beliefs about intelligence are, and how those beliefs may operate in the construction of local policy or responses to externally mandated policy mandates have not been thoroughly studied. Principals are the focus of the next section of this literature review.

The Principal

Principals and teachers at individual schools that constitute educational subsystems are the most relevant “smallest unit” in any study of educational reform or student achievement-related policies (excluding students). Principals wear many hats in schools, including business manager, political representative, human resource director, and creator or nurturer of school culture. They are also instructional leaders and direct the implementation of reform (Coburn, 2001; Goldman, 1998; Kornhaber, 1999), where they can play a “fateful role” (Sarason, 1996, p. 139). It is the latter two roles that most concern this study, for it is in these roles that principals commonly have the potential for the most influence over student achievement.

Additionally, the principalship in particular is in many ways a political position; they are public servants charged to serve multiple interests. Principals are beholden to state laws at the same time that they are by tradition responsible for protecting and representing local educational concerns. In the event that these two concerns clash, the principal has a fine line to tread. In a sense, they are expected to act objectively when representing state and district policies to their constituency, and subjectively when asked to represent their constituencies concerns to policy makers. They are often thus very careful to choose their words and statements carefully.

These caveats in mind, the purpose of this study is to describe and analyze the beliefs that participant administrators expressed about intelligence, NCLB’s all child rhetoric, and to examine (where pertinent) how those beliefs seem to impact views of policy and policy seems to impact beliefs. The focus of the discussion about beliefs about

intelligence and students is on how much importance administrators place on these variables when explaining variations in school achievement. I then explore how these beliefs seem to operate in administrators' reactions to and perceptions of NCLB's all child rhetoric.

Instructional leadership

Administrators, particularly principals, can have significant influence either directly (Andrews & Soder, 1987b), or indirectly (Gordon, 2004; Hallinger, Bickman, & Davis, 1996) on student achievement in various ways. Several studies have found that strong principal leadership may be particularly important in schools with high poverty or otherwise at-risk populations. Research during the "effective schools" period of the late 1970s and 1980s found that strong leadership from principals was a consistent attribute of schools that achieved beyond expectations given demographic composition (Edmonds, 1979; Purkey & Smith, 1983). Seattle schools that had principals the researchers had rated as being strong leaders had significantly higher two-year gains in reading and math achievement than schools with weak or average leaders (Andrews & Soder, 1987a). Strong or effective school leadership is multidimensional and one of those dimensions is instructional leadership, which involves curriculum choice, the development of teachers individually, and the development of the teaching faculty as a whole.

"[D]eveloping a school in which teachers believe in their collective capabilities to educate students is important to meeting the challenges posed by helping all students learn rigorous academic content" (Goddard, LoGerfo, & Hoy, 2004, p. 420). How teachers view the collective teaching abilities of their faculty (known as "perceived

collective efficacy”) is related to student achievement levels (Goddard, Hoy, & Woolfolk Hoy, 2000; Goddard et al., 2004). Principals are in a position to effect teachers’ perceived collective efficacy:

Social cognitive theory explains the effects of personal beliefs while acknowledging that [teachers] and their perceptions are also embedded with in a dense and influential array of social networks. Accordingly, the choices individuals make take into account the beliefs, desires, and expected reactions of group members, *organizational leaders*, and the external environment (e.g., the general public for schools) (Goddard et al., 2004, italics mine).

Other research on leadership supports the idea that subordinates in an institution or group generally reflect their leaders’ problem solving methods and cognitive schemata (Barge, 1994; Burns, 1978).

“Cognitive schemata” is a Piagetian term for the mental constructs that individuals form in the process of learning, and which interact with new information to structure new learning. One schema especially relevant to teachers and principals is “student.” Teachers’ beliefs about students vary on many dimensions, including assumptions about academic abilities. McLaughlin & Talbert (1993, p. 223) argue that teachers’ “different constructions of ‘student’ have little to do with formal aspects of the school and much to do with the character of the professional community that defines the school...culture.” Furthermore, their research showed that the “character of teachers’ professional community had most to do with how teachers saw their students and constructed their roles as teachers” (McLaughlin & Talbert, 1993, p. 243). This is significant in light of the importance that principals have in the creation and maintenance of school culture (Deal & Peterson, 1991; Hallinger et al., 1996). As a result, principals

play a key instructional leadership role by shaping teachers' attitudes concerning students' ability to master school subject matter (Hallinger et al., 1996).

“[E]ffective schools require effective leadership, which means that educational leaders must ... be able to accurately comprehend classroom interaction and other events” (Eggen & Austin, 2004, p. 3). However, it is important to note that principals’ beliefs about appropriate classroom practices may not reflect best practice. In a study of teachers’ and principals’ perceptions of classroom interactions, Eggen & Austin (2004) found that the principals expressed views and made judgments of classroom interactions that were similar to those of pre-service teachers with some or no field experience, and first-year teachers; their views were not consistent with the thinking of veteran teachers. This was particularly interesting to them in light of the fact that all of the principals in their study had been classroom teachers prior to becoming principals, although each had left the classroom before the five years of experience required for designation as a “veteran teacher” in the study.

While the role the principal plays as instructional leader is important, how their leadership in this domain is influenced by their beliefs about what influences intelligence, teaching, and learning is not well studied. What has been more thoroughly studied is the role that principals play in the implementation of reform generally.

Implementation and Reform Leadership

Teachers interpret classroom situations based on their prior beliefs and knowledge about teaching and learning, and their interpretations may have significant impact on the adoption of reform principals (Coburn, 2001; M. Kennedy, 2004). Since

most principals were at some point in their careers teachers, one assumes that this applies to principals as well. Oakes & Lipton (2003, p. 44) summarize the general view of educational policy analysts that “every school organization or teaching act is based on some theory – well founded or not – of how and why it will work well for students.” This echoes the view of Deal & Peterson (1991, p. 4), who stated that “choosing a reform strategy – consciously or unconsciously – involves a choice among a variety of ways of looking at schools. Each strategy has its own assumptions about how schools and people work and what can be done to make them work better.” While these statements are consistently echoed in other policy analyses, the nature and influence of these theories and assumptions that has only recently been explored more systematically.

Recent scholarship on the implementation of educational policy has increasingly focused on the cognitive frameworks with which local change agents make sense of policy signals and mandates (McLaughlin, 1990; McLaughlin & Talbert, 1993; Spillane, 1998a; J. Spillane, B. J. Reiser, & T. Reimer, 2002). This scholarship has enriched explanations for local variation in policy implementation by arguing, essentially, that multiple iterations of local policy responses to a single mandate are potentially due as much to the internal variables of actors (beliefs, implicit theories, values) as with external school- or district-level variables (resources, history). Notably, new cognitive models – namely Spillane’s (1998a; Spillane, 2002b, 2004b; J. Spillane, B. J. Reiser et al., 2002) and Yanow’s (2000) – try to explain the processes by which local change agents interpret policy rather than focusing on attributing of actors’ implementation errors or variation to personal limitations, intransigence, or insubordination. The focus of the new research is on *how* agents interpret policy signals, rather than *how well* (Yanow, 2000); the intent of

this research is to focus on whether a particular set of internal variables – e.g. values, beliefs, and constructs about intelligence and students – seem to interact with and operate during the interpretation of policy signals.

In a study of principals' understanding of teacher professional development reforms, Binkley (1997) found that principals filter and mediate, through their existing professional beliefs, the words used in professional development. A study that examined the relationship between principals epistemologies (beliefs about knowledge and learning) and their endorsement of an integrated curriculum found that principals with more “sophisticated” epistemologies were more likely to support the use of an integrated curriculum in their schools (Arredondo & Rucinski, 1998)⁹. Arredondo & Rucinski noted that how principals' epistemologies might effect the use of particular teaching strategies in a school, or how their epistemologies influence their instructional policy choices, had not to that point been systematically studied, and recommended that more rigorous tests of relationships between principals' epistemologies and their support of innovations be undertaken.

One aspect of reform implementation, especially demands for higher academic achievement by all students, involves the selection or approval of a curriculum that principals agree will help their students achieve the requirements mandated in the reforms (Stein & Nelson, 2003). Unfortunately graduate and professional principal training programs, in which the socialization of administrators largely takes place (Boyan, 1988), are forced to cover curriculum and instruction matters as part of a core of courses that

⁹ More sophisticated epistemologies are characterized by a perception of knowledge as uncertain, allowances made for the influence of context, and the avoidance of absolutist, positivist viewpoints.

also include leadership, management, budgetary, and legal matters (McCarthy, 1999). McCarthy found that the most popular emphases of graduate training courses were not related to curriculum, learning theory, or educational psychology¹⁰. Her review of educational leadership programs showed that course offerings were largely unchanged since the 1970s in that there was no significant attention paid to pedagogy in administrators' training programs (with a few exceptions)¹¹. As you will see, this is a chief complaint of two of the school psychologists who participated in the study.

Thus, when principals choose curricula, they are operating with a fairly limited scholastic knowledge of curriculum issues unless they have undertaken to continue their studies of such matters in their free time. Of course, many principals assume their positions after having had classroom teaching experiences, but Eggen & Austin's (2004) study suggests that those years of experience may have been limited, and their perceptions of classroom interactions professionally immature in relation to teachers with five or more years of experience. Note that any general understanding of the nature of the curriculum does not include detailed content knowledge about specific subjects, which is important to the oversight of the implementation of curricular changes within them (Stein & Nelson, 2003).

Most curricula have their grounding in educational psychology, and are based on explicit theories of human intelligence, teaching, and learning. Without thorough training

¹⁰ The most numerous reported academic specialties of university faculty were administrative theory, leadership, educational law, decision making, school district administration, business finance/budgeting, organizational development, and school-community relations (McCarthy, 1999).

¹¹ However, in the 1990s, more emphasis on "reflection in action," that is, awareness of the role of personal values in decision-making, appeared in university administrator preparation programs.

in curriculum and instruction or educational psychology, principals must rely on the testimony of experts or their own beliefs and implicit theories about intelligence when selecting a curriculum or making sense of the curricular requirements of a reform. The effort to expand our understanding of principals' conceptions of intelligence is an emerging, important, and understudied field, but it is informed by other work on conceptions of intelligence at work in schools, which is the focus of the next sections.

Potential Implications

I have constructed an argument for the importance of students' and teachers' intelligence orientation to student achievement. There have been a few studies of the cognitive underpinnings of principals' or other administrators' decision-making, and only one specifically address the ways in which beliefs about intelligence interact with policy signals. As mentioned above, Spillane (2002a) reported that principals in his South Carolina study believed that "innate ability" differed between children, but he did not thoroughly describe educators' beliefs about intelligence, or explore how beliefs about intelligence interacted with policy generally in the same way that I have. There is some overlap between our studies, specifically educators' views of the "all-child" rhetoric because Spillane expressed interest in replicating that portion of his study in a different context (Spillane, personal communication, 2005). Can we fairly assume that an entity-theorist administrator will be overly focused on performance goals for their schools, and will preside over schools in which the faculty does not believe that they can bring all of their students up to higher levels of academic proficiency as mandated in current reforms such as NCLB? An exploration of the potential effects an administrator's beliefs about

intelligence may have on his or her decisions regarding instructional method and the mandates of current reforms is needed.

Entity theorists are likely to have serious questions about the ability of all students to achieve high academic success. Spillane (2002b) showed how such beliefs derailed, or at least diluted, local administrators' implementation of South Carolina's reform efforts in their schools. In Spillane's study, principals who believed in "innate abilities" eschewed enriched curriculum in favor of basic skills acquisition courses. Many have argued that such a course of action only retards the development of high academic skills, rather than facilitating it (Gamoran & Mare, 1989; Oakes, 1985).

Significantly, people's beliefs about intelligence are malleable (Dweck, 1996; Dweck & Leggett, 1988; Good & Nichols, 2001). Entity theorists can become incremental theorists with some minimal effort. Changing educators' beliefs about intelligence orientations may therefore help to achieve the goal of developing high academic achievement for all students. As discussed above, students that hold an entity view of intelligence are more likely to engage in behaviors that undermine improved academic achievement and broadened learning. Students likely construct an entity-based concept of intelligence from messages from popular media, parents, and – most important for this discussion – educators.

Chapter 3

Methodology and District Selection

This study describes the nature of a particular set of beliefs held by educational administrators and teachers, including their beliefs about intelligence, the students they serve, their perceptions of the “all child” rhetoric in the No Child Left Behind Act, and the interaction of these perceptions. I also explore how these beliefs have likely been influenced by changes in the policy environment in this district as a result of NCLB.

Interviews are the most appropriate method for collecting data about beliefs because the researcher can probe responses, follow up on suggested meanings, and clarify responses. I have relied heavily on Seidman’s guidelines for interview research, and it was particularly important that I maintain the appropriate and requisite standard of “theoretical sensitivity” throughout the process of data collection and analysis. In this regard the suggestions of Strauss & Corbin were particularly helpful (for discussion see pp. 42-46 and Chapter 6, Strauss & Corbin, 1990).

Frameworks generally articulating how personal beliefs interact with educational policy have already been put forward by Spillane (2002) and McLaughlin (1990), though theirs lack any specifically described component related to individuals’ beliefs about intelligence. Miles and Huberman (1994) argue that qualitative methods are better suited for the revision of or contribution to frameworks than quantitative methods because they allow for serendipitous findings and revisions of conceptions that lead to the study. Furthermore, Maxwell (1996, p. 19) states that qualitative methods are particularly

suitable for the identification of “unanticipated phenomena and influences.” Since implicit theories, beliefs, and conceptions of intelligence may operate on a subconscious (or at least unarticulated) level, they may constitute an unanticipated phenomenon in that individuals may not be aware of their operation and influence on their policy behaviors. Interviews are the best means by which gather relevant data by probing participants on their assumptions and the unstated justifications for viewpoints, and for reported behaviors and preferences.

Conceptual Frameworks

Cognitive Dimensions of Local Policy Making

Recent research has recently endeavored to explain the psychological roots of educational policy making behavior by blending the disciplinary foci of policy analysis and cognitive psychology – specifically studies of the role played by beliefs and existing mental constructs of phenomena in decision making (McLaughlin & Talbert, 1993; Spillane, 1998b, 2000, 2002a; J. Spillane, B. Reiser et al., 2002).

As cognitive psychologists explain, individuals apply existing mental constructs to new or familiar information and stimuli in order to order manage the process of making sense of everyday experience (Bolman & Deal, 1993; Dweck, 1996). Beliefs, prior knowledge, personal and professional values, attitudes, and implicit theories are the platform atop which people build most of their new learnings from everyday experience. Dweck (1996) argues that implicit theories create a meaning system or conceptual framework that influences which goals are salient and important to the individual. Which

mental construct(s) they apply to a particular situation limits the ways in which they can define the situation (or problem) and the actions (or solutions) they can apply to it (Bolman & Deal, 1993).

Although the importance of individual beliefs has been alluded to in educational policy research for decades (e.g. Majone & Wildavsky, 1978; Oakes, 1985; e.g. Weiss, 1983), the major focus of policy studies has been at the organizational level. Early research exploring the cognitive underpinnings of educational administrators' behavior, conducted between 1952 and 1985, focused on the interaction of personality variables such as values and professional priorities with social and environmental conditions such as institutional expectations, organizational tasks, and political concerns (Boyan, 1988); none of these studies included personal theories of intelligence. Undoubtedly, the treatment of policy makers and actors as rational actors consciously weighing alternatives before taking action has been improved by the consideration of organizational, structural, and contextual influences on behavior (J. Spillane, B. Reiser et al., 2002). At the same time, educators' individual motivations for behavior related to educational policies has remained a topic of research complementary to organizational theory, which does not provide adequate means to completely explain individual behavior, specifically their own justifications for their behavior (Oakes & Guiton, 1995). For example, while organizational constraints may delimit the range of choices available to decision makers, organizational theory does not satisfactorily explain the full range of decisions made by individuals at the street level, or lend itself to fully explaining the actors' justifications for their choice from among their constrained options.

Personal beliefs are part of the “information” policy actors utilize while creating, implementing, or negotiating policy (Weiss, 1983). Cognitive psychologists have been exploring the specific ways in which the content of individuals’ knowledge, beliefs, and attitudes guide their behavior, but how these personal characteristics interact with educational policies and reform mandates has been the subject of a smaller body of research in education. Teachers and administrators go through a process of sense making when they encounter educational policies that is mediated by the agents’ prior knowledge, beliefs, and attitudes, as well as the contextual elements of the reform’s mandates, and local district and school factors (Goddard et al., 2004; M. Kennedy, 2004; McLaughlin & Talbert, 1993; J. Spillane, B. Reiser et al., 2002). What sense educators make of the impetus for a policy, or a change in policy, and the means proposed to implement it is guided by their personal constructs of students, teaching, and learning (McLaughlin & Talbert, 1993). This in turn effects their understandings of policy mandates (D. K. Cohen, 1990; Spillane, 1998b), motivations for compliance, and commitments to implementation (Spillane, 2000, 2002a).

Past cognitive studies of policy behavior rarely involved educational administrators as participants; few have explored what administrators’ beliefs about intelligence and how those conceptions may function to guide personal interpretations and behavior. Educational administrators operate in institutions that are directly involved in the instruction of cognitive and intellectual skills (Martinez, 2000; Richard E. Snow, 1982; Richard E Snow, 1996). Prior beliefs and implicit theories about intelligence have different implications for learning and teaching behavior (Bandura, 1983; Dweck &

Leggett, 1988; Valanne L. Henderson & Carol S. Dweck, 1999; Y. Hong, C. Chiu, C. Dweck, D. Lin, & W. Wan, 1999; Rhodewalt, 1994; Schommer, 1990)¹².

The cognitive framework explaining human decision making behavior implies that what educators believe intelligence is and what role it plays in student achievement will frame, delimit, and guide their instructional and policy-related behaviors. In this study I take the first step toward being able to conceptualize relationships between beliefs about intelligence and local educational administrators' policy choices at the school level.

To that end, I describe educators' beliefs about intelligence, specifically what intelligence is, how and why differing levels of intelligence between individuals are realized, and whether or not intelligence is considered different from or important to achievement. These descriptions, besides being a unique contribution to existing descriptions of educators' beliefs, allow me to explore how local change agents' beliefs are influenced by their interpretations of, and interactions with, policy. I focus educational administrators at the school level, specifically principals and school psychologists.

The findings reported herein make a unique contribution to the literature as the most thorough description of policymakers' beliefs about intelligence, and the role that those beliefs played in determining local agents' stances on specific local policies. To be able to make any causal arguments about the role of change agents' beliefs in the choice of local policies has generally been problematic to determine with the use of instruments such as surveys or standardized questionnaires.

¹² See more thorough discussion below.

Rationalized Myths of Education and Institutional Coupling

After collecting and analyzing the data I found that conceptions of intelligence do not seem to play the role of a “legitimizing ideology” sourced in the environment that is rationalized in formal structures of the schools. Thus a second conceptual framework that guides the discussion of findings is Meyer’s (J. W. Meyer, 1986; J. W. Meyer & Rowan, 1977) conceptualization of formal organizational and institutionalized structures as rationalized myths. Meyer (1986) argues that institutions rationalize in structures and legitimate in action the myths sourced in the environments they serve. By “myths” Meyer refers to the common social or cultural ideologies, as well as professions and technologies, that provide rationalizing and legitimizing accounts for the functioning of institutions and their formal organizations, and which are in turn legitimized by these structures.

“In organizations especially dependent on environmental legitimation and weakly dependent on technical outcomes, structure especially reflects legitimating considerations and is especially decoupled from activity” (J. W. Meyer, 1986, p. 188). Weick (1976) argued that schools loosely coupled to the extent that activity in the classrooms of a single building are relatively independently conducted, and decisions made at one level of the system are not necessarily replicated or echoed elsewhere in the system. Research in the decade that followed Weick’s article supported his argument, but as the standards movement gained steam in the 1980s and became implemented in the early 2000s, researchers began to note that education appeared to be a less loosely coupled system than was true in the 1970s (Fusarelli & Johnson, 2004; Gamoran & Dreeben, 1986; H. D. Meyer, 2002).

One goal of NCLB is to more tightly couple activity at the school level (Boyd & Crowson, 2002; Fusarelli & Johnson, 2004) by increasing the technical outcomes expected at the local level. I use this framework in my analysis of educators' statements about classroom practices and state and federal mandates. Meyer's account of the role of professional myths and institutional expectations is helpful in explaining how educators incorporate both the knowledge system provided by professions and consultants and the specific technical requirements and expectations arising within the institution of schooling functioning under a standards framework.

Sources of Data

Original data sources used in this study consist of three one-hour interviews with each of four principals, one one-hour interview with each of four school psychologists, one twenty-minute interview with each of 11 teachers, one twenty minute interview with two district personnel, responses to a situated questionnaire for principals and school psychologists, and documentary material supplied by principals upon request. Secondary data sources include transcriptions of those interviews, coded transcripts, thematic documents, information supplied during member-checks and follow up communications, and memoranda about targeted and emergent topics. Each of these is discussed in more detail below. Additional sources of data not discussed below include school and district reports on student achievement published on line by Standard & Poor's, the district's own published student achievement data, and zoning maps for townships in which the schools are located.

Interviews

I have followed Seidman's (2006) model for interviewing principals. Seidman suggests a three-interview process first designed by Dolbeare and Schuman in 1982 in which "the first interview establishes the context of the participants' experience," the second "allows the participants to reconstruct the details of their experience within" that context, and the third "encourages the participants to reflect on the meaning their experience holds for them." I conducted three interviews with each of the principals, one each with the other participants. Because I included interviews with the school psychologists late in the data collection process, and the teacher interviews were included for the most part to provide data with which to triangulate the administrators' data, I did not conduct three separate interviews with these individuals. Protocols for school psychologists and teachers followed the progression of topics in the three-interview model, only condensed.

All interviews were semi-structured; the protocol included time to probe answers and discuss responses to items on the questionnaires given to school psychologists and principals. I interviewed each of the principals on three separate occasions for one hour per session, and at least two teachers in each school as part of the original research design. I interviewed one additional teacher at three of the schools when presented with the opportunity. School psychologists were added later. There was less time for probing and discussion with teachers than with principals and school psychologists. I piloted the protocol for the interviews with volunteers (all principals) prior to using the interview with personnel in the district. I created separate interview protocols for school psychologists and teachers based on questions used in the principals' interviews.

I used information gained in early interviews to make slight modifications to the protocol I followed in subsequent interviews. This information allowed me to follow interesting stories or modify my language to match that used by educators in this district.

Administrator Interviews

I conducted an ad hoc interview with Dr. Keith Lowry, Director of Elementary Curriculum, and Dr. Kevin Davis, Director of Special Student Services, both at the district office. These interviews did not follow a protocol, and were not recorded or transcribed. In these discussions, which lasted roughly thirty minutes each, we informally discussed the principals' working relationship and the nature of the school district. Field notes were recorded immediately following the interviews. I communicated with the Director of Elementary Curriculum once after data collection to confirm Gifted and Intervention numbers for the district; that data became part of the description and analysis.

At the school level, the four principals I interviewed are Carl George (Hamilton), Denise Haupt (Jefferson), Daryl Lang (Adams), and Ursula Downs (Washington), who represent all of the elementary school principals in the district. I based the principal protocol on the three-interview model Seidman (2006) described. My first interview with principals focused on their "road to the principalship," discussions about school level policy, and their descriptions of their schools and the students they serve to establish the context within which their beliefs about intelligence operate. The second interview focused on "the details of experience" (Seidman, 2006, p.18), their opinions of NCLB, especially the all child rhetoric, and their interpretations of and immediate responses to

specific chunks of text from the legislation. The third interview protocol was designed to probe beliefs about intelligence, and included a questionnaire about beliefs, discussed below. I recorded field notes immediately after each interview. Interviews were transcribed as soon as possible after the interviews, typically within three days, throughout the interview process.

After the study began, it became clear that at least some of the school psychologists played important roles in the policy making at each school, as well as for the district. Thus, I added these four school psychologists: Kevin Quinton (Hamilton), Steven Smith (Jefferson), Ophelia Franks (Adams), and Karen Matthews (Washington). I met with them for one one-hour interview each, using an interview protocol modified from that used for the principals.

Teacher interviews

I interviewed three teachers from each of the schools except Washington Elementary, at which I interviewed two. A protocol that included the targeted themes and topics, and including questions about their perceptions of principals views and policy making guided the interviews. As part of the original design, there were two purposes to these interviews: first, to provide data to triangulate principals' statements gathered from interviews; second, to gain additional information about how principals communicate their beliefs about intelligence, the children in their school, and "all child" rhetoric. As new themes emerged during analysis, I recognized that more teacher interviews would have provided helpful additional data concerning the implementation of NCLB by providing more information about what actually happens in the classrooms. Though the

number of respondents is low for any study of policy implementation, my data do support the discussion in Chapter 9 concerning the “recoupling” of state, district, and school policies, and do support the findings concerning the current lack of discussion about intelligence in schools.

I interviewed each of the teachers for roughly twenty minutes, using a protocol modified from that used for the principals. At all but one of the schools teachers were randomly sampled. At Adams Elementary, the principal named the teachers with whom I could meet. I sat in a common staff-only area during the lunch hour and requested interviews with those who entered. Only one teacher declined to be interviewed, and one declined to have her interview recorded. At Washington Elementary time only allowed for two interviews.

I refer to the district administrators by their title (Dr.) and last name; I refer to the principals and school psychologists by their first name because of their school level administrative status. Teachers are referred to by their last names. This is an effort to make it clear to the reader the role of the person quoted, without having to refer to a cast of characters.

Intelligence questionnaire

Each principal and school psychologist was given a brief questionnaire designed to assess their beliefs about intelligence. Appendix A is a copy of the questionnaire. I constructed the questionnaire from items selected from Dweck’s (2000) Theories of Intelligence Scale – Self Form for Adults, the National Council of Teachers of Mathematics “Standards Belief Instrument” (Zollman & Mason, 1992); I added some of

my own items based on Shepard's (1991) findings in a study of psychometricians' beliefs about learning. Since these types of belief inventories have been shown by recent research to be problematic the instrument was used only to augment third interview data, and to act as part of the interview protocol. Since this instrument was designed to be given during an interview setting and followed up with discussion, I did not pilot it and did not feel it necessary to subject it to any statistical analyses. Thus, I used the questionnaire primarily as a qualitative instrument to enrich the picture of participants' beliefs and not as a way to gather any information that would be used in quantitative analyses.

If any information on the questionnaire seemed to contradict the statements the participants had made, I raised the point and we discussed it together. On one occasion the discussion revealed a misunderstanding of the item. Discussions of the questionnaire material allowed me to gain additional data that had not been brought up in the course of discussion.

Documentary Material

Spillane, et al. (2002) argue that to understand policy agents' understandings of policies or reforms, research has to go beyond descriptions of personally related or measured beliefs to examine the interactions of those beliefs with policy mandates. Research has to include evidence of the agents' behaviors and decisions. Thus the second additional data source beyond principals' questionnaire responses and interview data came from analysis of archival records at their schools.

District level policy documents helped to detail the policy environment in which the schools were operating. I collected documentary material from the district office and from each school as available. I asked for policy handbooks at both locations, for minutes from principals and board meetings, and any other school level documents that the principals thought might be relevant to my topic. I did not take the entire district policy manual; I reviewed the entire manual and copied pages that detailed policies related to discipline, curriculum, philosophy, and any other material I thought might be relevant. Board meetings minutes were not readily available. Minutes from the principals' meetings were incomplete; I received minutes from eight of their monthly meetings: four in the Fall of 2003, July and November of 2004, and January and September of 2005.

After the initial interviews I examined school-level records related to policy choices the principal has made regarding instructional method, test preparation, and teachers' professional development. When appropriate, I followed up with principals in order to assess their reasoning behind the decisions reflected in the archival record, specifically pertaining to how they feel their conception of intelligence or intelligence orientation may have guided them.

Lost Data

Portions of the second and third interviews with Principal Denise Haupt were erased or did not properly record. While I was able to use field notes made during the interviews and a synopsis of the general tone of the interview recorded immediately after the interview, this nonetheless represented a significant loss of data. On no other occasion were any of the interview recordings or documentary material compromised or lost.

Analytical Process

I supplemented Seidman's coding process for reducing the data and analyzing thematic connections by following a modified process close to Strauss & Corbin's (1990) suggestions for the conceptual coding of data. After the first few interviews, I submitted the transcriptions to a round of line-by-line open coding to create a bank of codes and to look for themes to follow up on during subsequent interviews. I began preliminary analyses by color coding comments by topic, assigning additional conceptual codes in MS Word's comment balloons, and embedding additional comments in the transcripts about each passage or category. Subsequently, after each additional interview I coded the transcripts using the existing codes and adding new codes as needed.

After interviews were completed, I approached the data again and began the process of identifying constructs, categories, and identifying where applicable the dimensionality of those categories. In order to analyze study participants' beliefs, I coded for categories the four around which the protocol had been designed, and looked for emergent categories. Beliefs about the nature of intelligence and its importance to school achievement, and about the rhetoric of NCLB were each targeted by the interview protocol.

I kept track of interesting comments or blocks of comments in the data by keeping memoranda that included the potential meaning of words or phrases, the significance of particular policy choices, etc. Interesting discussions about local policy decisions emerged additional categories as it became clear that certain incidents (such as the elimination of the K+ program) were salient to participants. I merged comments from

different participants about particular policies or opportunities for policy making into thematic documents about policy stories. Policy thematic documents served additionally to clarify policies which schools followed that were not described thoroughly in the policy documents I was given by school and district personnel. Other topics that arose and which are relevant to the study will be discussed as appropriate.

Data about each different category were then extracted to new documents for each. Within these documents, comments were then recoded. Additionally, statements about similar topics from each interview to create a profile of beliefs for each individual. These individual-level profiles were then merged by topic and by school and reanalyzed for consistency or variation between individuals in each building. Secondary analysis on thematic documents and merged documents took the form of color coding, embedded comments, and memoranda, as in the first level.

Finally, I organized the data throughout the process into graphic representations as part of the analysis. I created charts and tables for each participant, and for each set of beliefs and policy statements. I created matrices for each category that included the subcategories, evidence from the data supporting each, and comments about the relevance of the evidence. Grouping and regrouping the distilled data from the category documents was not a final, but ongoing stage of analysis (M. Miles & Huberman, 1984), from which several new categories emerged. I provide a matrix example in Appendix C.

The transcriptions, thematic documents, embedded comments, memos, charts, matrices, and documentary material provided at the school are the data upon which my analysis is based.

Validity

This study is primarily concerned with describing participants' beliefs about intelligence and how those beliefs are triggered by and interact with policy mandates and rhetoric. The main challenge to the validity of descriptive studies is "the inaccuracy or incompleteness of the data," and recordings and accurate transcriptions of these recordings "largely solve the problem" (Maxwell, 1996, p. 89). As the bulk of this dissertation presents participants' beliefs about intelligence, validity is addressed by presenting the beliefs, reactions and views as much as possible in their own words. My interpretations and analyses of these beliefs is presented in language that distinguishes my own interpretations from theirs. For this reason, I sent synopses of each principal's and school psychologist's beliefs and policy statements to them as member-checks. On one occasion I sought additional (beyond the member check) follow up information from two of the school psychologists.

The bulk of this paper, chapters 4-8 are thorough descriptions of participants' beliefs about intelligence, policy, NCLB, and topics relevant to those beliefs. I also include my analyses of these beliefs. Thus a potential threat to the validity of my findings is the possibility that I transposed my own interpretations over the participants while listening to them in the interviews, and during analytical process afterward (Maxwell, 1996). I used Lincoln and Guba's (1985, p. 283) audit trail to ensure the validity of my findings, as well as member checks. The audit trail is: field notes of each interview, including context and notes on initial researcher understandings of the interview material; audio-tapes and complete transcriptions; coding; and the development of charts to

organize and analyze data. Additionally, I closely followed Strauss and Corbin's (1990) recommendations for maintaining "theoretical sensitivity" throughout the coding and analysis process as a means of strengthening the description of interactions between beliefs and policy mandates and rhetoric.

Maxwell identifies two other specific threats to validity in qualitative research, bias and reactivity. Reactivity is the potential for the researcher to influence the participants' responses during an interview. As a check against these threats, I charted my assumptions about potential outcomes before the interviews began, and wrote oppositional assumptions in adjacent cells. Doing so allowed me to be attentive to my preexisting frameworks and potential biases as they came up in coding and analysis, and to remain sensitive to "discrepant and negative cases" (Maxwell, 1996). Additionally, when I felt my assumptions were being confirmed during the interviews I tried to present the opportunity for the participant to provide alternative explanations, when doing so would not be disruptive to the flow of conversation.

The "boilerplate" (Maxwell, 1996) check against validity in the study design is that I interviewed teachers and gathered school and district documents to triangulate against the administrators' statements about policy and to verify that the beliefs they communicated to me matched the beliefs they apparently communicated to teachers. These data became part of the analyses beyond being validity checks on administrators' statements.

The final question of validity concerns how valid the statements of the participants themselves are. Seidman (2006, see pp. 23-26 for a discussion) describes how the three-interview model is designed as a check against this threat. Conducting

three interviews at different times provides enough data for the researcher to ensure that participants' comments across interviews present consistent viewpoints that do not contradict themselves. The teachers' interviews acted as a check against the potential for administrators to have been communicating different beliefs to me than they do to teachers. Ultimately though, I am not specifically concerned with assessing the validity of administrators' beliefs about intelligence, but in getting them to reflect on them and on their views of policy, accurately describing them, and interpreting their interaction.

Why this district?

Administrators exist with the context of school districts, and are to some extent beholden to the superintendents of those districts. District policies can influence instructional reform (Elmore, 1996; Spillane, 2004a). District traditions, superintendent leadership styles and reform initiatives, and the demographic compositions of each district will vary, and will influence the actions of the principals of each of the schools differently. Additionally, economic differences exist between regions that may lead principals and other administrators to stress different skills in the academic training of their students (Oakes & Guiton, 1995). To control for the influence of these variables, this study was situated in a single district.

The appropriate study site for this research required that there be some diversity in the population served by the district, and the district needed to include high and low performing schools relative to each other. These requirements were based on the assumption that such differences would raise perceptions among educational administrators there that at some level were based on experience, either direct or indirect,

with the challenging populations I wanted to ask interviewees about, specifically low-income and minority children, whose achievement is specifically targeted for improvement under NCLB.

I pursued access to several districts across the state, urban, rural, and a mix of both. My access to Central School District began through a personal contact. In my discussions with the district person whom I first contacted, it was clear that Central School District fit with my requirements in several important ways. CSD was acceptable because two of the four elementary schools served populations that differ pretty starkly, and two serve a population more representative of a mix of income levels and family background.

Central School District is a small district in rural/semi-urban part of state, with four elementary schools feeding one middle and one high school. The state in which the district is located, like most others, has opted to follow the mandates of the No Child Left Behind Act (NCLB), and has begun testing its students in the 3rd through 8th, and 11th grades with the State Standardized Assessment Test (SSAT)¹³. The state failed to meet federal adequate yearly progress (AYP) in 2005 when measuring overall proficiency, graduation, and attendance rates together (Standard & Poor's, 2006a). Achievement rates when considered alone show that the state is doing well at serving white students; minority groups, including students in Special Education, are not faring as well. On the Reading Proficiency measures, Black, Hispanic, economically disadvantaged, English language learners, and disabled students have not met federal AYP benchmarks; barring

¹³ 2006 will be the first year in which all of those grades are tested. During the period in which data was collected, the state Department of Education tested students in grades 3, 5, 8, and 11.

students with disabilities, each of the above listed groups did meet Math benchmarks – but only through NCLB’s Safe Harbor provisions. Since Whites are such a sizable majority in the state, however, when the reading and math achievement data are aggregated, the state meets federal requirements for AYP in both reading and math.

Central school district surrounds Cedarville, a medium-sized city in a rural part of the state half an hour from the state capital (Cedarville has a separate district unto itself). Central serves 4,714 students from rural, suburban, and urban households as a result of its “doughnut” shape. The percent of adults with a High School diploma (79.7) within Central’s boundaries is slightly below the state average (82.5). Central serves a mix of all income levels, though the median income is \$79,034 (Standard & Poor’s, 2006b), which is above the state average; the median home value is also higher than the state average.

Despite this relative wealth however, the total, operating, and instructional expenditures per student is below the state average, as shown in Table 3-1.

Table 3-1

Table 3-1: Expenditure per Student

	Central School District	State
Total expenditures	8,607	10,755
Operating	7,256	8,357
Instructional	4,451	5,268

White students are the majority of the schools’ population, at 85%; Hispanic students are the most sizable minority, at 9% of the student population (see Table 3-2). Central School District has a low percentage of economically disadvantaged children (13.7%) compared with the state’s average (28.1%), but there are important differences in

the proportion of economically disadvantaged students at each of the four elementary schools, as will be discussed below.

Table 3-2

Table 3-2: Central School District Racial Profile

White, non-Hispanic	85.3%
Hispanic	9.1%
African-American, non-Hispanic	2.2%
Asian/Pacific Islander	1.9%
Mixed Race	1.3%
Native American	0.2%

Central's achievement rates are superior to the state's average (see Tables 3-3 and Table 3-4¹⁴), with the exception of Grade 5 math proficiency, though it does not qualify for Standard & Poor's "outperforming districts" list for the state, and was not identified as a district that was making strides in lowering the achievement gap between white and minority students. Central's elementary school students perform at or above the state's average on standards-based assessments for reading and mathematics.

Table 3-3

Table 3-3: Central School District 2005 Reading Proficiency Compared with State¹⁵

2005	District	State
Grade 3 Reading Proficiency %	75	68
Grade 5 Reading Proficiency %	69.6	64.2

Table 3-4

¹⁴ All District level data from Standard & Poor's unless otherwise cited.

¹⁵ All school-level data from District Profile issued by the district (Central School District, 2004) unless otherwise cited.

Table 3-4: Central School District 2005 Math Proficiency Compared with State

2005	District	State
Grade 3 Math Proficiency %	86	81
Grade 5 Math Proficiency %	68.5	69

Standard & Poor's synopsis of district performance is that "relative to other school districts in [the state], [Central] School District produces moderately above-average student results with well below-average spending per student. When compared with a composite of peer districts with similar demographic characteristics, the district produces average student results with comparable per-student spending." (Standard & Poors, 2002).

An analysis of data at individual schools shows that the district's average performance results from one particularly high performing school, two mid-performing schools, and one low performing school. The highest performing school is Adams Elementary; the lowest performing school is Washington Elementary. Reading and Mathematics Assessment scores are shown by school in Tables 3-5 and 3-6 respectively.

Table 3-5

Table 3-5: Central School District and School Grade 5 Reading Achievement Scores, 2004 State Standardized Achievement Test

	Adams	Hamilton	Jefferson	Washington	CSD 5 th Grade Avg.	State 5 th Grade Avg. ¹⁶
Advanced	43%	42%	25%	22%	33%	22.9%
Proficient	40	32	44	32	37	41.3
Basic	14	10	20	26	17.5	16.7
Below Basic	3	16	11	20	12.5	19.1

Table 3-6

Table 3-6: Central School District and School Grade 5 Math Achievement Scores, 2004 State Standardized Achievement Test

	Adams	Hamilton	Jefferson	Washington	CSD 5 th Grade Avg.	State 5 th Grade Avg.
Advanced	63%	45%	43%	29%	45%	38.1%
Proficient	26	21	28	26	25.25	30.9
Basic	6	18	18	18	15	19.1
Below Basic	5	11	11	27	13.5	11.9

There is a concentration of students from relatively wealthier households at Adams Elementary, and a concentration of students from relatively poorer households, and with limited English proficiency, at Washington Elementary; the proportion of economically disadvantaged students at the remaining two elementary schools falls between Adams and Washington. Three of the elementary schools reflect the majority White demographic profile of this part of the state. Because of zoning and housing ordinances in Cedarville low-SES are concentrated in Washington Elementary, which has the added effect of concentrating children of the growing Hispanic minority at the school.

Table 3-7

Table 3-7: 2004 Ethnic Enrollment and Economically Disadvantaged Students by Elementary School

	Adams	Hamilton	Jefferson	Washington
White	90.5	85.3	85.1	72.2
Black	3.1	2.7	2.5	3.9
Hispanic	4.3	9.6	9.2	22.0
Asian/Pacific Islander	2.1	2.2	3.1	1.7
American Indian/Alaskan Native	0.0	0.2	0.2	0.2
Economically Disadvantaged	12.2	28.8	22.9	42.6

The ratio of students to teachers varies at each of the elementary schools. There is no correlation in Central between lower student-teacher ratios and achievement. The district has a contractual agreement that class size cannot exceed 23 students in the primary grades.

Table 3-8

Table 3-8: 2004 Class size and enrollment by school

	Pupils per Teacher	Total enrollment
Adams Elementary	15.8	517
Hamilton Elementary	14.2	448
Jefferson Elementary	16.1	590
Washington Elementary	13.9	460
District average	16	
State average	15.2	

Central School District thus met the requirements needed for the study in terms of the variation in demographics between schools within a single district. I had assumed that such variation might mean that I would find different beliefs about intelligence and

reactions to NCLB's all child rhetoric (and perhaps other topics as well). That assumption was correct, as later chapters will detail.

Chapter 4

Local Policy Actions and Actors

This study describes how policy actors' beliefs about intelligence interact with local policy changes, and with federal and state policy mandates at the level of implementation in one school district. This chapter describes the roles educators have had in creating or implementing policy in the district and at the schools and explores policy and procedure variations in each of the four elementary schools. Recent policy shifts in the district have evoked strong feelings in defenders and detractors of old and new policies. I will show that their reactions to the changes in policy are based in part on their conceptions of intelligence. Similarly, existing policy differences between schools illustrate how conceptions of intelligence, particularly giftedness, are related to different policy choices.

The purpose of the chapter is to describe the policies about which the beliefs I cover in later chapters are related. This introduction to the district and its policy players should enrich the material in the next chapters, in which I thoroughly explore educators' beliefs about intelligence and the factors that influence intelligence and achievement at each of the four elementary schools. Before exploring educators' personal beliefs and discussing how they interact with policy mandates and rhetoric, it is necessary to discuss the roles of the principals, school psychologists, and teachers – the policy actors – in Central School District.

The Policy Actors Of Central School District

This state issued its State Accountability Plan after NCLB was signed into law on January 8th, 2002. As required by law, reading and mathematics standards were created immediately, with science standards to be implemented during the 2006-2007 school year. After some dissatisfaction from teachers and administrators about the nebulosity of the standards, further “anchors” were developed to provide more detail and clarity to educators about what exactly students should be taught at each grade level. Third and fifth graders’ achievement of these standards are assessed every year with the state standardized achievement test (SSAT).

Echoing the rhetoric of NCLB, the Central School District’s philosophy of education concludes, “In short, we believe all children can succeed.” This sentiment is echoed again in their Nondiscrimination In School And Classroom Policies statement: “The Board declares it to be the policy of this district to provide an equal opportunity for all students to achieve their maximum potential through the programs offered in the schools regardless of race, color, age, creed, religion, gender, ancestry, national origin or disability.” In this second statement “to their maximum potential” is added, though both statements were accepted on the same date.

Situated within federal and state policy frameworks and the financial and demographic realities described in Chapter 3, and school level policymakers interpret and make policy for the students in their schools. The school district office is staffed by administrative personnel including a superintendent, directors of curriculum for the primary and secondary levels, a director of pupil services, an ESL/federal programs coordinator, and various other staff. The four elementary school principals work closely

with Dr. Keith Lowry, the head of elementary curriculum, on decisions regarding elementary school level policies. They are of course beholden to the superintendent, and ultimately to the Board of Education as is typical in American school districts.

When reform is considered or made in Central School District policy for the elementary schools, Mr. Lowry and each of the four principals compose a team in which the principals are each given different areas for which they are responsible for selecting appropriate reform. Each principal has different backgrounds that aid them in these duties. Daryl Lang, principal at Adams, headed the changes to the math curriculum; Carl George, principal at Hamilton, took the lead in reading reform; Ursula Downs, principal at Washington, will take the lead in changes to the social studies curriculum; no mention was made for the role of Denise Haupt, principal at Jefferson Elementary, who was in her second year as principal at the time of data collection. Dr. Lowry manages this team with a distributed leadership model for decision making. “We’re all part of the decision,” said Ursula, “and that ownership is powerful in any school setting.” As I will describe below, local actors outside this official decision making body, namely two of the school psychologists, were able to influence local policy.

What follows first is a discussion of the policymaking roles of district personnel as reported during interviews for this study. I will also review some of the recent changes in district policy, covering at the same time the current policy environment of Central School District.

Principals and School-level Policy

Principals regularly meet on local retreats to discuss issues at their school and make decisions regarding school and district policies, procedures, and protocols. Occasionally, Dr. Lowry attends. Data from interviews suggests that some elementary principals have been more influential in reform than others, due primarily to the order in which the curricular changes mentioned above have occurred and are to occur. For example, reading and math were the focus of the most recent changes, while changes to the science and social studies curriculum are still under consideration. Thus, there was much more discussion about reading and math and about the roles that principals Daryl Lang and Carl George played in the choice of curriculum than about science or social studies.

Principals feel that they are instruments of policy creation, within the constraints of state and federal boundaries, as well as implementation. All four principals generally agreed with this view expressed by principal Ursula: “I think basically I am the instructional leader; that’s how I see myself. So working within the mandates and the structure ... I have a lot of power when it comes to those decisions.” Daryl agreed:

I would say that I have a great deal of decision-making influence within the parameters of district, state, and federal policy, and that a principal *isn't* limited in their work and creativity if they can incorporate the targets and the goals and the policies that are really you're—that's why you're paid!...I don't devise the curriculum, I don't devise the methods, I just focus teachers' instruction.

The close alignment of the curriculum to the state standards and the choice of the Learning Focus School (LFS) reform (explained later) were agreed upon by the district's decision making team, which included the elementary principals.

Principals apparently express to teachers feelings of being hamstrung by certain requirements resulting from the state's compliance with NCLB, however. "I know the [principals]—there has been the comments made before. 'It is frustrating sometimes. We understand what you are feeling in the classroom, but we still have to do it. It's the law now.' So they're stuck in the middle..." reported Ms. Claire, a teacher at Hamilton Elementary. Teachers report principals' conflicted feelings specifically on the issue of having to test learning disabled children with the same instrument and holding them to the same standard as children who do not receive instructional support, a frustration the teachers share. For example, Ms. Neeley, a fifth grade teacher at Hamilton expressed it this way: "I think they also see the downfalls [of NCLB] where some expectations are a little out there, saying that somebody that's functioning in a learning support classroom that might be functioning in reading on 2nd grade level, by the end of this year they're going to be reading on 5th grade. I think they know that that's not going to happen. So I don't think they're unrealistic." Ms. Thornton at Jefferson agreed: "I would say that they would have a realistic picture that our learning support kids, our learning disabled kids aren't going to be able to" meet state grade-level benchmarks. Finally, Mr. Svaboda, a 5th grade teacher at Washington said, "I can't speak for them... I am sure they're probably banging their heads sometimes saying 'there's no way we're going to get these kids to grade level, but we're going to try.'"

These qualified comments reflect the teachers' perceptions of the principals' attitude toward these mandates. I found no evidence that the principals had ever *explicitly* said to teachers that the children in learning support classrooms could not meet the benchmarks, or that this would be permissible in their eyes, though two said as much to

me during interviews. For example, the principal of Washington Elementary school said, “are kids ...who are special needs children taking that test ever going to hit advanced?” Not until the tests recognize their disability will they.” And the principal of Jefferson Elementary said “those kids who really are identified as learning disabled, I’m just not sure what kind of chance they have [to e meet the expectations set for them under NCLB], I think it just frustrates them.”

Publicly, principals apparently project themselves to the teachers as agents of the law, beholden to every measure. “They make us believe [that] they believe” in the law, said Mr. Reed, a fourth grade teacher at Jefferson, “I know they believe that it is helping all the schools. ...And they tell us that ... ‘we back it, so you will need to back it too.’” Expressing the mid-level bureaucrat status of principals, Mr. Steele, a teacher at Jefferson Elementary said, “They have to buy into it.”

The four elementary school principals are generally well regarded by their teachers. Ms. Neeley sums up the favorable views of teachers at each of the schools: “...I think they give the teachers a lot of credit.... They’re treating you as a professional.” This view is not shared by every teacher, as may be expected. Ms. Long, also at Hamilton, feels that “in this particular district I really feel...that the administrators don’t capitalize on teachers’ ideology at all. You know, they get together, they make the decisions, they send them down.” These may be conflicting perceptions of the district’s new policy of aligning curriculum with the state’s standards, of course, as will be discussed in more detail below. Generally, however, the testimonials from teachers, who but for at one school were randomly sampled, indicate a relatively collegial and cohesive relationship between teachers and administrators within each school and at the district level.

The picture that emerged from discussions about the choice of Learning Focus Schools, early screening of reading disabilities, and the identification of children for enrichment or intervention programs, is that the principals in this district are active in formulating school-level responses to the external mandates coming down from the state's compliance with NCLB. Each of these are discussed below in the section related to recent policy shifts. Where they are unable to modify school-level policy, they attempt to project support of the law, perhaps in order to increase teacher buy-in and decrease resistance to a situation over which they have no control.

The section below describes what role teachers play in policy making at the school level.

Teachers and School-level Policy

As a part of the "philosophy of our district," according to Ursula, teachers are given "a lot more ownership than some of the districts as far as influencing how things are going to be developed and so forth. And we value their input, truly value it." In my interviews with teachers a few dissenting voices emerged, but in the main, teachers reported feelings of such ownership, as well as mutual respect between themselves and their principals and district administrators.

Principals often utilize committees of teachers to gather information and report to the principal with recommendations for policies or procedures at the school level. For example, when the district was reforming its mathematics curriculum teachers reviewed and critiqued potential texts with Daryl. A team of teachers accompanied him to the conference of the National Council of Teachers of Mathematics in Utah as part of their

professional training, but also to visit publisher's booths and collect potential texts. At Jefferson, Denise Haupt created a committee of teachers to research behavioral and character education programs for use at the school and to make their recommendation to her, and to create a school-wide discipline policy. Teachers also act as grade-level representatives during assessments.

Some teachers claimed that principals allow teachers flexibility in determining the methods and occasionally the focus of their instruction, within limits and in response to particular circumstances, others claim that principals are more expressly directive. Ms. Neeley said "...they allow flexibility, which is really good. But yet they still also make us accountable." "They may guide us, but we always have a choice," added Ms. Thornton, a teacher at Jefferson. However, when Mr. Steele at Jefferson was asked if the administration asked them to teach in a specific way, he replied: "Absolutely. Yeah. They—you know it's very specific; do this, do that, so that it's structured time, it's structurally taught because everything is geared and related to scores—[state] standards and all that stuff."

One informative example of the leeway teachers are sometimes given occurred at Hamilton Elementary several years ago. In 2004, 5th grade teachers – worried about their students' performance on the upcoming state tests – were allowed to deviate from the normal curriculum for the month prior to the SSAT in order to teach math skills they knew would be on the test, but which they also recognized they would not get to prior to the administration of the test. The building administrators deferred to their authority as a grade-level team, though at least Kevin Quinton, the School Psychologist, reported expressing his disfavor to them. Another example is taken from Adams Elementary. Ms.

Coming, a first grade teacher, spoke with me about a phenomenon often discussed in the policy literature (e.g., Cuban, 1993) about teachers: the ways in which teachers may create hybridized instructional practices from their own beliefs about teaching and learning, and the instructional directives they are given by administrators:

We had a program before where this lady came in and, and she would teach us all these great things to do and we would do some and some we kind of didn't do, you know, but that was all part of the reading grant that we had. As far as math goes we got the math book, 'here it is, you need to do it how the math book says.' And then we [first grade teachers] met and we were able to kind of redefine some of the things that didn't make sense for a first grader to do. We were able to kind of revamp that a little bit. So math isn't so bad.

She went on to provide a clear example of teacher resistance to reform:

But the reading.... We have a new test, the DIBELS. And I just I wholeheartedly with all of my heart disagree with DIBELS. Disagree so much. ... So, well, pretty much we're not doing what [they] told us to do and it's working out great. I wouldn't say we're ignoring it because we can't. I would say we're picking and choosing what's the best thing to use. ... we can't ignore DIBELS because we go into a meeting and they say 'here are the DIBELS scores. Pick kids from here for reading services....' it's hard because I totally disagree with that¹⁷.

She added, "...a lot of times I take what I know is right, and take what they tell me and I use it as a suggestion. And I do what I know is right for my kids. And I see that my success rate is pretty good."

However, some teachers feel that their teaching authority had been recently eroded, specifically in terms of choosing the curriculum, by alignment of the curriculum to the state standards documents. "Teachers have lost—veteran teachers don't have control over what they're going to teach [anymore]. And that caused major problems," according to Daryl. This may be the source of the discontent Ms. Long expressed above. In one case Ms. Xavier, a teacher at Jefferson, admitted that the amount of choice she had

over the curriculum had decreased; but because “even though it wasn’t me personally, I was represented when those things were decided” by a team of teachers, she suggested that she felt no overall decrease in her authority.

From the 11 teachers I interviewed, the general picture that emerged was one in which the teachers in Central School District were at least satisfied with, and generally positive about, the amount of representation they are given in the decision making at the schools, the leeway they are given to adapt instruction occasionally, and the support they receive from their administrators. Ms. Coming is not alone in expressing some dissatisfaction with the changes that are occurring in Central School District, but while their frustration is directed at the policy responses at the district level, the real source of their dissatisfaction seems to lie higher up the chain with the reason *behind* the necessity for change; there are significant grumblings from many teachers about some of the state and NCLB mandates they are expected to fulfill, particularly in regard to being held accountable for 100% student achievement. More on this district’s educators’ views on NCLB will be covered later.

Conflicting views from teachers concerning the amount of discretion they have over their curriculum suggests that schools in this district are becoming more tightly coupled with the state under the standards-based reform effort. As I will discuss in Chapter 9, this is in fact the case. Although some teacher discretion remains, it has been reduced under the standards reforms, and where teachers exercise a great amount of judgment over what materials they will and will not use, as in the case of Ms. Coming above, their actions are less discretionary than insubordinate to the district’s policies.

School Psychologists

Each building has a school psychologist, sometimes called Learning Facilitators, who assists in the placement of students in instructional support or enrichment programs and counsels students (which includes behavioral counseling when needed).

Daryl described this group of psychologists this way:

It's funny, the four of them are divided into – I don't want to say 'camps,' but they look at things totally different. Two of them look at kids through data. The other two look at kids through a humanistic viewpoint. But they both will use data and social, emotional, and behavioral needs. [But] that's not where they're coming from, when they initially look at a problem, they're coming from two different camps. It has to do with their background.

The two school psychologists who have been the most active in policy advocacy are Washington's Karen Matthews, and Hamilton's Kevin Quinton. Both Kevin and Karen are data-oriented in their approach to looking at, describing, and proposing solutions to problems and issues at their schools, both were trained in school psychology and have never had classroom experience, and both support NCLB in its attempt to challenge teacher practice and raise achievement across the board (though Kevin has reservations about the legislation on other matters not related to instruction). They were the only participants to discuss educators having beliefs about intelligence that focus on "innate pathologies." These two used that specific term to refer to a belief that intelligence is a mental power largely insensitive to environmental influence that locates the reasons for low achievement in the heads of the students. Both speak of intelligence, and the development of intelligence, in ways that evoke Sternberg's biological, sociological, and systems metaphors of mind.

Steven Smith at Jefferson Elementary and Ophelia Franks at Adams both came to their position in different ways. Ophelia has a Master's degree in School Psychology and taught "on and off" between 1974 and 2002. Steven's professional training is in psychology and Special Education. Both are supportive, but less adamantly so, of NCLB than Karen and Kevin. Steven and Ophelia both expressed concerns about the inflation of academic pressure and the resultant stress on children in early grades, especially kindergarten. Kevin and Karen were also a little concerned about stress loads on very young children, but did not feel that the increased focus on academic achievement was harming children in the way that Steven and Ophelia feared.

I detail these differences because they have interesting implications to the story of recent policy changes in Central School District. At Central the learning facilitators have on occasion played a fairly influential role in the story of the selection of instructional reform. Karen claimed that "Kevin and I have the same push so we're able to create some momentum systemically. At least at the elementary level." Kevin and Karen are an example of a coalition whose influence is enabled by a reform that they perceive as meeting their agendas (W. Firestone, 1989). Several other comments confirm their influence, including Carl admitting how many changes resulted from Kevin's advocacy, and off-hand comments made by teachers about policy changes, their consequences, and who was responsible.

Prior to the enactment of the state's NCLB testing and accountability measures, Kevin and Karen recognized the change that NCLB promised to bring, and raised their concerns with the principals. In Kevin's words, when it became evident that the state was going to accept NCLB mandates and that major changes were going to result in schools

across the state, "...this is not to toot our own horns but they [administrators and principals] didn't have a clue what to do. They knew that change needed to happen and I think it's only because we approached them that it was proactive as opposed to purely reactive. ...We primarily started with learning facilitators saying, 'This is what's coming. You can either wait until it's a problem and you're saddled with it, or we can do something now.'" Carl George and another principal (unidentified in the interview data) agreed and took the Learning Facilitators' recommendations to the other principals and Dr. Lowry. As a result of their efforts, the district adopted the Learning Focused Schools model for their instructional approach and several new reading assessment procedures, which will be discussed in more detail below. There is no evidence in the data that Ophelia or Steven have taken active roles in introducing or changing policy in the district.

With the above information in mind, what follows is a discussion of three recent policy shifts, the adoption of a whole school reform model, the adoption of an early reading intervention strategy, the elimination of the district's K+ program. I also discuss a policy that is differently implemented at each of the four schools, the identification of students for gifted or remediation services. The different implementation practices illustrate the four principals' different beliefs about intelligence.

Recent Policy Shifts

The following section describes three changes to policy in CSD in the five years since the implementation of NCLB. The story of why these changes occurred is an interesting narrative of local decision making and the implementation of local reforms in

response to external mandates and changes in policy environment. I will also show later how these policy changes evoke educators' beliefs about intelligence.

Learning Focus Schools Model

When challenged by Kevin and Karen to proactively reform the elementary school curriculum to cope with the state's upcoming standards-based reform measures aligned with NCLB, the principals and Dr. Lowry adopted the Learning Focus Schools (LFS) model of instruction and assessment¹⁸. The district administration (including these principals) felt that the model was appropriate because if it could work in schools so disadvantaged, it would surely work in their less disadvantaged district. Principal George (Hamilton Elementary) attended workshops to become a trainer for district personnel for working with LFS and was certainly the most vocal about it of all of the interviewees. He has traveled to workshops and schools to learn about and promote this program. Part of the attraction to LFS was the core principle of "curricular coherence," that is, the direct alignment of the schools' curricula to state standards. As Ursula reported, "We...prioritized our curriculum as to what are the essential components that we have in our core, and then we're trying to get it out there as best we can with our students."

Implementing the LFS model resulted the termination of two specific prior reforms: Howard Gardner's Multiple Intelligences (MI) and E. D. Hirsch's Core Knowledge models were most often specifically mentioned in interviews, though one or two other instructional methods were mentioned by teachers. Prior to adopting the LFS model, Central was "into" Core Knowledge "big time" Daryl said, but now "I can take to our faculty room and our storage room, and there are tons of Core Knowledge units"

sitting on the shelf. “Right up there next to the Multiple Intelligences stuff [laughing] We were into that too. We were using all the MI checklists and observations to choose our enrichment kids and throw out standardized tests and stuff. I mean, it was so *grey*” he replied. Teachers had to create a MI profile for each student, but “You couldn’t even get one teacher to agree with another about one kid,” Daryl said.

Many teachers discussed MI in interviews (none mentioned Core Knowledge), and some still reported creating MI profiles for their own students. Central had implemented a Multiple Intelligences approach in the district for several years, but the administration ultimately dropped it, in part because it was too “grey” as principal Lang put it. In part, however, the new state standards mandates also were being announced at about the same time that teachers and administrators were struggling with the Multiple Intelligences model. Thus, an alternative to MI and Core Knowledge came on-line at a time when administrators were feeling dissatisfied with their current practice, recognized an imminent change in the policy environment, and saw a need for local change. In a sense, the policy window NCLB created for the implementation of LFS in Central was the window out which MI and Core Knowledge flew. As Steven Smith, the Learning Facilitator at Jefferson Elementary said, “I think the administration probably said ‘well it’s a really nice theory and we agree with that in principle [but] that’s not going to help us reach the levels of NCLB.’ You know [it] comes down to that bottom line.”


Now principals send strong messages to their teachers that their instruction should follow the LFS methods. “[T]he [math] textbook was chosen because it aligned best with the state anchors, and it also matched our Learning Focus School philosophy,” said principal Lang. When asked if the administration promoted any particular method of

instruction, most teachers expressed the feeling that they were free to make decisions in the classroom as long as they fell into the guidelines of the state standards documents; four teachers specifically mentioned the LFS model as the method principals advocated, though they were not specifically asked about it as part of the protocol, and others referred to having their curriculum and teaching method handed to them (though they were free to use their own style). “We get a lot of definitions on how you should be teaching reading and math,” said Ms. Coming at Adams, “Learning-Focused schools is one.”

Learning-Focused Solutions provides software support to schools, districts, and states that adopt their whole-school reform model. One such software tool is their “Curriculum Wizard” that assists in the creation of a curriculum aligned with state standards. As an illustration of the kind of control over teacher choice, consider this page from the training manual for the curriculum wizard:

Step 2: You will see the Curriculum Wizard for your district’s curriculum:

Curriculum Wizard: District Name Curriculum

1 : Create Curriculum	<p>Current Curriculum: District Name Curriculum</p> <p>Create a New Curriculum</p>	
2 : Prioritize	<p>Prioritize Curriculum</p> <p>No Objectives Have Been Ranked Yet</p>	
3 : Edit Unit Topic Maps	Create New Course	
4 : Edit Content Maps		

NOTE: You do not need to do Step 1. The curriculum has already been created for you. You should NEVER create your own curriculum without discussing it with your administrator first.

For several years, the state's standards documents were frustrating to teachers and principals, "as clear as mud," according to principal Lang. Lack of clarity from the state made it hard to "prioritize" the curriculum in the way LFS mandates. With the recent release of the state's anchor documents, teaching objectives crystallized for school-level personnel as district administrators worked with principals to strictly adopt state standards for the curriculum. As mentioned above, not all teachers are happy with the constriction of curriculum choices in the classroom, but for the most part, principals welcome the alignment of curriculum to the state standards. "I think that in all honesty that the state has gotten better at what their expectations are," principal Downs said. This clarity, principals feel, helps them to be the instructional leaders that all four claimed was the most important part of their job. To principal Lang, "...the anchors now have given the huge number of standards more clarity and more focus. And finally we have a target. A clear target with the eligible content..." which means that "now we can focus on mastery instruction at every grade level. Thus, changes in the policy signals the state made in relation to the clarification of the standards through the anchors facilitates the district-level choice of LFS as a response.

Another major component of the LFS model is "data-driven decision making." The data include not only those collected on state standardized tests, but those collected by the district's own assessments, and those collected at each school under the discretion of the principals and learning facilitators. What is most attractive to the principals and two of the learning facilitators is the perception that these data, which are criterion-

referenced, come from scientifically validated instruments and thus are free from subjectivity.

Early Intervention in Reading

Administrators in CSD are dedicated to the concept of early intervention for students who are having difficulties in school as being an effective means for ensuring the best odds for later academic success. They have adopted a response-to-intervention model (RTI), under which young children are tested as or before they enter kindergarten to determine if they are at risk for any particular learning disability, especially in reading skills. As it emerged from the interview data, intervention with students who are low-performing on math assessments is considered important, but the acquisition of reading skills is considered the crux of all efforts to increase achievement for students in CSD.

The policy raises strong feelings in Karen:

I think our priorities are right putting an emphasis on literacy knowing what we can do with brain development and preventing literacy problems from even manifesting in the first place is what the science of reading is all about. So to actually not intervene with kids when they come in, knowing they might be coming from families with histories of reading problems, would be neglect. It would be willful neglect.

NCLB mandated reading and math reforms first, and the state complied; it is clear that the principals agree that reading is a critical foundation for school success. The use of reading assessments that are designed to predict academic performance began to push reading intervention into earlier grades; reading intervention instruction now begins in kindergarten for children identified as “at-risk” for reading problems in Central School District. This was not the case until recently. The policy shift resulted from the efforts of school psychologists Kevin Quinton and Karen Matthews.

Key to their advocacy for a policy shift is how Kevin and Karen perceived the utility of the district's new reading assessment measures in predicting reading success, something they seem to feel administrators don't understand very well. In their interviews, Kevin and Karen repeatedly referred to the importance of using scripted instructional and assessment measures such as the Direct Indicators of Basic Early Literacy Skills (DIBELS).

As Kevin described the thinking process behind beginning intervention at the kindergarten level:

And that was the point of this whole model saying if we can *know that* with such certainty how connected those measurements are, we know who's at risk in January, and we know who's at risk in September. Why aren't we intervening then? Hey you know what? If we know in September this year, we knew about those kids from the year before. ... and that's eventually how we worked our way down to kindergarten. We could know in kindergarten with some certainty based on these measures, allowing for error, who's likely to not do well on the SSAT in 5th grade, just because your performance from year to year predicts your performance in the following year. So why wouldn't you intervene in kindergarten to make sure that by the time they got to 5th grade they were good readers and could do well, and (by the way, probably icing on the cake) do well on the SSAT."

Hamilton began using DIBELS assessments before it became a district-wide policy. The district's subsequent move to use DIBELS has not well received by all teachers or principals. The transition apparently was a little bumpy. Minutes from an Elementary Principals' meeting in 2003 acknowledge that DIBELS was driving an undesired wedge into the teaching staff, as Ms. Coming's comments above reflect. The principals felt that the teachers were misunderstanding the use of DIBELS assessments as implying a change in the language arts program. Teacher resistance is apparently associated with clashing beliefs about learning and instruction. Some teachers still resist

using scripted reading formats for instruction, particularly at Adams, which I will cover in more detail in later Chapters.

K+

For several years, CSD conducted a program called K+, which was a second year of kindergarten for those children deemed not quite ready for first grade. The program was at least ten years old when the district administration made the decision to terminate it, despite support for the program by at least two of the principals, Daryl and Carl, and some teachers. K+ was not a thriving program when it was terminated. For a period of time, Adams elementary and another school (presumably Hamilton) persisted in providing K+, though the other schools dropped it. Students from Adams and the other school were then combined into one K+ program housed at Adams.

In essence, K+ was a program to improve school readiness for students between kindergarten and first grade. Other schools that use a similar program may refer to it as pre-first. K+ purportedly delivered an enhanced kindergarten program, or a diluted first grade curriculum, depending on the perspective of the interviewee.

The K+ program was only discussed in two interviews late in the process of data collection, from one proponent (Ms. Coming, a teacher at Adams), and one opponent of the program (Kevin Quinton). From those data, the following story emerged.

Kevin Quinton did not support K+ because he believed that “essentially it was a glorified retention. The only way retention even vaguely works is if it’s an active intervention. It [K+] was not an active intervention.” Apparently Kevin’s early criticisms were not well met by Carl: “He made it abundantly clear when I first started here that I

did not understand this and I will do what I have to because it's what I'm obligated to do in this position." The better policy in Kevin's mind was to implement a response-to-intervention model under which schools would proceed with identifying children in first grade who have skills deficits that put them at risk for not reading at grade level and remediate them. So Kevin armed himself with data about the referral process and long-term impact of K+ and took it to a discussion about the future of the program.

Apparently there was debate between Daryl Lang, allied with Carl, and Kevin about the efficacy of the program during the debate over whether or not to keep it. Kevin analyzed the data on the students who were referred for K+, based on the district's "rather elaborate" rubric for selection. "Not a single child qualified for K+" according to that rubric when Kevin completed his analysis. To Kevin, it appeared that referrals had ultimately become behavioral. His findings were not well received by the teachers ("They were screaming that couldn't possibly be the case."). Additionally, he reported that "I would walk in [at the end of the first week of school] my first year, my second year here, my third year ... kindergarten teachers would go 'Johnny should be in K + next year.' I'd go like 'you've known him for four days.' 'Oh he should be in K +. I just know it.' Hmm. Kevin found that "the vast majority of those kids ended up in third or fourth grade in special education."

Daryl also came to the table with his own independently conducted study results. According to Ms. Coming, "Daryl did a study, I think it was like in the high 80s or low 90s percent that were still at or above grade level according to the [state standardized test] in fifth grade, of all the ones that had gone through it."

Here is Kevin's recollection of some of the debate between himself and Daryl, who supported K+:

I said "well, if we're going to keep K + then we need to do something actually different than K +. Why don't we make sure it's proactive?" and I, the response I got was, "these kids are just, they're just too big of behavior problems to do any teaching with them. They're just really struggling." ... the principal was saying it was like: "nah, these guys just aren't getting it...."

Obviously, there were different perceptions of the purpose and results of the program, but it appears that one of the two reasons K+ was terminated was parental pressure stemming from a perceived stigma of having their child placed in K+. According to Kevin, the other reason the program was dropped was that district administrators

believe it or not, started to question the outcomes of the students and saying, 'are we having more students ending up in special ed even having gone through this program?' And also, 'is it cost effective?' And someone went back and dug out the research that actually had been done years ago on the K+ program here in this district which said that it wasn't effective in terms of student outcomes. I think [the reason it was ultimately dropped] was part economical, part philosophical.

Said Ms. Coming: "the administrators didn't support it." In 2004, the last K+ classroom closed its doors. Now, like the other three elementary schools, Adams is using intervention strategies in kindergarten – which disturbs Ms. Coming. "And so we try to like, "fix" them in kindergarten and first grade. I mean they are now doing services in *kindergarten*. You know: 'if you don't know some of your letters and sounds coming in it's time to pull you in kindergarten.' [ironic laugh] It's just, it, to me it's ridiculous... because they're not ready for it yet."

The "philosophical" differences between the perceptions of the program between Kevin and advocates of K+ are a striking example of two views on the same program can

vary, and will be discussed in the following chapters. Do differences in beliefs about intelligence explain such a difference of opinion? I explore to these questions in later chapters.

Identifying Students For Gifted And Intervention Programs

The process by which children are identified for gifted or interventions varies slightly among the elementary schools. The district's policy manual is not entirely prescriptive about referral and evaluation procedures for gifted education and special education. Those tasks are left to the superintendent or a designee. The district's definition of a gifted student is "a student of school age with an IQ of 130 or higher who meets established multiple criteria indicating gifted ability or a school-aged student with an IQ lower than 130 when educational criteria strongly indicate gifted ability."

Procedures in place allow a teacher to refer, or parent to request, that "a school-aged student undergo a multidisciplinary gifted evaluation to determine if the student is gifted." An assessment by a school psychologist must occur for "mentally gifted status" to be given to a child, although officially a Gifted Multidisciplinary Team (GMDT) must also be involved. A GMDT is "comprised of the student's parents; a certified school psychologist; persons familiar with the student's educational experience and performance; one or more of the students current teachers; persons familiar with the students cultural background." It does not necessarily have to be a team, however, since "a single member of the GMDT may meet two or more of the specified qualifications."

Dr. Lowry provided the information seen in Table 4-1 below, presenting the number of students in enrichment and intervention programs at each of the schools. These

figures are contradicted by different study participants, apparently because educators are still working out their language around enrichment, gifted education, intervention, pull-out services, and anything that might be labeled as “supplemental student services.”

Nonetheless, they appear to at least accurately reflect that Washington places far more children in “enrichment” than the other schools, and that Hamilton has more students in intervention classes than the other schools.

Table 4-1

Table 4-1: Number of students in Gifted and Intervention programs.

School	Enrichment		Intervention	
	Number	Proportion of student body	Number	Proportion of student body
Adams Elementary	59	11%	22	4%
Hamilton Elementary	45	10%	56	12%
Jefferson Elementary	58	10%	26	5%
Union Canal Elementary	123	26%	35	7%

In correspondence with Kevin after data collection, he wrote, “we house the 2 part-time learning support classes for the district (i.e., all kids who need that level of support no matter what the building come to us). That represents approximately 20-24 additional students in any given year.” This may explain the higher figures for intervention students at Hamilton, but the explanation for the higher number of enrichment students is disputed in the correspondence from Karen Matthews and Dr. Lowry.

The superintendent’s documents were not made available to me, so unfortunately it is impossible to know precisely what they mandate concerning referral and evaluation procedures. However, in a personal communication regarding the above data, Dr. Lowry

told me that “we do not necessarily select enrichment services only on I.Q. We want enrichment to impact as many students as possible within guidelines. We also consider teacher requests.” According to statements made by principals and school psychologists, the material used for establishing giftedness include state standardized tests, district achievement assessments, teachers’ reports, and achievement in the classroom. The statements of the principals show that whatever those procedures may be, they are not uniformly implemented across the four elementary schools. The use of intelligence tests in the evaluation process is the most notable example, as I discuss later.

Enrichment services in Central School District differ from the typical gifted program of decades ago in that enrichment is often subject-based. As Dr. Lowry explained:

We use flexible grouping ... within our schools, especially Washington. With enrichment, a student may participate in math only while another student may be there for science. Some students could be involved in numerous areas. We also have our enrichment teachers work with classroom teachers and all of the students.

Principals differ on how much weight they place on different criteria for giftedness identification. Ursula and Daryl, and Denise on occasion, downplay the importance of the IQ test. According to Daryl, “We still don’t test for 130 [IQ] on intelligence tests here. Some school districts *still* go by that. We haven’t done that for years. ... Only if a parent demands it will we give the kid the full battery of tests, including the intelligence test.” At Adams, children are placed in gifted programs without much parental involvement, and parents don’t complain. “I guess it’s been 10 years since we’ve been asked” to give the full battery of tests test by a parent. Assessment at Adams

has shifted so completely away from considering IQ that Ophelia Franks, the school psychologist can say:

You know the thing is in school as far as intelligence I don't know that it comes up a whole lot. Everything shifted years ago¹⁹. We ... used to do IQ tests on anybody who was being considered for enrichment services. And I think we probably even called it gifted services – we don't even call it that any more. It's totally based on achievement now. So there isn't any intelligence test component or any other way of gathering information about intelligence. It's really only achievement that gets out and it's in the same areas that match what schools address primarily nowadays: reading, writing, math.

Daryl claims that the reason they have not been asked to administer a full battery of tests by a parent is because his method of assessing students for enrichment is more inclusive than the previous method, and pleases parents. “Parents are happy here. Actually, their kids are getting more here by this method than they would be. Plus, if we start doing that, there's going to be a lot fewer kids going down” for enrichment. He explained that his method involved teachers and administrators looking “at teacher's reports, our Terra Nova, our SSAT scores, and individual achievement tests. ... I go by the guidelines. They have to above the 95th percentile in all of our group achievement tests, individual achievement test, the end of the year test in the book, the SCAT test.” Apparently, he set the guidelines to which he refers, because no one else reported using that particular method of assessment.

By his admission, this method is more inclusive than using the full battery of tests, including IQ tests. According to Daryl, 20% of his student population, over 100 students, attend pull-out enrichment programs for mathematics. He mentioned that some additional students “go for language arts too.” Note the difference between his figures and those provided by Dr. Lowry in Table 4-1.

At Hamilton and Jefferson, intelligence tests are more rigorously used for the evaluation of giftedness. When I asked Carl if students were ever identified by teachers as candidates for enrichment but did not have high enough test scores were placed in enrichment classes, he said:

well, that process would pretty much preclude a child from being there because they're going to have to meet not only the teachers saying that they need [enrichment], but they're also going to have to make that cut as far as the screening process. ...one student that might fit in that category is a child that might be ... a shining star in the classroom and [who] may look like a child that would be in need of some of the services but may have the IQ of 110 or 115 or something like that, they probably wouldn't be included.

Still, when he refers to “the cut as far as the screening process” he is referring to the other achievement tests that are considered, not just IQ tests. And, as is technically allowed by district policy, he isn't strict about scoring 130 or better to qualify for enrichment: “if they're doing achievement that's in the 90th percentile and have an IQ of over 120 – it doesn't have to be that – but primarily this is the kind of students that would be serviced by” the enrichment facilitator. Note that at Adams, Daryl sets his cut-off score at 95th, not the 90th, percentile on achievement tests.

At Jefferson Elementary and Hamilton, administrators follow the method that Ophelia reports Adams Elementary no longer uses: all students must be given an intelligence test in order to get into enrichment. Similar to the procedure at Hamilton, scoring below the cut-off does not preclude placement into enrichment classes. As Denise told me, “Sometimes we do take students who might be a little bit below the cut-off, but are demonstrating the ability. We'll just include them.” Why? “A lot of times it's parents,” she said. This was true also of the intervention classes. She reported that if

students tested just above the cut-off score for qualifying for intervention, but the GMDT felt that the child would benefit, they are placed. This may be due to her own daughters' experience with standardized testing, as I will discuss in Chapter 7.

At Washington Elementary, Ursula claims that “for gifted education, you look at a 130 IQ or above, but IQ testing is not really in the realm of things anymore. It’s sort of old school.” As I cover in the Chapter 8, Ursula has little faith in the validity of IQ tests. Nonetheless, she admits the occasional utility of test scores: “I think we still have to have something drawn in the sand as far as a line to say what is the criteria. And if they meet the criteria, then they get the extended services.”

It is clear from the data in Table 4-1 that Washington is an anomaly among these four schools. Washington, which has the largest population of ESL students, is the only Title I school, and has the highest proportion of students from poverty, also has the largest number and proportion of students receiving enrichment services – which was once considered gifted education. When I confirmed these numbers with Dr. Lowry and asked why Washington had so many students in enrichment, he replied that “we want enrichment to impact as many students as possible,” and that CSD used “flexible grouping, especially [at Washington].” However, Karen wrote that

123 is a little high I believe....we have a three tiered model for enrichment and so the enrichment facilitator was going around and pulling kids for a Tier 2 type of service and then also seeing identified enrichment kids. In addition, I also believe that more than 26% of students were receiving supplemental services - they included Title I kids and kids who were not eligible to Title 1.

It is therefore difficult to know how to interpret the figures in Table 4-1. However, Ursula’s distrust of intelligence tests and other standardized tests and her unique (in this

district) view of gifted children indicate why more children receive enrichment services, as I discuss in Chapter 6.

Summary

Central School District's relatively recent decision to introduce proactive reform prior to the implementation of NCLB-based changes in state policy has resulted in a picture of uniform implementation of the LFS model across schools, while there are some notably different practices at each of the elementary schools around the use of IQ tests, as well as the placement of students in supplemental services. In the next four chapters I describe and discuss the beliefs of the local policy agents – principals, school psychologists, and teachers – at each of the four elementary schools related to the rhetoric of NCLB and the local policy shifts described above.

In Central School District, the “screening process,” as Carl referred to it, for inclusion in enrichment is more rigorously based on achievement scores than IQ scores. This makes the continued use of IQ testing at Jefferson and Hamilton notable. Alternatively, Adams is notable for its complete disregard for IQ as a criterion for inclusion in enrichment, and because of their higher cut-off score on achievement tests.

Chapter 5

Hamilton Elementary: Paradigm Change at the Top

Hamilton elementary school sits on the cusp of low-density residential and agricultural-zoned areas in at the southern edge of Cedarville's neighborhoods. The playground looks out over the cornfields which at first gives the sense that Hamilton is a bit remote, though the small city's heart is only a short drive away through an established neighborhood. Besides the school psychologist Kevin Quinton, there are eight other student support personnel at Hamilton: an Enrichment Facilitator, four instructional support teachers (ISTs), one Reading Specialist/IST, a Reading Specialist, and a Speech Therapist. At Hamilton I interviewed Principal Carl George, school psychologist Kevin Quinton, and three teachers, Ms. Long, Ms. Neeley, and Ms. Claire.

There are roughly 450 students at Hamilton, 74% of whom score at proficient or advanced levels on the state's reading assessment, 26% are basic or below basic; in mathematics, 66% are proficient or better, 23% are basic or below basic (see Tables 3-5 and 3-6 for more detail). The student population is 85.3% White, 2.7% Black, 9.6% Hispanic, and 2.4% Asian, Pacific Islander, Native American, or Alaskan Native; 28.8% are economically disadvantaged. Average class size is listed at about 14 pupils per teacher.

Hamilton's policies differ from the other schools in two notable ways. The first is that Carl and his staff test all children, grades K through 5th with the DIBELS reading

assessment. The district only requires that DIBELS be used in kindergarten and the 1st grade (2nd grade beginning in 2007). Carl and Kevin use that data to make decisions regarding reading intervention placement.

The second notable exception is that Carl places children who are reading below grade-level into two periods of reading instruction, rather than just one. In his own words,

... there is no replacement instruction for kids who have learning disabilities or students who are below level. I'm not going to send them out trippin' down the hall to another place. They're going to have a regular period of classroom instruction, plus they're going to have an intervention period. And that period of replacement instruction has supplanted social studies and science and in some cases special area instruction – and this is different, I just had one of the principals in the IU that sent responses from a little questionnaire about what people are doing, and nobody is pulling kids out of science and social studies to do what I am doing. So I found that I am unique, but I thought everybody would be doing that.

The other schools pull students from grade-level reading periods for intervention until they are on grade level and can remain in class for reading period.

Carl might feel that he is unique in his district and intermediate unit, but recent research and media press have recently published reports and articles indicating that more schools around the country are similarly “prioritizing” their elementary curricula to ensure that children receive the reading interventions that assessments indicate they need (Center on Educational Policy, 2006; Dillon, 2006). Other study participants commented on the marginalization of science and social studies to focus on reading and math instruction – an artifact of the alignment of the curriculum to state standards, which currently emphasize reading and math at the elementary level – but not the extent that Carl discusses above. It is easy for Carl to “back-burner” science and social studies instruction, since he believes

that if I have not taught children to read by the time they've left elementary school I have not done my job. And I tell the teachers that: 'I believe that if *you* haven't taught kids to read by the time they leave elementary school then you haven't done your job. Plenty of time for catching up on science and social studies, but unless they can read and can do something with that then we might as well just fold it up, y'know, because we're not going to do it.'

Carl belief that reading is fundamental to learning other subjects is underscored by his choice to use DIBELS before the district adopted it, and to use it to assess reading skills in grades that other schools are not.

Hamilton Educators' Beliefs

Principal

Principal Carl George presents an interesting case of how an individual reconciles potentially conflicting views about intelligence, and how personal beliefs can be changed – in his case indirectly – by policy. His beliefs about intelligence are in transition, which explains how he can hold sometimes potentially conflicting views about intelligence. The transition in his thinking, significant enough that he refers to it as a personal “paradigm shift,” was catalyzed by new information and experience he gained in his responsibility from being a trainer for LFS's whole school reform model. Let's begin by tracing his definition of intelligence and follow with a discussion of the causes and implications of his personal transition.

Carl's Beliefs

In Carl's own words, intelligence “is the way in which individuals process information. It seems as though they would be able to use that processing to be able to

assimilate and use information.” “Generally what we’ve done with intelligence the way I understand it, you generally have two basic scores, one in language and one in performance. Each of those two scores equate to a different basic function of the brain²⁰.”

Aptitude, to Carl an innate characteristic, is central to his conception of the nature of intelligence:

there’s a certain amount of aptitude that allows [high performance in individuals] to happen. That doesn’t mean that you can’t get good at something, but the person who has to work really hard at it as opposed to the one who just seems to absorb that information.... the person who takes one repetition to learn something, and the person who takes five can perform exactly the same way, but the path to that point was very different. I guess that’s how I am defining intelligence: your ability to move quickly to that [high] level of performance.

This dimension of aptitude is unaffected by the environmental conditions that Carl acknowledges can positively or negatively (as in the case of drugs) impact IQ: “...surroundings will influence some of those things...but the person who is musically gifted, who doesn’t have to even be within that realm, but is all of a sudden put into that realm and learns very quickly...it’s just—it obviously influences their overall achievement, but the *ease* in which they move to that level...that’s what I am thinking.” Thus genetics play a role in Carl’s conception of aptitude, which he sees as one dimension of intelligence. Further evidence for the strong role genetics play in intelligence comes from a question he asked me during a frank discussion about the possible causes of the Flynn effect²¹: “And you’re saying that it can’t be attributed necessarily just to an evolving population? That it’s really something more than that? How does the parent transfer that same ability to be able to associate information onto a child if it’s not organic in nature, if it’s not genetically passed?”

Carl's answers on the eight questionnaire items directly related to the immutable nature of intelligence indicated that he does not feel that a person's intelligence can be modified, though none of his answers were "strongly agree" or "strongly disagree." For example, he agreed that "your intelligence is something about you that you can't change very much," and that "to be honest, you can't really change how intelligent you are."

When I asked him how or whether intelligence develops over the lifespan, he responded,

I don't know.... I have been led to believe that you can't really change the overall intelligence quotient that much over the period of a lifetime. So some of that has to be innate. It has to be just the way in which that individuals process that information. ...I know that if for instance we do an intelligence test with somebody say in 2nd grade, and they don't qualify as a student with a disability or they don't qualify as a student that is a gifted student, if you give it to them three years later when they're in 5th grade, they generally still don't qualify for those types of things.

Thus Carl's understanding of the nature of intelligence is partly reflective of the psychometric definition.

However, he also holds some beliefs that contradict the psychometric perspective. For example, he agreed that "the habits of a community can limit or increase the amount of intelligence their children grow up to have." Furthermore, during our discussion on the origin of intelligence, he expresses a view that reflects cognitive theory and the biological metaphor in that "It's organic, *generally*. [his emphasis]... it's the way the synapses work, the way the electrical impulses go in the brain," and that

it can be slightly varied through increase of vocabulary because it allows the individual to be able to process the information a little more quickly. ... There's a high correlate – and I am making some of these based obviously on my own experience – to something that's called a Peabody Picture Vocabulary Test that you can give early on to children—a reasonably high correlate.... [Y]ou can change that picture vocabulary and

you can actually get higher scores by introducing and helping them with increased vocabulary development.

Potentially such interventions are time sensitive, and he clearly believes in windows of opportunity presented by brain development. “[T]here’s a certain amount of plasticity involved with the brain. You miss that window of opportunity once they get to be 6 or 7, and you’re not going to be able to develop that any more.”

But apparently this is not to say that achievement cannot be influenced, even if IQ cannot: “we can help students, particularly like if we want to teach them vocabulary, we teach them that vocabulary in context. We associate things that they already know. We give them higher rates of transfer. Those are the kinds of things that help students to be able to learn. But whether that has any thing [to do], you know, any pre- and post-IQ [scores]... I don’t know....”

The knowledge that a student’s performance can be improved through intervention creates some turmoil with his more psychometrically-oriented beliefs about the roles that genetics and environment play in the phenotypic expression of intelligence that he has not entirely reconciled. To wit, when I asked him if he thought that kids today are smarter than they were a generation ago, he said:

I do believe that as far as reading readiness, some of those kinds of things, they seem to be coming less prepared. Now, are they more intelligent? Or are they just less prepared? [Laughs] It's hard to tell. I don't know²².

That Carl expresses beliefs in both a hereditary component to intelligence and in the slight modifiability of intelligence is not necessarily contradictory. As much as Carl expresses a belief in the importance of IQ in the sense of an inherited and relatively fixed mental power, he also believes that environmental influences can impact achievement.

Though he said “I don’t know that I can tell you how much percentage that I guess I personally believe or what the research says is organic and how much is learned,” Carl still tended to elucidate both hereditarian and cognitive learning views, admitting that training and teaching could improve intelligent functioning (as measured by academic success) at the same time that he asks about the genetic transmission of intellectual ability. His self-termed “paradigm shift” is not entirely complete. Carl apparently reconciles his personal conundrum in part by separating the importance of IQ to achievement.

Importantly, at least potentially to his policy choices, he believes that an “IQ deficit” alone does not necessarily guarantee that a child will be learning disabled²³. At Hamilton, Carl and a team of teachers settled on a definition of at-risk that “is fluid, so you may have some students who were at-risk at one point but are no longer at risk, and you have some students that were at some risk that have fallen into the at-risk category.” Carl believes that other cognitive factors, such as motivation and attitude, are more important than intelligence. When asked to assess the importance of intelligence to an individual’s life success, he stated that intelligence was “about a 25% factor.” The other 75% was attributable to “motivation. Attitude. Desire.” He expresses the same sentiment in the selection of conversation below:

CG: Attitude is much more important than achievement. It's much more important than IQ.

EC: You mean in the sense of motivation for school?

CG: mmhmm [assent]. And motivation for life. And success in life. I'm a trainer for Learning Focus Schools ... and one of the research pieces that they give is that IQ is only 20% of overall school success. [So] there's a lot of other factors that go along with that. And I truly believe that, I've seen it

happen, you know, you see it happen day in and day out. The kids are not all that bright, but they have supportive parents who really work with them.

To Carl, parents' and educators' "expectations" are also critical to achievement in that adults' beliefs about how much a child can achieve – or at least the beliefs they express or communicate in some way – are important to the success of their children and students. Whole schools, he believes, can become low performing if the administration, teachers, and parents have a low level of expectation for achievement. For example, Carl said that "if the kids are low-achieving because [educators at a low performing school] have paradigm changes that need to occur within parents and staff and that sort of thing," then redistributing funds from higher performing districts to lower performing districts was an appropriate equalizing measure "if you're going to provide them with the training that it takes for them to get to and implement those scientifically validated and research-based kind of things" that change educators' expectations.

The partial separation of IQ from achievement in Carl's beliefs indicates that to him the psychometric conception of intelligence is less important for academic achievement than internal characteristics such as motivation and attitude, and the specific external factor of the expectations placed on a child. The view that measured IQ is not an important predictor of achievement was not uncommon among the principals and school psychologists whom I interviewed, including the school psychologist at Hamilton, Kevin Quinton, whom I discuss below.

Home Lives and “Real, Organic” (Developmental) Disabilities

The type of universal achievement expected under NCLB is unattainable, he believes, for two reasons: first, under current state mandates, schools are not allowed enough exclusions for disabled students on the state standardized tests, and second, true universal achievement for those children who are not cognitively or biologically disabled will require “societal level” changes. On the second point, I asked Carl if he thought universal achievement of rigorous academic standards would be possible if students with developmental disabilities were excluded from the requirements. He replied:

the idea in my mind is “well, then who would be the students who wouldn’t be able to [achieve rigorous academic standards]?” Those are the ones that come from a disadvantaged opportunity because of their parents, the parental activity that goes on there. ... but what are you going to do to factor out that sort of thing? That means that you have to take into account that parents aren’t going to be knuckleheads sometimes, and the kid’s not going to achieve because they’re so emotionally broken that they can’t.

When Carl discussed environmental conditions that influence the development of intelligence or school achievement, he mostly discussed factors related to parenting and family structure. The children who have the hardest time making it are those “who don’t have the support of their parents,” he believes, especially those “who get passed off from one family to another, or staying with Grandma and Grandpa who doesn’t really want them, ... their parents are off doing their thing and are in trouble, or some of them are off being self-centered.” Such conditions are not the domain of any socioeconomic class in Carl’s mind.

In fact Carl doesn’t believe that anything other than schools and parents should be expected to have any real influence on how a child’s level of achievement in school. He

specifically discounted sociological arguments when I asked him what he thinks is the biggest barrier to learning for children, and he does express great optimism in the power of schooling to overcome social barriers:

I will not have the same answer perhaps that Ursula might, or that an urban individual would have. They would probably talk more about economic issues and prejudice and bigotry and less opportunity and things like that. But I see it specifically and educationally [that we] really have scientifically based programs that will make a difference on student achievement. If we can equip students, we'll give them every opportunity, every advantage for being successful in life. They would probably attribute some of those other things where I would say those are—we can intervene. They may be a reality, but educators can intervene and the most important thing is what the educators do.

Carl's Beliefs About the Learning Disabled

However, Carl believes that the universal achievement benchmarks NCLB mandates are not achievable because policy makers underestimated the true number of severe cognitive disabilities in the population:

We get some relief with a one percent improvement.... But that's still not going to cut it, I'm telling you, that isn't going to cut it. There's a larger percentage of kids that have those special needs. You have birth defects, you have students that are incapacitated mentally.... these students exist, and they exist to a larger percent than what some of our authorities are willing to recognize.

He acknowledges that his perspective might come from the fact that for years his school hosted a variety of special needs classrooms for the Intermediate Unit and the district, but still believes that the true number of such students has not been appreciated by policymakers.

“[Y]ou always have a percentage of students that have some disabilities that are real and organic in nature that crop up,” disabilities that preclude achievement at the level

this state has set and that will not respond to any intervention in a way that allows for achievement at normative levels.

We can prevent some reading failure, we can prevent some disabilities, um, but there are some Down's kids that are not going to do it. They don't have the actual capacity. Is it fair for us to say that 100% of kids are going to read at the same proficiency level on the SSAT? I don't think so. I don't think I'm being unrealistic in saying that.

Importantly, his beliefs about the relevance of genetic differences to the ability to achieve in school is limited to those students who have moderate to severe clinical cognitive diagnoses, and does not apply to the majority of students. The “electrical impulses” brain research Carl has been exposed to, and which sounds very much like the research that Sally Shawitz (2005a) describes in a popular book on dyslexia, means that “learning disabled” is not a label that has educationally terminal consequences – beyond the “Down's kids” and those with “real and organic” developmental disabilities:

we know that students with a learning disability, what the research is showing, is the way that the electrical impulses traverse in a student that is considered to [have] a learning disability, travels a different and longer path to connect some of the information. But if you give them another type of task, like a performance task, that they've got...a short[er way] to it. You can have a wide variety. ... That doesn't make them learning disabled, that just means they learn differently.

Using appropriate intervention strategies, teachers and specialists can help all students without severe congenital disabilities achieve the state's new standards. Thus, those students who do not have such clinically identifiable conditions *can* universally meet those standards, and changes in expectations will allow that to happen.

This view has not historically been commonly held, and perhaps Carl didn't always believe it either:

A generation ago teachers had this ‘well if they don't make it... well, that's OK.’ Now they're not *saying* that. It's never OK, but it was sort of like ‘well, some kids are going to make it and some kids are not going to make it.’ And it's kind of that sorting process. One of the things that NCLB says is that there is no sorting process. There isn't any kid that can be left behind and it would just be OK. We're going to have to knock ourselves out to get every kid as high as we possibly can get them.

“For years those people threw up their hands and said ‘that’s all they’re going to be able to do, so why not give them art instruction?,’” and, according to Carl,

teachers in general believe, and have come to expect, higher amounts of expectations out of their students. In general I believe that their belief system seems to be changing. But there's still that percentage of teachers that says ‘I don't care what you do. You can do whatever you want, that's just not going to happen.’

NCLB’s Indirect Effects on Carl’s Evolving Beliefs About

Intelligence

Why does he believe “that percentage” of teachers are still operating under a paradigm in which low achieving students (without developmental disabilities) could be expected to reach higher benchmarks? “I don’t know, like they’re from Missouri or something: ‘show me that it can be done. Prove it to me! Take me to a place where I can see it being done, and prove to me that I can do it. Then I’ll believe it.’”

Most teachers in Central School District have not personally witnessed the success of schools that are 90% minority, 90% low-income, and 90% “proficient” (90-90-90 schools) on states’ achievement assessments under the LFS program, an experience that has allowed Carl to begin his personal paradigm shift. The change in expectations that is beginning to happen in classrooms is slow because “I think there is a lot of

paradigm shifting that had to take place, maybe even with me.” Echoing that sentiment he also said,

There's probably some people that have changed their paradigm and actually believe that—um, I might even count myself in as one of those. Because I would not have believed in 90-90-90 schools until I would have seen it happen. I would've said ‘well you would probably have 70% of kids where that would happen.’ Well, it *can* happen, and it *does* happen, and it happens on a regular basis because people have high expectations.

As part of his training with Learning Focused Solutions, Carl traveled to schools in Virginia with high proportions of poverty and minority students and which have achieved high student success rates; schools that had been models for LFS’s reforms.

The “No Excuses Schools” research conducted by the Heritage Foundation and published in an eponymous book in 2000 (which Carl considered an “eye-opener”), has also been important evidence for him in this regard. He believes that the change in expectations spearheaded by leaders of schools identified by the Heritage Foundation as “No excuses” schools was the critical factor to their success. His affinity for such research suggests a belief that achievement, though perhaps not IQ, is amenable to positive influence by changes in climate. He now believes that one particular environmental condition – the expectations of educators – can significantly and positively impact student achievement under rigorous academic standards.

Interestingly, prior to his interaction with the LFS model and research by groups such as the Heritage Foundation, much of Carl’s conception of the nature of intelligence seems to have come from his experience with and discussions about intelligence tests. He attributed the notion that IQ will not change over the lifespan to IQ tests, psychometric instruments that are constructed on assumptions about the nature of intelligence based in

classical intelligence theory (Sternberg, 1990). Exposure to such instruments led him in the past to believe in an important correlation between IQ and achievement.

He still believes in the objectivity of “scientifically validated” measurements and interventions, and he thinks standardized tests are an important hedge to the subjectivity in the expectations of educators and parents, and can even be used to close the gap in achievement between rich and poor schools:

EC: Do you think that NCLB can ensure fair, equal, and significant opportunities, as it states?

CG: yeah! As long as somebody’s willing to back it up with ... scientifically-based materials and provide them in the hands of teachers. They just have to get the right materials into teachers’ hands.

These particular beliefs are important to his support of the intent behind the reforms of NCLB. Other beliefs, however, make him question the means by which legislative measures in NCLB are intended to bring about change, especially in relation to sanctions.

The new policy climate in which curriculum-based achievement measures are the basis for determining the need for intervention with students has meant a different definition for “ability grouping” than has been used in the past. When I asked whether the interventions involved ability grouping, Carl replied with some clarification:

no, it’s only on achievement. We don’t really You say ‘ability grouping’ and I assume you’re meaning intellectual ability grouping? Well, it’s basically on something that’s a curriculum-based measurement. And yeah, if that’s defining it, the answer is yes. If they’re not performing well in these early skills, then we’re going to do something with them.

I discussed in Chapter 4 how Hamilton’s policy on reading intervention strategies is different from the other three elementary schools. In Carl’s words:

For the lowest of the students, some of the students have IEPs and some of them do not, but they are still basically performing within that range, they

will get something we use: Project READ. ... Then we will also work on oral reading fluency with those students, try to build them up. And on-level, whatever level they happen to be, a year or so delayed, we'll give them comprehension types of material with repeated opportunities. That would be the intervention piece, and they would be back in the regular classroom with a differentiated instruction model with whatever it is....

Though generally optimistic about the efficacy of schooling, and about the potential for scientifically “objective” measures to bring change in attitudes toward achievement, Carl believes that ultimately great societal-level changes are needed to ensure that the goal of having *all* students achieve rigorous academic standards. To him, change will have to occur in every household among all parents, in every classroom within each teacher, and in every office among all administrators. Until then, subjective beliefs that people hold about groups of individuals or made on an ad hoc basis about specific children related to achievement will interfere with universal achievement.

It was the district's selection of a whole-school reform model in response to the imminent changes prior to the implementation of NCLB that led him to LFS, and to the experiences and information that would change his paradigm. Thus, the implementation of NCLB indirectly led to his significant change in beliefs by creating a policy climate that forced him and his district to change their practice.

School Psychologist

I speculate that the change in Carl's personal paradigm for the influence of intelligence on achievement comes from his training with Learning Focus Schools and the arrival of Kevin Quinton, Hamilton's school psychologist, about a year after Carl's exposure to LFS. There are several instances in the data that either directly or indirectly state Kevin's influence on decision making. In several cases his language and Carl's are

very similar, and the discussion strongly suggests that the line of influence leads from Kevin to Carl and not the reverse. For example, Kevin was told by Carl when he started the job that he was to support K+. As the discussion in Chapter 4 and below reveals, Kevin was at least partially influential in bringing Carl and others in the district that the K+ policy was not effective and should be terminated. Kevin brought his zeal for intervention strategies that curtail learning disabilities about one year after Carl had become a Learning Focus Schools trainer, which likely reinforced Carl's own zeal for LFS's intervention-based model for raising achievement and gave him added momentum for advocating those strategies to other principals in CSD's decision making team.

Kevin's Beliefs

What are Kevin's beliefs about intelligence? In summary Kevin adheres to the socio-cultural perspective as I described it in Chapter 1, that is that an individual's phenotypic intelligence results from a complicated interaction between genetic potential and a myriad of environmental factors that includes parents, schools, social institutions, social expectations, and opportunities presented to the individual. Below I examine his beliefs in more detail, and show how they are linked to policies he approves of or advocates and his views of NCLB.

Kevin believes strongly that intelligence is influenced by heredity, but is also potentially significantly affected by environmental conditions; in the case below he discusses the impact of home environment:

It's probably finite in terms of its—it could be obviously mutable more early in your life when you're talking about the environmental variables and exposure.... If you're in an impoverished environment you're likely

not to develop your intelligence or your skills the way you could. If you're in a more rich environment (rich goes to a lot of different experiences and activities and verbal exposure and all those sorts of things), yeah you're probably more likely to develop your skills to the maximum potential. But going along with that, you can be [an] average *g* child, but if you're in an enriched environment you're going to achieve much more than you are if you were in an impoverished one. And I'm not even talking economical, I'm talking more experiential.

Kevin believes in “windows of opportunity” in intellectual skill development. By this theory, which has come from the disciplines of neurobiology and cognitive development, a child's developing mind is acutely prone to neural development during specific periods of time during infancy and early childhood. After these periods of time, the mind retains properties of plasticity, but the development of new neural connections proceeds more slowly, while neural pruning continues to occur²⁴. Interestingly, this makes him both optimistic and fatalistic about the efficacy of intervention strategies that schools can use to remediate learning deficits: if you intervene when individual's windows of opportunity are open, you can be successful; if you miss the window, the successful development of skills is made much more difficult. This belief was at the heart of his problems with the K+ program described in Chapter 4, as I cover in the Discussion section (Chapter 9).

Like most of the educators in these four schools (but by no means all) Kevin appreciates Howard Gardner's theory of Multiple Intelligences. But he expressed a reason for his affinity beyond perceptions of it's specific validity:

what really multiple intelligences is getting at is we all have different strengths in different areas. And in that respect I kind of like the concept because I think it helps people sort of broaden [their thinking about intelligence] and focus beyond what has traditionally been defined as *g* on intelligence tests. So that's good. I mean not going necessarily back to

having a 132-cubed variable model for account because that's probably a bit much. But I think there's some room for that.

However, in his position as school psychologist, Kevin says "I'm not sure how much I'm focused on the construct of intelligence. I think it's relatively stable construct the way it's traditionally defined. I'm more focused on achievement than intelligence. And I think that's more of the way you can affect greater amounts of change." His focus is on the mitigation of specific and identifiable cognitive and learning skills deficits that hinder achievement. To Kevin, intelligence is a necessary but not sufficient condition for achievement:

I think achievement is, is probably more important than intelligence. ... probably creative cognitive ability is defined as *g*. It's probably not a very mutable construct. However, the achievement you have within that is very mutable. So you can have an average intelligence and you can achieve above average skills.

He also believes that particular intervention strategies schools can help kids improve their skills and levels of achievement (though he never said that he felt that schools can produce an increase in intelligence). "We've instructed them appropriately so we've reduced the number of kids who really are at risk to a couple percent as opposed to 10-15-20-30 percent. So we have had that effect on the long haul."

His views on hereditary limitations on intelligence relate to specific cognitive deficits rather to a general, unspecified mental ability. For example, he discussed believing that some children are not predisposed to being efficient at symbolic representation of abstract concepts: "I think just for some kids that making those connections and doing that particular abstract processing is just not something they're able to do very efficiently and it becomes very difficult for them because the demands of

our society and the way it's trending is that reading is key." He does believe that intelligence is greater in some individuals than others, and that that has an influence on educational attainment:

Intelligence very much plays a different, a differentiated factor in terms of educational outcomes. But for the most, for the vast majority of people that fall within the standard deviation of the mean which is 95% of the population, does intelligence really make a difference in terms of your educational outcome? Yeah probably a bit. But it's not necessarily predictive. And I don't know that it necessarily should inform instruction because I'm not necessarily sure that intelligence actually necessarily predicts any better performance one way or another.

Such specific hereditary limitations within an individual do not necessarily imply a limit to achievement in general; rather, social forces reinforce what sorts of behavior are considered intelligent. "So other than those tests you can get as party favors at the cocktail parties: 'oh can you count backwards and read this upside down,'" most people believe that intelligence manifests itself in high reading and verbal skills. "Intelligence often in our society is really more defined as verbal skills. And I think there's a lot of achievement that can take place independent of your verbal skills."

He believes that most teachers make referrals for either enrichment or intervention based on judgments of verbal skills and behavior, rather than on data on overall student achievement.

I can't tell you how many kids I screen for enrichment that didn't qualify but were referred because they talked well to adults. They talked well to the teacher, [had] a lot of those teacher pleasing behaviors, so they said "they clearly must be gifted." Yeah, they were average kids doing pretty good work who happened to really be very socially pleasant and socially mature. There's a difference. ... But if you were ... a poor academic child who was also a pain in the neck and you were a boy, you're getting referred [for intervention services] in a heartbeat.

Despite believing that heredity imposes limits on some individuals, he is adamant that he does not view the world through an “innate pathology” model. Both Kevin and Karen Matthews referred to innate pathology as a belief system, a lens through which educators identify and diagnose problems with students²⁵. Karen defined it as a perspective in which “deficiencies exist within the individual or within factors that I have no control over as a teacher.” Kevin defined it as being “child-centered as opposed to being system-centered” in one’s attribution of reasons for low academic performance. It seems that “pathologies” in this perspective need not refer to intellectual deficits, necessarily, but may also refer to behavioral or attitudinal attributes; nonetheless, Kevin and Karen typically used the term to describe intellectual “pathologies.” Karen mentioned that the origins of the psychometric testing movement reflect an innate pathologies perspective in individuals such as Lewis Terman.

Most educators operate from an innate pathologies perspective, Kevin believes.

Why?

It’s easy. It’s easy. It’s easy because the problem is, therefore, not me; it is them. And I think societally we sort of reinforce the innate pathology. I think that’s something that just people sort of accept: that the problem is within the person always, [and not] that it’s a mismatched environmental thing. It’s just, you know: ‘they have a head full of bad wiring.’

There is some support for Kevin’s explanation for why people might choose to hold an innate pathologies model when trying to understand why some students don’t do as well as others in the classroom in lieu of tackling the complex arguments involved in the “environmental” alternative that Kevin posited. Theoretically, people tend to follow a path of least resistance when it comes to understanding complex problems, simplifying

those complexities, or ignoring them in favor of default explanations which they held prior to experiencing the complexity (March, 1997).

Viewing educational problems with an innate pathologies mindset, Kevin believes, has ramifications for actors at all levels in educational settings. As we discussed innate pathologies, Kevin mentioned the following experiences with teachers:

I would walk in [at the end of the first week of school] my first year, my second year here, my third year ... kindergarten teachers would go "Johnny should be in K + next year." I'd [say] "you've known him for four days." "Oh he should be in K +. I just know it." Hmm. You think that teacher interacted differentially with that child based on that impression? You bet. You bet.

Having just presented with [Karen Matthews]... to our district ... we were saying "we can get the special ed population probably down to 2-5%. And that means the rest of these kids are able to learn. And this should be empowering to you to know that these kids can do this and it's you who can do it for them." The non-verbals are just classic: a lot of head shaking, grimacing, looking like "oh you're crazy. There's no way these kids can learn. You just don't know. They just can't learn. You don't know the kind of kids I have." I'm like "you know what? We *do*. You know who sees them more than anybody? Me." And you get that a lot.

In the first passage, Kevin predicts that teachers' judgments about students' abilities made in the first few days of school tainted the interactions between that student and his teacher for the remainder of the year. The second passage illustrates different educators' perceptions of how many children are learning disabled. Kevin believes that another ramification of teachers holding an innate pathologies model is that they don't share his belief that only 2-5% of their students are learning disabled.

Kevin describes being in several oppositional situations with teachers regarding student referrals, which he blames on their tendencies to make academic judgments about students based on the students' behavior. On the other hand, he believes that he makes

more accurate judgments about academic needs by using “objective” material, such as test scores. Interestingly, he concedes that the data derived from standardized tests (both IQ and achievement tests) is not entirely reliable. They are however, a better basis for decision making than the ad-hoc “subjective” assessments teachers make.

Kevin believes that teachers, as well as administrators, predominantly see student failures as being related to innate pathologies. Kevin, with Karen Matthews, has pushed hard for the implementation of a program that focuses on the prevention of learning disabilities as well as their remediation. He feels educators are too focused on remediation, rather than prevention, because they tend to think of flaws as inherent in the child, as something to be fixed rather than headed off. “They’re focused on the wrong variables and the wrong data, for lack of a better way of putting it. They’re relying on the ‘oh it’s, it’s something wrong with that kid. It’s all in him.’”

He described an experience at a state-level meeting of administrators on the use of Instructional Support Teams (IST) in which an innate pathologies model led policy makers to focus on what he considered to be the wrong issue:

...how IST went wrong was that people would sit around for 60 minutes in a meeting admiring the problem. They would throw up all the issues on the piece of butcher-block paper and talk about how this kid had a poor home life or this is wrong with him or that’s wrong with him ... and everybody would go “yeah, yeah Johnny is a bad kid,” you know. “And not only does he not pay attention in class, I’ve seen him doing blah, blah, blah” you know. And ... it’s just admiring the problem, saying “there’s a problem and there’s a problem and there’s a problem.” And that makes people feel good because it’s reassuring: then the issue is not them, it’s somebody else. And it’s a lot easier to say the problem is the kid because they don’t advocate for themselves, they don’t have any political clout, than it is to say “you know what? Maybe I should do something differently.” And people don’t want to do that because recognizing that and actually following through that is hard work.

He added that thinking this way tends to produce a “fatalism” in educators who are faced with dealing with children who are not achieving well in school. “The second those kids don’t do well on those tests it’s ‘those darn IEP kids.’ ... it’s a shame. I think that it’s a disservice to those kids because then everybody starts reinforcing innate pathologies. And then [administrators] differentially target them for – I won’t say abuse – but they just really come down on them hard and they come down on the teachers hard.”

He hastens to add that “it’s not necessarily a criticism of [teachers and] administrators in particular as individuals. ... it’s all in the preparation for it—it’s a training issue: just doesn’t exist.” Specifically, he feels that teachers are not taught direct instruction methods, and other methods he considers basic, such as “how do you teach reading period? How about that one. They don’t teach teachers that. Let alone administrators.” As for administrator training programs, “It’s a rare teacher prep program that actually teaches how do you teach the teacher?” In fact, “if you’ve taken any educational administration courses,” which he has, “or seen any administration programs, they don’t really prepare people to do anything. ...there are many days I think it’s just miraculous that schools run as well as they do! It’s kind of frightening/reassuring that there’s enough—I don’t know if it’s institutional momentum—that they’re able to run.”

Kevin tends to express thoughts on a systematic level, as his comments above reflect. In this regard he is different than most of the respondents, who tend to focus on children and their home lives when discussing differential levels of achievement in school children. Certainly Kevin blames parents for some of the shortcomings he sees in students:

...societally we're not doing a good job by our kids. Parents just aren't interacting the way they should with their kids for the most part. It's a generalization; I'll grant you that. ... this year our entire kindergarten, regardless of SES, was not very skilled. They didn't know their letters, they didn't know their numbers, they didn't even know how to follow directions. They didn't even know that you were *supposed* to follow directions. And it's because I think ... parents are becoming less and less engaged with their children. The vocabulary of the kids is becoming poor because the parents aren't talking to their kids, their social skills are poor because parents aren't interacting with them. It's "go play your video games, go play your X-Box." Yeah. The kids have wonderful thumbs.

But he also takes a more expansive view, which most teachers and administrators did not:

There are also more kids that are having more issues and part of that probably has to do with our, our culture—pop culture—is becoming a little bit more toxic for kids. ... you know we're not a very child-friendly culture right now.

Though these are expressions of one-way interactions in which environmental conditions act on the individual, Kevin also discusses bi-directional interactions between individuals and social systems, as in the following quote in which discusses how to educationally deal with the remediation of learning problems:

The system is what needs to be changed—you can't change the child's head; you're not going to get in there and do neurosurgery. So what do you do differently to change so you can match those environmental variables up with the kids? That way we can maximize their learning.

Kevin's own words summarize his view of intelligence and how it likely affects his approach to his job:

I think that there's probably a couple percent of the population that learning, they're just not going to be able to do it at the same rate. But I mean that's also a fundamental problem that you have is that there are different rates at which people learn and most people feel that if you're low intelligence you're way of learning is nil. Well no. It's lower and it might take you longer. It might take you a lot more drill and practice, a lot more repetition to get there, but you can get there.

Thus, to summarize, Kevin believes that the innate pathologies model of thinking about intelligence, i.e. that problems that children face in school are located within them and are not a result of structural or systematic flaws, has three significant effects: it takes administrators' focus away from thinking about solutions and toward only thinking about the problem; it makes teachers less likely to persist in remediating students' issues in the classroom and leads them to making unneeded referrals; and takes valuable time away from him by forcing him to spend time testing individuals when he could be focusing on making improvements in groups of students. In contrast to the biological and geographical metaphors that an innate pathologies model evokes, Kevin's systems metaphor of intelligence means that as school psychologist he does not focus so much on intelligence; that is, he does approach his job by thinking about ways of solving problems in individuals. He thinks about achievement, and what part he plays in a system that can impact achievement levels in students.

Kevin's Beliefs and Policy

I have already discussed in several places how Kevin has influenced policy in the district. To reiterate, he is very strongly confident that if intervention policies are used appropriately and target young children as they enter school, those policies can be very effective, and secondly that NCLB, "an amazing catalyst the public schools have needed," has facilitated the implementation of such policies. He believes that teachers have used separate intervention classes and programs such as K+ as places to dump students they did not want in their classroom:

The big push has always been “oh he’s not doing well. Let’s test him and get him in special ed.” ... My theory was teachers were trying to get down to having four or five kids in their room. You know: “okay, I have five kids who should be in enrichment now. Maybe somebody else is dealing with the other problem because I shouldn’t have to keep those kids.” I had a couple of teachers that were almost, I would say diabolical in terms of the way they approached it. It was: “I’m doing my job as a teacher. If I abdicate for somebody else to work with them [that’s] because that’s what they need.” I thought that’s very clever ... [that way] you still come out looking good.

He reports telling Daryl (principal at Adams) that eliminating K+ was akin to

Cortez burning his ships, because

now ... there is no escape hatch for [teachers]. They can’t just shuffle the kids out of their rooms and abdicate responsibility for them during kindergarten because they know they have K +. They have to do a better job now because I can guarantee they for damn sure don’t want those first grade teachers to go ‘what did you do with these kids?’ Finally No Child Left Behind has allowed me to go ‘Now you know what? You’re the fix. You get the child.’”

Here he is referring to the push that NCLB has created for using achievement based data. “No Child Left Behind is a mechanism for bringing science and reason and evidence-based practice into the schools,” which he thinks “was absolutely huge—extremely important.” This push meshes with his belief that teachers and other educators have traditionally been able to use behavioral or other subjective judgments to refer a child out of their classroom. What NCLB has “has allowed me to do is say look we need to question the practice that’s going on and let’s rely on the data. And that is starting to help to remove some of the subjectivity that is taking place in public schools. A lot of kids did or did not get services based on their teacher’s opinion of them.” NCLB has done a “great thing” because “teachers are now forced to deal with the relative bottom of their class.”

He is not entirely confident that penalizing schools for low performance is going to be an effective policy, however. He has a shaky faith in the state's standardized assessment. To him the SSAT is not "a reliable enough tool to really accurately reflect a students' reading, math or writing skills the way they have them designed. I'm not sure that the item bank is appropriate just yet. I think it will eventually get there," but the process will be difficult. Kevin's concern is that "I think there's a lot of really important decisions being made on not necessarily the most reliable data in the world."

Still, Kevin generally supports NCLB because it "is based on the standards and it is a way of bridging science and practice and education." He supports the push to create high achievement benchmarks for all children barring those with severe developmental disabilities. It is with teachers that this onus lies. Clearly, he also feels that teachers bear much responsibility with how and why low achieving children have historically been left behind.

Teachers

Is there evidence from the interviews with teachers that Kevin's belief that they hold an innate pathology model when thinking about student achievement? In two cases at Hamilton and indeed in most cases at the other schools as well, where teachers made attributions to factors that delimit the realization of intellectual or academic potential, they do in fact speak of inherent, genetic limits. However, they also make attributions beyond the individual, mentioning the limits imposed on a child that result from "impoverished" homes, and sometimes communities – though impoverished did not necessarily mean purely economic poverty. Educators spoke about impoverishment also

in the sense of limited experiences, limited exposure to academically oriented thinking by their parents and peers, or being from families or “communities” that do not reinforce the importance of schooling or academic achievement. Teachers that I interviewed did not commonly speak about sociological forces relating to the interaction of the individual with institutions beyond the family.

This was the case with two of the three teachers at Hamilton, Ms. Long and Ms. Neeley. For example, Ms. Long said,

I'd probably put about 50% of [variation in intelligence] comes from their genetics. But you know what? In today's society a lot impacts—you know, nutrition impacts that, the drug factor, the alcohol factor, all of those kinds of things could factor in. I mean if you have a kid that had a lot of potential whose mother was a crack addict, it ruins it. You know what I mean? So those are environmental things.

Though she speaks of “society” and “environmental things,” she does not reference multi-directional interactions that impact individuals; instead she mentions only genetics and environmental conditions that act on the individual to limit the development of intelligence. I asked her if she thought schooling might impact an individual's realized intellectual potential she said “Sure, I think so,” but when I asked to explain why some children do better in certain subjects than others, she reverted to individual-level characteristics, saying “I think it has to do with again back to genetics. I mean I think the whole right brain, left brain theories are good; I think they're realistic. I think some kids are just predisposed to those kinds of things.”

Another teacher, Ms. Neeley, also made comments that suggest that she holds an innate pathologies perspective of intelligence:

with my kids – I have high-level kids again – they do tend to finish faster and grasp the concepts quicker. So I am able to extend into outside kind of

projects, or higher-level thinking kinds of things. But I don't think that that's going to happen in all the areas with the basic kids and below basic [with whom] it's just kind of like: you have to get these concepts across.

Ms. Neeley consistently used labels such as “high-level,” “basic,” and “below-basic” (the latter two of which come from the state tests) to describe students. She also expressed categorical views about the different populations that the elementary schools in CSD serve, as our discussion below shows:

...kids in our school, even within Hamilton are very different. My brother teachers over at Washington, which is a completely different population. It's still in the same district, but completely different. So what our kids are achieving versus what their kids are achieving it's—you know what I mean?

E: It's what?

KN: The expectations I think are a little bit different.

E: Can you say they're higher here or higher there? What do you mean?

KN: No, I wouldn't say higher or lower. I'd say different. In the sense that I think we're all teaching the same thing. I think we're all getting the message across. But there are certain kids that I think will grasp the concept at a different rate and will retain it. I think the kids with different environments and the backgrounds that they're coming from I think will have other things in their life that take precedence over school and some of the things that they're learning.

She believes that the reason that Washington elementary school has such low achievement is because the students that attend school there cannot be expected to achieve at the same level as those here at Hamilton because their “backgrounds” are different. Clearly what Carl has learned at LFS and through his experiences with the 90-90-90 schools has not reached her.

Ms. Long's and Ms. Neeley's statements suggest that Kevin's sentiment that there are educators who have beliefs that reflect an innate pathologies perspective is correct.

My sample of teachers is not representative of the universe of elementary school teachers in Central School District. Still, most teachers that I interviewed did make statements that locate the reasons for low achievement in the student, and attribute those reasons to forces mostly beyond their control as teacher. The exception at Hamilton was Ms. Claire, who's statements did reflect a conception of a complicated interaction between genes and environment – beyond just the home – that influences intelligence and school achievement, as the following series of comments shows:

I think [intelligence] has to do with what you're exposed to from your teachers, from your school community and your home life. I also think it is innately what's in you, [but] I think it can be increased. I'm not saying a massive jump like doubling it, but I think if you sat in a room all of your life no matter how smart you are but you never saw a thing, you never saw a book, you never saw a TV, you never saw another human being, I think it would be much lower. But if you [go to school and] have hands-on learning and you can actually do science projects and you can work through a math problem and you can problem solve in the world, I think that it's going to grow.

I see children regardless of their socioeconomic status or their race or their culture, they're intelligent kids ... and maybe they come to school and they're ten steps behind. But they do seem to catch up and the pieces just start to fit and they build on that.

Ms. Claire's statements do not indicate that she views students from an innate pathologies perspective. Rather, her views reflect Sternberg's sociological or systems metaphors of mind. She did not use labels, she resisted stereotyping, and she expressed relatively complicated explanations for the phenomenon of why there are variation in intelligence between individuals.

Summary

Hamilton educators' beliefs about intelligence represent a diversity of views. Each of them believes that genetics play some role in how intelligent a person is, but how important they believe that is to school achievement varies considerably. Each of them believes that genes interact with the "environment" to influence the expression of genetic intellectual potential, but definitions of environment vary between them. To Ms. Neeley and Ms. Long, "environment" is predominantly a proxy term for family, and environment acts on individuals but individuals do not act on their environments. To Carl, "environment" includes family and school, especially the expectations for achievement that schools and parents communicate to children. Finally, to Kevin and to a lesser extent Ms. Claire, "environment" is a much more conceptually rich term that includes family and school influences as well as social forces and messages, and the interaction between all of these.

Carl's beliefs about what percentage of students can be expected to reach more rigorous academic benchmarks are changing; he used to believe that 70% of children could, now he believes 90% can. His beliefs are changing because the policy environment changed. Central School District sought a whole school reform model that would position them well to operate under the state's new accountability measures in compliance with NCLB, which brought Carl into contact with Learning Focus Schools. Through LFS he had direct contact with schools with success rates that challenged his personal beliefs about the influence schools can have on children with backgrounds that he believed, and still believes to a degree, would predict low academic achievement.

Chapter 6

Washington Elementary School: An Agnostic Compliant and “a Completely Different Population,”

Ms. Neeley claimed that expectations of student achievement are completely different at Washington than at Hamilton. Ms. Neeley was not the only participant to mention differences between schools that were attributed to the population of students they serve, and Adams and Washington were the schools which were the targets of such discussion. It is true that Washington serves a different population of students, but is there any evidence in this data that expectations are different?

Washington Elementary is located east and relatively far from the center of Cederville on land between areas zoned for industrial and commercial use, and low-density, high-density, and rural residences. It is near strip malls of discount and convenience stores that service the industrial side of town along a major thoroughfare, and is sandwiched between two trailer parks. Washington employs the highest number of student support personnel (15) of the four elementary schools; besides school psychologist Karen Matthews, there are three ISTs and two assistants to ISTs, two ESL teachers, a Reading Specialist, a Speech and Language Therapist, an Enrichment Teacher, and three Intervention Specialists. At Washington Elementary, I interviewed principal Ursula Downs, Karen Matthews, and two teachers,²⁶ Ms. K. Urqhardt and Mr. U. Svaboda.

Recall that Washington Elementary has the highest proportion of Limited English Proficiency (LEP) (39%) and low-income students (40.1%) in the district. Washington

also has the lowest 5th grade reading and math scores in the district (see Tables 3-5 and Table 3-6). There are 438 students at Washington, 54% of whom score at proficient or advanced levels on the state's reading assessment, 46% are basic or below basic; for mathematics, 55% are proficient or better, 43% are basic or below basic (see Table 3-5 and Table 3-6 for more detail). The student population is 72.2% White, 3.9% Black, 22% Hispanic, and 1.9% Asian, Pacific Islander, Native American, or Alaskan Native; 42.6% are economically disadvantaged. Average class size is listed at about 14 pupils per teacher.

In addition to the data concerning the ethnic and economic profile of students at Washington, the school serves a 9% transient population and is unique from other schools in CSD in that it is the only Title I Elementary School (though Hamilton "teeters" on being a Title I school according to Carl), it hosts an emotional needs support classroom and an early intervention language and speech classroom for the Intermediate Unit. Washington is also the location for four Head Start classrooms. Karen Matthews mentioned that the implementation of a "robust Response To Intervention" (RTI) model had decreased the proportion of kindergarten kids moving to the first grade labeled "at-risk" from 30% to 1.8% in the time that she had been the school psychologist.

Washington Elementary school pursues few unique policies relevant to this study, which is a strong indication of Ursula's belief that her children are no different than those that attend the other three schools in Central School District. There was little discussion of unique policies in any of the interviews I conducted at Washington. Ursula related that she has started to use more homogenous grouping in math and reading in the early grades than she has typically. This apparently is in response to the mandates of NCLB, and

because she believes that homogenous grouping is a more efficient way to teach. Finally, I learned after data collection was complete that Washington has the highest number of students in their enrichment program (see Table 4-1), as discussed in Chapters 4 and 9.

Principal

Ursula's Beliefs

Ursula is a reluctant compliant concerning the mandates of NCLB: she is personally unsure that NCLB and standards-based reform will bring beneficial changes to students and schooling in the long run. She complies because “it’s federal law,” but also because proponents of the law might be correct that beneficial changes will result. She works everyday with a very zealous proponent who is absolutely convinced that remediation strategies promoted by NCLB are bringing great changes, especially for those students that Washington serves more of in this district than any other elementary school.

Intelligence

Ursula is the only principal who completed a degree related to learning theory; she has an undergraduate dual certification in child psychology and elementary education. Like Carl, Principal Ursula Downs’ conception of intelligence is a hybrid of traditional and new theories and includes many apparent theoretical contradictions that she is able to reconcile. She is dismissive of the importance of intelligence testing to the education of her students. Before discussing her conception of intelligence, it is pertinent to discuss her perceptions of intelligence tests.

As much faith as Carl had in standardized tests of intelligence prior to his exposure to LFS, Ursula has never believed in them, and lost few opportunities to mention her disdain for intelligence tests in general. Consider the following quotes:

...a lot of the testing is going away from intelligence. And so, therefore, it's becoming a moot point. It's going through the progress-monitoring pieces and how children are responding to certain differentiated instruction and so forth. So, for gifted education, you look at a 130 IQ or above, but IQ testing is not really in the realm of things anymore. It's sort of old school.

We *can* measure their intelligence and their abilities, and their skills and ... (trails off). [EC: ...but you don't think those tests are not out there yet?] I don't think everything's out there yet. It's not a one-size-fits-all. I mean, we keep saying to ourselves that it's not a one-size-fits-all in our curriculums: 'Diversify your instruction. Meet all the children's needs.' So why shouldn't it be that way with the tests?

... some of the children who you think are your gifted children – there's so many other things they cannot do. They might be gifted in a particular area, because of an interest, because of whatever. Maybe they prove it on an IQ test. We all know if you take an IQ test in earlier grades, what numbers you can get versus testing that same thing in a later grade. So there are some skewed answers there too.

[sometimes high standardized test scores are] just the luck-of-the-day type of thing, and ... the more consistent piece [is in the classroom]. ...what's gifted and what's over-achievers depends on the day and whether they can fool you or not. [laughs]

Given these statements that undercut the utility of tests, their validity, and their efficacy in measuring true ability, her definition of intelligence is ironic. She defines intelligence much as Edwin Boring (1929) did when he tried to cut through the furious debate about intelligence in the early part of the century with an Ockham's razor of sorts, famously saying that intelligence is what intelligence tests measure. When asked for her definition of intelligence, Ursula's response was

I'm not sure. (pause) Some people would consider it measures of ability. I'm not a keen person on having a set number for intelligence and things like that so I guess that's the difficulty. But ability. Measures of ability.

As much as she resists replacing a concept like intelligence with a number, her definition of intelligence falls back on measures of intelligence that do precisely that.

It is necessary to note that although she seems to have little faith in intelligence tests, she does not believe in abolishing them: "I think there could be times when you may need to look at that, but I don't think it should be the only thing, like it was years ago." As this comment suggests, and as the discussion below will detail, she believes strongly that despite the faults she assigns to various mandates in NCLB, she is pleased with the shift toward using criterion-based measures of achievement.

Her beliefs about intelligence are not generally very formally structured, though her lack of faith in the validity of intelligence testing is definite. When asked what she remembered learning during her formal education (she also has a master's degree in education and is pursuing an administrator's certification) she responded,

Other than Piaget and all the good stuff? I don't know. Developmental needs and different times and stages of one's life. I would say that stands out. Gardner's intelligences. I don't know. I like to think it's a matter of bits and pieces of anything and everything. The founding fathers of psychology are always embedded in you.... Psychologists believe that your intelligence is your intelligence. You're set at a certain scale. But of course, there are the errors, and they're of a defined percentile. But I think you're given what you're given, and that's what you're working with. I'm not going to get into the big theories, and the brain research, and all that good stuff because there is a lot.

The sources for those "bits and pieces" from which she has constructed her personal definitions come not only from her formal education, but the "apprenticeship" Lortie (1975) describes as well. Currently, her sources for new information about the nature of

intelligence and learning are the occasional publication (“Education Next is a good one,” she says), conference attendance supported as professional development, information embedded in educational dispatches from her district²⁷, and most notably from the memos from and conversations with her School Psychologist Karen Matthews. “I used to get more journals, but not anymore. There’s other things going on,” she says, because “we’re basically just keeping our heads above water with the standards and the anchors so there’s not a whole lot of time to be looking deeply into the functioning of each individual.” The new policy environment requires her to account for the achievement of all students, including subgroups, which has shifted her focus largely away from individual students.

On the origin of intelligence, she is quite clear: intelligence comes from “Your DNA (laughs). It’s just what’s given to you. ... I think you’re born with your intelligence levels, you’re born with your developmental levels: you know, ‘this is where it’s at.’” As to whether or not intelligence develops over time, her view is that “you’re given what you’re given, and that’s what you’re working with ...” Here her statements reflect a view of intelligence as inherited and fixed, which is theoretically ironic since the IQ tests she disdains are based on precisely that assumption. In a discussion about what explains differing levels of academic success among school children, her comments discounted the importance of home environment and socio-economic status to academic success and said, “I find that I think it’s ability levels for kids.”

Just because intelligence is an inherited trait however, does not mean to her that it is immutable. The statements above present an apparent theoretical conflict with her responses to the items on the questionnaire, every one of which indicated a belief that

intelligence is mutable, and that the habits of a community and the surroundings a person grows up in can influence how intelligent they become, which is to say that intelligence is in part a result of social and cultural forces and boundaries. Furthermore, she claims that she would support the nurture side of a nature/nurture debate, saying, “I think you can enhance intelligence.” Ursula believes that experience and context have much to do with how “intelligent” a person is perceived to be: “...if you grew up in [adjacent rural] County and then go to inner city New York, to the Bronx—sometimes you’re a little more worldly in one way and a little more naive in the other. How does that measure your intelligence?”

Ursula’s resolution to what may appear to be contradictory beliefs is that exactly how much intelligence can be enhanced is limited by endowment. “The research tells you that you can enhance your intelligence. So, therefore, you are changing it up to a point. ... you’re not going to take a child who’s functioning on a 70 IQ, 80 IQ, and make them a 130.” This view suggests that like Carl, she believes that people who have severe limitations in IQ are less amenable to change from intervention than those without.

It is interesting that though she expresses reluctance to represent intelligence with a number and refers to the threats to the validity of IQ tests, she also refers to IQ tests and to numerical levels of IQ. This is exemplary of findings that indicate that people tend to simplify complicated concepts (LeDoux, 2002). Furthermore, this tendency supports Piaget’s theory of accommodation and assimilation, which posits that the act of assimilating new information into established schema is less effortful – and therefore more likely to occur – than accommodation, in which new schemata are constructed. Ursula uses a simplistic template for intelligence that can be referenced with a number in

discussion, one based on measures of ability, even though she ultimately claims not to put much credence in that template.

Beliefs about Giftedness

Ursula has an interesting view of students who qualify for gifted programs as being over-achievers rather than intellectually gifted, a view that is unique to this group of educators:

I think for the most part the world does not have as many gifted individuals as some people like to think, and I think they're more of the over-achievers who are just those average individuals who are on the high-average end, who just are willing to just keep plugging away to do the best that they can to get as much as they can. And that's self-driven. And you know, there's some gifted individuals that: hey, they need to be in the regular classroom, because they don't have their skills down yet, their ability as far as understanding the rules and regulations [laughs] of sometimes just fitting in, [of] just routines.

I think with our [enrichment] children tend to be – and I don't always think that they're gifted, they don't have to be gifted, I sometimes call them my over-achievers, ... many people can fit into that category. ... When you see an over-achiever, sometimes what it is an interest level.

I think an over-achiever is also a pleaser. They'll really follow the rules, and abide, and they don't want to disappoint you so they're always trying to do their best and always trying to give you more.

She believes that some proportion of students who qualify as gifted are those who are sedulous enough to reach high levels of achievement by being interested in the subject and “plugging away” rather than by virtue of high ability, or by being interpersonally savvy enough to engage in “teacher-pleasing behaviors” as Kevin referred to them. This belief likely explains the fact that Washington Elementary has the highest number and proportion of students in their enrichment program.

Before the policy shift toward using more data-driven decision-making and curriculum-based measures, she believes that when educators made decisions about placing children in remedial or gifted programs, “we really weren't looking at our data as much as we were looking at behaviors in children. And therefore, that's how some children got served. Either they acted out or they didn't act out.”

Regarding assignment of students to remedial programs, Ursula said that it is not a set lifelong sentence for children anymore like it used to be.... You might be missing a skill, you can get some services from a reading specialist and possibly you can X it out of that, and there's another one who just hit a little barrier and gets pulled in. ... then there's others who need a couple different instructional strategies to succeed.

She believes that a student's academic success results at least in part from determining appropriate instructional strategies for the remediation of specific learning disabilities in children.

Internal Factors Other Than Intelligence That Effect

Achievement

Ursula believes that intelligence is necessary, but not always sufficient, for high achievement; while academic achievement may “come down to ability,” motivation and interest are necessary for high achievement. As I tried to understand the importance of “ability” to her framework for explaining achievement, I asked her if she believed that anyone could become a rocket scientist or engineer (as proxy examples of high ability). She responded “...just because they have an IQ of whatever? I would disagree. I think you have to have an interest in [a topic], first and foremost, to master those things. When you see an over-achiever, sometimes what it is an interest level.”

Home Lives And Other External Factors That Effect

Achievement

Notably, her belief that intelligence is genetically endowed and its mutability is limited does not preclude her from believing that any particular child can achieve in school: “Can a child who’s been traveling around in the trunk of a car, who came from a very sad situation, not learn? I disagree with that. I think that, given the right supports, they can.” When most participants discuss the influence of home life on achievement, their definition of “home” was inseparable from their beliefs about the importance of parents and marital stability. Ursula does not share this link, as the following portion of our conversation details. I asked her what she thinks is the biggest barrier to learning that children face:

UD: It could be parental support, as simple as that. If you have some one at home who feels like school’s not important – telling you that every day – you feel it’s not important. I would never ever say it’s what they come out of from their home lives and things, because I have seen them survive, I’ve seen them achieve. I think it’s parenting skills, I think it’s other things. I’ve seen some really sad situations, and kids come out of them soaring on top.

EC: When you say home environment, what specifically do you mean? I mean as opposed to parenting. You’ve made a distinction there.

UD: I think home environment means that it doesn’t matter if you live in a tent, you can learn. I think if you have a parent saying “you can learn and I believe in you” everyday – I think it’s attitude and philosophy – I think that you’re going to believe that you can learn and you’re going to give it your best. So, the biggest barrier? I think we as adults can be the hindrance of kids. I will not come down to socio-economical status, I will not say it’s truly language, I will not say it’s all those things, because I don’t believe that ...once we start believing that, we may as well throw in the towel, because it’s not going to happen. ... I just find it interesting to hear a colleague refer to the home life as impeding—and it is impeding, but

when you have a school where that is the home life, you know, for a lot of them, you *have* to believe that they can succeed.

Thus for Ursula, while ability and interest are important to academic success, the most critical factor in student achievement is social and parental expectations and support. She stressed the importance of expectations – from parents, schools, and communities – to children’s desire and ability to succeed: “...kids want to learn and [if] they have a learning disability or some other things, and that doesn’t mean they can’t progress; I think they need to have somebody there to believe in them first.” Though like Carl Ursula believes that motivation and interest explain academic success better than intelligence, these factors pale in importance to, and often come from, positive parental, teacher, and societal expectations of a student. In addition she feels she *has* to believe the children will achieve, or else she might as well “throw in the towel.” The role that beliefs play in educators’ motivations for their work is discussed in Chapter 9.

She did not make any statements suggesting that the uniqueness of Washington’s student population in Central School District is related to her school’s low achievement other than to say that “we had some language issues” with the state standardized achievement test.

Ursula’s Beliefs and NCLB

Ursula presented ambivalent views of NCLB and the changes the state’s response to the act have brought to her school. On the one hand, it has brought some needed “focus” to their curriculum and their assessments, focuses educators and the public on the effort to raise achievement for all kids, and brings needed attention to the achievement gap between white and minority students. And she feels that NCLB can indeed “ensure

that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments” (107th Congress, 2002). She feels that “we’re servicing children better,” through the use of a “multitude of measurements” that give educators “better idea of who really needs” enhanced services. The focus on measuring student achievement she refers to mean that “It’s not based on intelligence levels and a number anymore, and they should not get served by just a number.”

On the other hand she raises several concerns. “I worry about some of our subgroups,” she says, those whom NCLB purportedly targets. “I do just have concerns for some children. I think it’s going to be hard to say we can be perfect, that we’re going to be at a hundred percent.” Her concerns seem to be rooted in how learning disabled children are assessed, rather than racial subgroups, since she said that one of the more important aspects of NCLB is that “it measures the achievement gap” and can have “a huge influence on that.” When I asked her if she believed that children with special needs could be expected to reach proficient levels of achievement, she said:

Not until the tests recognize their disability will they. ... You have a child who’s discrepant, [who is] a year reading-level below, and then you get them to take a test that’s on grade level? I think you have created a disadvantage for that child already. We’re not being very fair – that’s a personal view.

However, her major concern is that NCLB has prioritized academic learning to the extent that social and emotional skills are neglected. Ursula, “as an early childhood major here,” is concerned that the focus on academics doesn’t allow as much time for the “concept of the play area, you know, Piaget and all the good stuff from cognitive

development and how much time you need for that.” Piaget proposed that children’s socio-cognitive abilities develop through unstructured play time with peers only, during which children experiment with rule making and other social structures (Muus, 1996).

Schools have less time to devote to opportunities for socio-cognitive development as Piaget’s theory proposes because of the press for academic achievement under the new standards framework. She complies with the federal and state mandates but she is concerned, though not certain, that children might become “burned out” because academic pressure now begins in kindergarten:

Times have changed. You don’t see the kitchen sets in the kindergartens any more, it’s been replaced by writing centers, sounds, you know. But they can do it! They can do it. So do we set the bar and say “here’s the expectation, reach for it!”? Again, we have to watch and see where it takes us. I think it’s a double-edged sword. Where are we going to get burned by it?

...look at other countries, ... you look at Japan, they go all day and then they go all night. Are they burning out? Well, their suicide rate’s up there, but look who’s marketing to the world. You have to really say what’s worth it. Will we burn them out early? We’ll have to wait and see, because we’re just not there yet.

The following extended portion of our discussion occurred as I played advocate for her argument as she defended NCLB:

UD: Do children need it? Scientists are saying that they can do it! They’re saying that their brains are ready, so why short-change them? Why put them three years behind someone else?

EC: Well someone might say that schools focus too much on—

UD: [laughs] I know! But is that not what’s driving schools right now? So that’s why it’s important!

EC: But we’re not testing them for their social or emotional skills...

UD: no, we’re not.

EC:...but we're testing them for their academics...

UD: I know!

EC:...so of course they say we've got to start them in kindergarten.

UD: you'll drive yourself nuts, Eric, trying to figure this out. [laughs] But basically, though, we've been dealt the hand of what has to be done, and that's how you play it out. You have to just say OK... Agree or disagree, you have to do it. You're out of compliance if you don't.

I will return to how she feels about being “dealt the hand” below. Her concern about the loss of time for focusing on the development of socio-emotional intelligence and skills stems from a difference between her beliefs about the role of school, which at its root is situated in differences in definitions of intelligence and learning. Despite the definition of intelligence she gave above, Ursula does not believe that intelligence limited to the ability to perform on “measures of ability” or to do achieve at high levels in school. She also believes that intelligence is represented by social behaviors that develop through play, and which include the ability to influence teachers' perceptions of one's own ability.

Her definition of learning is also slightly different from that which standards-based reform promotes. I presented above Ursula's belief that even a child who has been traveling around in the trunk of a car could be expected to learn in school. What her definition of learning, or achievement, is then, becomes important: “I believe all kids can achieve. I think we're going to have difficulties with some. But I think we can show them growing. So, that, to me, is achieving.”

Several of the participants in this study, Ursula included, advocate for a value-added student assessment system by which individual students' and subgroups' growth is

measured relative to the level of achievement at which they started, not a standard measure. The state department of education, in fact, published a position paper in response to mandates of NCLB that it considers problematic which discussed this issue.

The state

believes it is crucial that progress measures are sensitive to academic growth all along the achievement scale, not based solely on the number of students reaching the proficient level. This principle is reasonable and supported by research that human beings learn at different rates. NCLB, however, assumes that student and school progress will be linear, improving exponentially each year, when the progress actually may be naturally more erratic and non-linear²⁸.

Respondents who believe a growth model is a better system find the standards-based assessment system, NCLB's mandates are unfair given that children enter school at different stages of readiness and progress differently. The definition of learning in standards-based model is not the same as Ursula's:

If you meet these anchors²⁹, you will be successful in the state testing. How do they measure successful schools and students? Because they are going to graduate kids who are successful and proficient on the state testing, kids who aren't proficient may not be graduating in the future. To them, that's the learning. That's what *their* expectation of learning is. But for parents I don't really know if the geometry question on that test is really what I think is learning to my child. So what're you going to do?

She has an answer to her own hypothetical question: "If you're going to be measured by the standard then you'd better teach to the standard." She has also implemented a policy of teaching test-taking skills to her students. No other principal mentioned teaching test-taking skills, though some teachers at other schools have done so³⁰. Ursula claims to have no problem with standards, while at the same time expressing concerns that too much focus on academics may be ultimately too stressful for kids.

Nonetheless, her concerns about student burn-out are tempered by her own doubts: what if the push to have kids do academic work in kindergarten, and more intensive academic work in the early grades than in the past *won't* do them any harm? She cites scientists as saying that children are capable of such work, after all, and to ignore such evidence and focus on social development might put her students “three years behind” students in schools that focus on academic achievement. She remains an agnostic about standards-based reforms in the sense that she can't be certain they will be effective or they won't: “who really does know, maybe this is the direction. Who are we to say yet? There's not enough out there. But who's to say we can't do it, and that it won't take us to the next level?”

Still, underlying this agnosticism is her suspicion of standardized testing. She wonders whether standards-based reforms will eventually suffer from doubts about the accuracy of standardized testing in the same way that she believes the SAT is beginning to:

Whether that's the only thing we look at as a society when they're older—I just don't think that's going to be the only piece. I mean, we had the SATs for colleges. Now that's just changed. Now everyone's hearing it's not going to be looked at as closely as it was. Research on standardized tests are coming out where not everyone's a test taker. What do you do about some of those? How do you handle that?

In the mean time she complies with the mandates and waits to see what the end results will be. After all, she said, “it's Federal Law, as of January 8, 2002.” Educators have been “dealt the hand” of having to comply with state reforms in compliance with NCLB's standards-based model. “...our hands are tied; we don't have any say! We have

an expectation that's coming down by federal law, we have no bite! Whether we have our personal feeling or not.”

In summary, Ursula has never had much faith in the validity of intelligence tests, or in the ability – generally speaking – to locate in intelligence the reasons for a child's success or lack of success in school, and she worries that standardized measures of a standards-based curriculum might mean that the development of children's social intelligence may suffer. She has not had a “paradigm shift” akin to Carl's as a result of the change in the policy environment that has resulted from the mandates of NCLB. While she appreciates the focus NCLB brings to the curriculum, she remains agnostic about whether or not standards-based reform will ultimately be successful – we just can't know yet – and she wonders if her concerns are valid given the opinion of scientists who provide evidence that children are capable of higher academic achievement at early ages.

Ursula believes that the expectations set by educators and parents, and finding appropriate instructional strategies for different learners are critical variables in explaining academic success, are critical to student success. She says she *has* to believe that children who come from disadvantaged backgrounds can achieve. Her belief that “even if you live in a tent you can learn” probably serves the same function in that without those beliefs she would just “throw in the towel.” This view is very closely aligned with the views of the school psychologist at Washington, Karen Matthews.

School Psychologist

I mentioned above the similarities between Karen's and Kevin's education and experience in schools. Additionally I have mentioned that they are allied in their efforts to reform education and have been active in advocating for a preemptive model for dealing with specific learning disabilities in their district. In addition, their views on intelligence and the variables that affect learning outcomes are very similar.

They differ in that Karen is more zealous about NCLB than Kevin. She did not discuss any concerns she may have with NCLB, and excitedly spoke about the potential for NCLB to facilitate the prevention of reading disabilities and to close the achievement gap. She believes these great changes will be realized through the promotion of early intervention, phonics-based reading programs, and higher academic standards for all. Unlike Ursula, she expressed no doubt about the validity of standardized tests. NCLB has enabled the types of early interventions and curricular reforms that Karen believes are clearly validated by "30 years of scientific research." She expressed far fewer reservations of the law than did Kevin, did not raise any conspiracy theories³¹, and seemed surprised at the suggestion that NCLB had become politicized.

Like Kevin, Karen also believes that most educators operate from an innate pathologies view, and for the same reason that Kevin cited: "It's easier. People think black and white," adding "They don't know the total reality of the system. Nor do they have a systems perspective cause they're in like a microsystem. They're in a shell." When I asked her how she thought having such a perspective might influence how educators make decisions about students, she said,

I'll give you an example. When you look at the instructional behavioral consultation literature... the research shows that 13% of teachers are open to consultation. Meaning that they're willing to alter something in the environment, have more of an ecosystemic perspective, are willing to see that they can alter things in the environment to change the behavior, i.e. the learning behavior or the social behavior of a child. The other 87% aren't interested. Just get the kid out.

However, she made several statements that tend to indicate that in fact she sees innate pathologies in students, though she holds an "ecosystemic" perspective in much favor:

KM: When you look at Piaget or whatever, not everyone reaches formal operation. But most people reach concrete.

E: Why isn't everybody capable of reaching formal operations?

KM: Because not everyone's a 130 IQ. Because, because we're all on a continuum with regard to verbal ability.

E: Where does IQ come from?

KM: Basically it's a construct. You can't see it, you can't put your hands on it. But we do know enough about intelligence to know that there are certain skills that go into intelligence. Memory, problem solving, speed [of] new learning, all ... emotions, musicians, creativity, all of that stuff. And we know that all people aren't created equal with regard to intelligence. But that doesn't mean they're limited.

E: Why are all people not created equal?

KM: Genetics. Well...

E: Where would you come down on a nature/nurture debate?

KM: ... some argue it's a 70/30 split—70% genetic, 30% environment. Others argue it's more like 50/50. I'd like it if it were 50/50 because that gives me hope that we can do more instructionally to influence verbal ability. But there's also a window [for] language. And so if you're trying to intervene with a 5th grader in terms of language acquisition as opposed to a kindergartener, good luck.

Like Ursula, she leans toward beliefs that give her the most optimism about her work.

Karen sees a difference between an “innate pathology” mindset and her view of experiential or instructional deficits, and she attributes the origin of the pathologies to systemic causes, not just environmental conditions have a unidirectional effect on individuals. The important implication of this distinction is that the latter can be remediated with appropriately robust intervention strategies. The problem may still be located in the child, but to her that does not mean that the educators have any right to be fatalistic or pessimistic about their ability to deal with the deficits – that is, as long as they intervene early enough. This belief is empowering to her – and she thinks it should be empowering to teachers as well – because it means that most problems that students have with learning can be solved with proactive measures in the early grades. She is very enthusiastic about the measures that educators can potentially use to solve the deficits in skills that children come to school with, as can be seen in the following quote:

I thinking about what we know about the bulk of people who can't comprehend [reading passages]. Well in 80% of the cases there's an underlying phonological core deficit. We know now in terms of the science of reading that if we'd gotten in there between the grades of K and 2, infused them with a robust intervention, we could have changed their patterns and that could be a done deal. A dyslexia would have never even had to manifest itself. That's beautiful.

Even when she discusses problems that seem to manifest themselves in a person's realized intellectual potential, she maintains an optimism that all interventions have not been yet tried:

We have not found a way to help every child learn to read and reach the level of achievement that we think is possible. We have not found a way to influence verbal ability yet. ... out of verbal ability, what's the number one predictor of verbal ability in terms of *g*-loading and intelligence? Vocabulary. So the question in the scientific community is, if we start doing vocabulary instruction in K and we do robust vocabulary instruction will that make a difference in 5th grade? Can we influence verbal ability?

Let's try it. Let's try it! Let's form connections with those dendrons, let's immerse them in language and let's see what happens.

While many educators in Central School District brought up feelings about the negative impact of impoverished environments on intelligence and school achievement

Karen is dismissive of this view:

Our 90-90-90 schools would go against that. ... I think there's enough data out there to support that poverty is not a risk factor in and of itself. When it's combined with other factors like lack of access to school, lack of access to robust medicine in the school in the form of curriculum and instruction, moving around a lot, it can play a causal role. ... people have hypothesized well it's low mental ability that leads to poor academic outcomes, it's ESL that leads to poor academic outcomes, it's poverty that leads to poor academic outcomes. But when you do sort of a pie of what leads to academic outcomes, and you look at the variants: .15, .05, .15, it's minimal. The two factors that represent most of the variance in terms of academic achievement are curriculum and instruction: .40 and .46. So for people to put their causal eggs in this basket of poverty or this basket of ESL it's just wrong—scientifically it's wrong. The variance doesn't support it. So what you need to do is disseminate accurate information, which is “wow, this is empowering that the factors that represent the most variance in terms of academic outcome, instruction and curriculum, you have control over.” [But] Innate pathology has always been attractive to people.

Beliefs About Washington's Unique Population

While Ursula declined opportunities to talk about how Washington's high poverty and LEP students might be related to the school's low achievement, Karen acknowledged that their students need different methods for reading instruction than the students at the other schools, Adams specifically. Adams has the wealthiest and most homogeneously white student population of the four schools. Karen cites research on reading instruction that states that roughly 30% of the children in the United States “need” reading instruction based on the explicit approach, that is “structured, synthetic, phonetic—

everything you read in NCLB about how to teach reading according to the National Reading Panel.”

As Karen describes it, the need to use explicit reading instruction is often dictated by a cluster of issues related to poverty:

... there have been studies on phonological sensitivity, vocabulary deficiencies, things like that, with impoverished kids – they don’t have it at the rate that middle income kids do. Studies have shown that ... it’s not necessarily tied to poverty, although when we talk about poverty being combined with lack of opportunity, moving, those kinds of things, it seems that you encounter more impoverished kids that need this kind of instruction. ... we presume that in some low income households they’re not talking to their kids as much. They don’t have that sensitivity like a middle- or high-income kid might just because of the amount of talking that goes on—the use of words, syllable patterns, things like that. So they’re not as attuned. So phonemic awareness takes a little bit longer for those kids. [so] we need to be much more explicit in our core instruction. And [parents] reading to a kid wouldn’t help with that issue, that’s not going to make a hill of beans of difference in this kids’ reading skills because that kid’s an explicit kid and needs explicit instruction.

Karen uses this evidence in discussions with teachers who blame poor parents who don’t read enough to their children, and who shift blame for poor children’s low reading scores from the schools to the parents or the community. She hears this argument from teachers on occasion, and related a story to me in which she argued the point with a teacher at Adams, which is how the comparison’s of student populations came up.

So when you look at [Daryl’s] numbers, he’s pretty good to go. He’s not going to need a whole lot of support. He still has kids walking around—about 20% if you look at his numbers—that need a different kind of instruction. [The other 80% of the] population learns to read – you could be a teacher sitting with a bump on your head, they’ll learn to read in spite of you.

The high proportion of poverty students at Washington therefore indicates to Karen that educators need to choose appropriate instructional strategies to help them

achieve higher standards. NCLB's funding structures help facilitate the use of the assessments and instructional methods that Karen believes her students need.

Karen's Beliefs and NCLB

Karen is zealous about NCLB because it is

about the 30% that we've left behind. NCLB is about the one in four citizens who are poor and ESL who we've had lower expectations for, who we don't pick up these interventions and use them with. It's supposed to be the vehicle to bridge the 30 years of science [with] the population that we've left behind. And let's just call them for the sake of argument low performing students, whether they're black, white, purple, or polka-dotted. It's about closing that gap. It could be done. Absolutely.

The science that NCLB has promoted for early interventions is at the root of Karen's strong support. She believes that teachers and administrators are poorly educated in the science of instruction and that school psychologists are "the only scientist practitioners you have walking around the school." Scientific research is helping to combat subjective and behavioral assessments most educators use when they work with students.

Using interventions and instructional strategies that are based on "30 years of science" and research is

ethical because I don't base it on Karen's belief systems. They're not my personal belief systems. What I'm selling is based on science. So in other words, I don't think that my belief systems are superior to yours. But I would sell what's in the literature and what's been established as factual as it can be.

As her beliefs align with scientifically validated research, they are no longer beliefs but facts, which amplifies her zealousness.

She and Kevin, with others, make presentations nationally about reading research and the efficacy of early interventions. It is at a similar meeting that she and Kevin experienced the “non-verbals” that he mentioned in the quote in Chapter 5. She is eager to discuss how much success their programs have had at Washington, reducing the proportion of children who move to first grade considered at-risk for reading disability from 30% to 1.8% at a total cost of \$1,500 and an the use of additional instructor from within the school.

Is there evidence that her beliefs math those of teachers at Washington Elementary?

Teachers

At Washington one of the two teachers I spoke with confirmed Kevin and Karen’s belief that many educator’s believe in innate pathologies. To Ms. Urqhardt intelligence is “mental abilities” influenced by “genetics.” She did not feel that all children can achieve rigorous academic standards, either because they don’t have the ability or the parental support, and she thought that her building administrators “realize that all kids aren’t going to get it.”

Then there is the interesting case of 36-year teacher Mr. Svaboda, who believes that intelligence is genetically influenced to a certain extent (“I mean obviously it comes down, you’re getting that from your parents who got that from—you know. It depends I guess on how much inbreeding there was years ago”). However, when I first asked him why there are variations in intelligence between people, his first response was: “I think that’s an educational question!” He would not link high IQ or giftedness to high

functioning across domains, and stated that often it is the teacher's job to develop intelligence in children.

Finally, Mr. Svaboda's view reflects the attitudes that both Karen and Ursula expressed about getting low-achieving children to reach higher standards:

I am sure they're probably banging their heads sometimes saying 'there's no way we're going to get these kids to grade level, but we're going to try.' And I think that's good in a way, because I think a lot of times as teachers we have a defeatist attitude, you know, 'that kid can't learn, they'll never learn.' [But building administrators say:] 'You know, you could be right, but let's give them a chance. Let's see what we can do. Can we use a different approach, maybe somebody else has a better idea.'

Summary

Washington's "different population" was mentioned by several teachers, including Ms. Neeley, and principals as being at the least a source of different expectations for students. I did not find that to mean that expectations were any lower among the educators with whom I spoke at the school. I found that the principal, school psychologist, and one of the teachers refused to believe that they should have lower expectations of their students, despite the presence of conditions that predict low achievement, listed in the beginning of the chapter.

There is less evidence that Karen has been as influential on Ursula's beliefs as there is that Kevin has been influential on Carl's beliefs. There are far fewer instances of matched language, and Ursula told no stories in which Karen played the starring role, which Carl did about Kevin on two occasions. Ursula has had no direct contact with the Learning Focus Schools organization, which had a dramatic effect on Carl's beliefs about student achievement and intelligence. She has certainly heard Carl discuss LFS, however,

and knows Kevin. Perhaps their and Karen's collective support for the reforms are enough to allay her concerns. Her professional training in child psychology is likely also related to her resistance to changing her beliefs.

At the end of our first interview, Ursula introduced me to Karen, and I had occasion to view their interpersonal relationship. During the 15 minutes the three of us were together, there was laughter, open body language, and much agreement between them. Ursula began by saying "I want him to ask – because you will really give him the answers he needs – how you feel about the new kindergarten curriculum, with their sounds and so forth, and how it's important." Ursula's deferral suggests that she has placed faith in Karen's understanding of the reading program. As Karen spoke, Ursula interjected several times with such supporting phrases as "Bingo!" and "it's wonderful, yeah." Later, they engaged in this exchange:

KM: I have been searching now for ten years to find a place where the principal and I speak the same language. And honest to god, it's taken like ten years to find a common direction.

UD: we're together! [laughter]

KM: It's amazing.

Ursula's ambivalence about NCLB's mandates for higher achievement (rather than the stronger opposition her beliefs would predict) may be due in part to Karen's zeal about the "30 years of science" that backs NCLB's recommendations. Ursula's tentative confidence in the science-based reading interventions the school is using, and in the ability of NCLB to effect the achievement gap – even though she expressed strong doubt about the validity of intelligence and seemed skeptical of standardized tests of achievement – suggests that Karen's zeal for the interventions Washington is using, and

their positive personal relationship, has played a role in Ursula's wait-and-see agnosticism.

Chapter 7

Jefferson Elementary: Behavioral Priority

Jefferson Elementary is a new building set amidst a new subdivision of upscale homes north of Cedarville. The land around Jefferson is zoned for either agricultural use or low-density residences. It serves the largest number of students in a sprawling two-story building with very nice facilities. Jefferson has 12 student services personnel other than School Psychologist Steven Smith: one IST team leader, three ISTs, one ESL instructor, two Learning Facilitators, two Speech Therapists, and two Reading Specialists. At Jefferson I interviewed principal Denise Haupt, school psychologist Steven Smith, and teachers Ms. Q. Thornton, Mr. H. Reed, and Mr. N. Steele. Unfortunately, half of each of the second and third interview with Denise were lost (see Chapter 3).

There are roughly 616 students (Denise says there are 650 students; I cite the district's 2003-4 data) at Jefferson, 69% of whom score at proficient or advanced levels on the state's reading assessment, 31% are basic or below basic; in mathematics, 71% are proficient or better, 29% are basic or below basic (see Table 3-5 and Table 3-6 for more detail). The student population is 85.1% White, 2.5% Black, 9.2% Hispanic, and 3.3% Asian, Pacific Islander, Native American, or Alaskan Native; 22.9% are economically disadvantaged. Average class size is listed at about 16 pupils per teacher.

At Jefferson, principal Denise Haupt has described spending a lot of time on establishing a discipline and behavioral policies and on developing a character

development program. This is likely because she was only beginning her second year as principal. However, it is also true that the beliefs about intelligence she presented were the least well-articulated of the principals, and very closely aligned with traditional psychometric conceptions.

Principal

Before detailing the themes in Denise's beliefs about intelligence, it will be helpful to discuss her background, which has primarily been focused on language arts and reading instruction. An English major in college, Denise worked as a High School English teacher for two years before staying home for several years to raise her children. Since returning to education she has held several teaching and administrative positions either teaching Language Arts or acting as a Reading Specialist at the school and district levels. She had been a Language Arts coordinator in Central School District for two years when she had the opportunity to be interim principal at Washington Elementary. When the position as principal opened at Jefferson, she applied. She had been principal at Jefferson elementary for only a year at the time of our interviews.

Given her extensive background in literacy instruction she admits to being comfortable making decisions about reading and literacy, but "Math....[laughs], you know. I kind of waffle a little bit with math yet. I know it is something I need to work on." Her assessment when she started as principal was that "things were in pretty good shape in the building," and "as far as instruction goes, my role this past year has been to be part of the team, with our guidance counselor, and we still have an instructional support teacher (IST) and so I felt very much that the teachers could be the decision

makers.” She has therefore admittedly not played a very active leadership role in decision making at her school, or as part of the team of principals and district officials yet either. When we discussed the upcoming year, she spoke at great length and with great enthusiasm about her plans to implement a program that she felt would mold student behaviors toward her goal of increasing student discipline.

Intelligence

Denise differs from the other principals in that she admits that she does not have a clearly conceptualized notion of intelligence. When asked to define intelligence she said: “In my belief system intelligence is the ability to process and communicate your thoughts...um...I don’t know if I can add anything to that. What brain power you have? I don’t know.³²” She discusses IQ in terms that suggest that she believes it to be a real entity, which cannot be fundamentally modified. In a discussion about children with learning disabilities, she said that though teachers “work with them, ... there is only so much progress that they feel they can make. I am assuming that a child with a certain IQ, I mean, there’s just, you know, only so much there, and they try as much as they can, but bottom line is [teachers] can’t take them from here to here [indicating large gap with her hands].”

The passage below, which immediately followed her definition, demonstrates her unwillingness to discuss the topic of intelligence to the same extent as the other three principals:

EC: Where does [intelligence] come from?

DH: well, I’m sure it’s way wrong, but I’m assuming your brain. Again, the make up of the brain is not in my realm [laughs].

EC: OK, how does it develop?

DH: intelligence develops over time...(trails off)

EC: ...in response to, or as a result of what?

DH: stimuli?

EC: In your professional training, did you take any educational psychology courses that addressed theories of learning or intelligence?

DH: if I did it was so long ago that I don't remember.

EC: What do you remember from those courses?

DH: [laughs]. Not too much! I'm being very honest, I'm not going to bluff my way through anything, because I really don't. I took adolescent psychology sometime between 1982 and '86 when I was working on my Master's degree.

EC: What was in covered in that course?

DH: I knew you were going to ask me that [laughs]. Unfortunately, the instructor I had made it so boring, that I don't have a fond memory of it.

Denise's answer to the first three questions suggests that she believes intelligence to be geographically locatable in the individual and is not effected by sociocultural interactions between the individual and their community; nonetheless, she agreed with an item on the questionnaire that read "The habits of a community can limit or increase the amount of intelligence their children grow up to have." In our discussion about her answer to that item, she said "The habits of the community *ca-a-a-n* limit... but possibly..." I asked her what she felt that would depend on. "I guess I was thinking more of an impoverished area [in which], the kids don't have access to technology, access to the books. You know, *Books*. That can limit their amount of intelligence. And on the other side, access to technology and books could cause children to be smarter."

Here she suggests three of the main components of her beliefs about intelligence, which I will detail below: first, that intelligence is in some ways synonymous with knowledge; second, that intelligence is slightly modifiable, depending on a variety of factors; and third, that a relatively wealthy and stable home or community environment is necessary for kids to be able to do well in school.

The first component of her belief about intelligence is that it is largely synonymous with knowledge. In geographical metaphors of intelligence, knowledge is considered “crystallized” intelligence as opposed to “fluid” intelligence, which is associated with problem solving skills. Two of Denise’s comments strongly indicate this belief. “Look at people who go on to higher education, who read constantly,” she said, “I think the more you read, the more intelligence you gain. The more education you have the more knowledgeable you become.” Departing from the interview protocol, I asked her whether a person can tell if another is smarter or less smart than the average person by speaking with them, and if so, how. Yes, she claimed, because, “some students – I mean you can tell that the vocabulary they use is a little more sophisticated than some other—you can tell correct grammar. If it’s spoken in the home, it’s spoken at school; if it’s not spoken at home, kids come to school and speak incorrectly according to grammatical rules. Yeah.”

A third comment more subtly suggests that to Denise intelligence is knowledge-based or declarative, but this may depend on the interpretation one makes from the comment. We were discussing the requirement in the math section of the SSAT that students describe the reasoning behind their answers to selected items. She explained that there was much controversy around that requirement, at least among her math teachers,

and proceeded to detail the arguments of those opposed to having children detail their problem solving process. I asked her if she agreed with that view.

I don't know. I don't know, I mean, I can see both sides. If – and again it's showing my ignorance of this – my experience with people has been that some people are really so intelligent that they know the answer, but when it comes to how they got it, they can't break it down like that. Is that a sign of intelligence or not? I don't know.

My first interpretation of this statement is that getting the correct answer is more an indication of intelligence than knowing how to get a correct answer. To paraphrase, crystallized intelligence is more relevant than fluid intelligence. Alternatively, this statement implies that problem solving ability is such a trait-like characteristic that is not a product of any specific training: some people are so intelligent that they just know how to do math and get the right answer. Thus, I interpret this comment to mean that she believes that intelligent people are intelligent because they possess a trait that allows them to more easily gain new knowledge, which makes them more intelligent.

Most of the answers to the first nine items³³ on the questionnaire indicate an entity view of intelligence rather than an incremental view, but our conversation revealed the second component of her beliefs about intelligence: that intelligence is slightly modifiable. She agreed with the two questionnaire items that state, “You have a certain amount of intelligence and you can't really do much to change it,” and “You can learn new things, but you can't really change your basic intelligence,” and disagreed with the statement that “You can change even your basic level of intelligence considerably.” I specifically pressed her on her answers to the first two items, and our discussion reveals how limited a questionnaire format is for gaining an accurate picture of a belief set about something as nebulous as “intelligence³⁴.”

EC: For question one, [certain amount of intelligence can't do much to change it], you disagree.

DH: well, and then I thought about that, and I thought "it depends on the level of intelligence you're talking about." I don't have much experience at all with this, but I noticed this year when I had those multiple disability IU classes here, those children, some were severely mentally retarded. [short laugh] I - there's no way! But I think if you have more of a mild learning disability, you can learn to overcome that. I mean that's just my thinking.

EC: "your intelligence is something about you you can't change very much..."

DH: it depends on how much intelligence you have. But you can certainly – I mean look at people who go on to higher education, who read constantly.... The more you read, the more intelligence you gain, I think. The more education you have the more knowledgeable you become.

EC: How much can schools do to raise the achievement of kids whose IQ is not low enough to indicate a congenital disability?

DH: mmmmm, I think they can do a lot. If there is some potential there I think they can do – they can't quite work a miracle, but they can do a lot. How much I don't know, but you can.... I am going back and thinking about what I just said about the motivation. With those learning disabled kids...you could—I don't know, maybe what I am experiencing are kids who aren't highly motivated. I don't know.

In fact, she says,

I think if a child has an inner motivation, I think that can supersede—you know, you always hear stories of 'what I came from and look at me now' kind-of-thing [laughs]. ...if you have that desire, I think you can achieve anything. ... if somebody's super bright, super intelligent, but they're not motivated, they're not going to go anywhere. But somebody who maybe has, you know, a limited amount of intelligence, but is extremely motivated, could exceed that person. So, [laughs]. That's an interesting concept. Yeah.³⁵

Additionally, she strongly agreed with the questionnaire item: "You can increase your intelligence *up to a point*, but everyone has a different 'ceiling' potential." Her belief about the nature of intelligence is partly epistemological in that the role of the acquisition

of knowledge is central to her view. She also explains intelligence with geographical metaphors.

Interestingly, although she seems to have beliefs that are similar to the classical psychometric view of intelligence in that intelligence is a predominantly stable entity, she has little faith in the ability of intelligence tests to present accurate information on an individual's intelligence.

Standardized tests that may be given once a year, once every other year – I don't think that that's a true measure of a child's intelligence. What if they're having a bad day? One of my middle daughters, I go back to her experience: she was a terrible test taker. She did well in school, but when it came down to taking a standardized test she just would get so nervous. She just...I guess the anxiety overtook her brain power on that. So I always think 'standardized tests? I'm not so sure about that.'

Denise's Beliefs and School Policy

This statement takes on particular weight given that Denise's practices concerning the placement of students in enrichment and intervention support classes differs from her colleagues in the district. Denise is not strict with the use of cut-off scores for designation to either enrichment or targeted interventions. She reported to me that "sometimes we do take students who might be a little bit below the cut-off, but are demonstrating the ability. We'll just include them." Why?

Lots of times it's parents. When they get the results of the test, they'll be all like, "Oh, they're just a couple points away." They really feel their child needs this challenge, and so to accommodate, I guess more or less parents, we'll put them in.

She assured me that it was also the case that if a child was close to the criteria for placement in an intervention class that she may not make that placement based on circumstances other than test scores.

Taken together, Denise's views seem to be in line with both Carl George and Ursula Downs on several points. First, some sort of internal factor that is not intelligence (e.g. motivation, attitude, desire) when combined with some level of ability explains academic achievement. Second, students who are "severely mentally retarded" cannot be expected to meet rigorous academic standards; but educators can reach children with less severe learning disabilities who are achieving at the basic or below basic level through targeted interventions that can help them meet standards.

Denise's Beliefs and NCLB

Denise for the most part supports the changes NCLB has brought: "I think it's a good thing, because for the first time education is being held accountable." The benefit of accountability is standardization:

When I first came to this district and went around to observe classes in all of the buildings ... there was no continuity anywhere, even within a building. [Now] It really is doing what's best for kids and the learning, not what you personally have a preference for.

As we'll see in the next chapter, Daryl also sees benefit to the standardization, or prioritization, of the curriculum. Denise sees an additional benefit of accountability in the attention to bringing all children's achievement to at the least proficient levels of achievement. "When I went to school we didn't have any state tests. You taught, you learned, and you went on. There might have been a lot of children left behind, and we didn't even realize it. So now I think it's a good thing."

But she is concerned that "those learning support kids who let's say are in fifth grade but reading on the second or third grade reading level, they'll have to take the state

test that's written at the fifth grade level. I think right there is a huge road block for them. I'm just not sure what kind of chance they have, I think it just frustrates them."

School Psychologist

Steven "kind of align[s]" himself with Howard Gardner's theory of Multiple Intelligences (MI). He identified this theory as most important to him, and referenced it several times during our discussion. He has

...tested kids and worked with kids where they have a significant reading disability. But then you look at their perceptual ability or math. ... certainly kids can be much more intelligent in some areas than others, I definitely have seen that and believe that. And I think as a school we need to find ways to reach kids that have maybe intelligence in some areas and not necessarily in others.

MI theory allows him to overlook variations in intelligence between students, because a "person might look less intelligent in some areas but maybe more intelligent in something else. I think there are going to be some areas though that kids are naturally better at than other areas," but those can be enhanced "through nurturing and through skill work, ... lots of different things."

As in the epistemological metaphor of intelligence, Steven believes that children's developmental process has implications for achievement. "There are some kids that aren't ready to do things that we feel that all those kids are ready to do, ... that's definitely reality for sure." How much a child has developed before entering schools is due in part to experience and in part to a natural maturation of skills. "Developmentally they're younger, they haven't had the experiences that maybe some other kids have had, um...just even you know developing some fine motor skills for example."

He believes there are innate differences between individuals that are not amenable to influence, specifically when it comes to disabilities: "...certainly there are kids ... who are low ability all around. And I've tested with kids like that too. And that's got to be mostly genetic or mostly something that's innate." Fortunately for educators, "we're not looking at a huge number of kids that are potential special education kids," which means that educators approach most low-performing students with remediation in mind: "what can we do that's preventative?"

He has seen a shift in the field of psychology in the last several decades in which "there's still the medical model phenomena³⁶ but, [now psychologists are] looking at what's happening instructionally, you know ecologically." The result has been that professionals in educational psychology are "definitely moving away" from the view that nothing can be done to affect low-performing students' achievement trajectory:

I think psychology is looking at NCLB and what can we do as psychologists to further the knowledge, strategies for these kids that are struggling. How can we as psychologists help teachers with interventions, with strategies that are going to help these kids get to a level that we want them to get to? I think that's a change. I don't think that psychologists 20 years ago were doing as much of that.

Steven's Beliefs and NCLB

Steven believes that intervention and prevention can be successful methods for ensuring at least proficient achievement by the majority of kids in schools. However, he questions whether it is reasonable to expect that educators can close the gap between low-performing students' achievement and the "proficient" level of achievement because "...with some kids it's really difficult because the gap's huge." He believes NCLB's expectations would be more "realistic" if they were based on a personal growth model

that accounted for a child's level of achievement upon entering the school. However, the growth model should only apply to those "who are already in special education." He raises the conflict between NCLB's standards and the state's previous IEP plan, a bone of contention between this state and the federal government. "I think for a certain population of kids" replacing the personal growth model with the standards based model has been an improvement. But not those who are in special education. "We're putting a lot of pressure on them to achieve at a level that ... it's difficult."

The MI and developmental theories Steven believes interfere with his perception of the viability of the state's goals for proficiency under NCLB for children who are not in special education:

All kids can achieve, sure. [But] Can all kids achieve at those academic standards that they're looking at? That's difficult. I think there are some kids that just can achieve in other ways, have other areas that they can certainly excel in, but to get to those math levels that we're looking at? No, it's difficult.

Importantly, however, the new standards framework has in fact altered Steven's level of expectation about achievement in kindergarten aged children: "we have found that kids you know even kindergarten kids can do a little more than maybe what we originally thought."

Teachers

Intelligence

Two of the three teachers used MI theory when asked to define intelligence:

Ms. Thornton: Well, I really look at kids as being intelligent in different areas. Like some kids are going to be really intelligent in math. Some kids

are going to be really intelligent in outdoor types of things. I try to find the intelligence in kids that way, and I think each kid has something that they are intelligent at. I don't just look at that score like on an intelligence test.

Mr. Steele: Just multiple intelligences. ... people are different and have different strengths and different weaknesses and just, our makeup. You know strong musically, some are strong athletically. ...there's kids that are intelligent when they're out on the street and relating to their friends outside of school. And there's kids that are intelligent that are in school that are book smart.

To the third, Mr. Reed, intelligence is inseparable from intrinsic motivation:

It's going to make me think. Define intelligence. Well, when I define intelligence I like to think I'm intelligent—talking about myself—but the reason I'm intelligent is because I'm motivated to get there. So if I take it by that standpoint motivation is huge—self-motivation that is. Not doing it for someone else, doing it for yourself to be better than what you are. So being self-motivated, being able to be intrinsically motivated will make you intelligent. I mean if I didn't work as hard as I did in school I wouldn't be as intelligent as I am now.

Motivation leads to practice and the acquisition of knowledge, which make a person smarter, but there is an underlying cognitive prerequisite that not all people have: “Well I said before intelligence is learned but some, some students don't have the—how can I say that? Sort of going back on my answer here. The students who have special needs don't have the same cognitive ability as a regular student. So they're not going to be able to achieve the mastery of certain topics as other students will.”

Teachers did not orient themselves with the classical conception of intelligence, though each of them located intelligence within the person, using Sternberg's geographic metaphor for intelligence. None of the raised them prospect that intelligence is socially constructed or that variation is a product of social forces.

NCLB

None of the teachers believe that all children are capable of achieving rigorous academic standards. Ms. Thornton and Mr. Reed mentioned children with learning disabilities as being unable to reach standards. Mr. Reed pointed out that children with learning disabilities could achieve standards especially set for them, though the unintended consequence of such a policy would be that “School districts will just be throwing kids in there to save their butt.” He seems to indicate that each child may have an IEP that detailed individual progress benchmarks, which suggests that he sees all children with learning disabilities as suffering essentially the same deficit.

To Mr. Steele MI theory explains different domains of proficiency, which means that not all children will be academically inclined, and thus that not all children can be expected to meet rigorous academic standards. He explained that “some kids like that hands-on stuff; they don’t need all of those skills. Yes, they need the basic skills but now if they gave a standardized test in ... auto mechanics or culinary arts, that a kid that can’t maybe do as well in math and reading but can do all that other stuff....”

In different ways their geographic and systems (MI) metaphors for intelligence make them doubt that NCLB promotes realistic expectations about every child attaining proficiency on the state’s assessment.

Summary

Unfortunately, the loss of portions of two of Denise’s interviews limits the discussion in this chapter. Her limited tenure as principle has meant that she has not been particularly active in policy decisions, either with the team of principles for the district or

at her school. The few decisions she has implemented at her building reveal that her priority lies in establishing a behavioral climate at the school.

None of the educators at Jefferson believe that all children can be expected to achieve rigorous academic standards. To Steven and Mr. Steele, MI theory undercut this potential; they believe that children's predisposition toward skills that are not academic means that they will not work toward the goal of achieving academic standards. Denise, Ms. Thornton, and Mr. Reed see the challenge to 100% achievement in expecting children who are learning disabled or who enter school "behind" other students to "catch up" within the timeframe allotted by NCLB.

Chapter 8

Adams Elementary: Proudly Teaching To The Test

Adams Elementary School occupies a renovated and expanded Progressive Era building in a pleasant wooded upper-middle class neighborhood. The land around Adams is zoned for low- and medium-density residential and “neighborhood commercial” use. The neighborhood commercially zoned area is an undeveloped lawn. It presents an impressive and iconic school building of grey stone to the street, and is modern glass and tile within. At Adams I interviewed principal Daryl Lang, school psychologist Ophelia Franks, and teachers Ms. E. Xavier, Ms. N. Mintz, and Ms. N. Coming. Recall that Adams serves the most homogenous population with the lowest proportion of limited English proficiency (15%) and low income students (12.2%) in the district and that Adams has the highest 5th grade reading and math test scores in the district (see Tables 3-5 and 3-6). Adams employs the fewest student support personnel (five) of the four elementary schools. Besides Ophelia Franks, Adams has two ISTs, a Reading Specialist, and one person who serves as both ESL teacher and an IST.

There are roughly 512 students at Adams, 83% of whom score at proficient or advanced levels on the state’s reading assessment, 17% are basic or below basic; for mathematics, 89% are proficient or better, 11% are basic or below basic (see Tables 3-5 and 3-6 for more detail). The student population is 90.5% White, 3.1% Black, 4.3% Hispanic, and 2.1% Asian or Pacific Islander. Average class size is listed at about 16 pupils per teacher.

On several policy fronts, Adams has chosen to permit or pursue differences from the other schools, not all successfully. As mentioned above, Adams' principal Lang fought hard to keep the K+ program though other schools were dropping it and the district administration wished to do so, even persisting in offering the program when other schools ceased to.

According to the interview data, each of the other schools group students for reading instruction, whereas at Adams, children are pulled for reading skills intervention instruction, beginning in kindergarten as in other schools, but are not grouped for reading in the general classrooms. CSD's recently chosen reading reform (DIBELS) is unpopular with the first grade teachers at Adams. Recall Ms. Coming's discussion above about first grade teachers carefully picking their way through the new reading program.

Despite choosing the new Scott Foresman Math text because it was designed to be aligned with the state's standards, Daryl reported being "just totally disgusted with our textbook now." Apparently, he feels that the book is not allowing children to learn math *strategies* – as opposed to content – well enough. Additionally, he sees a problem with the fact that all students get one book, though they are working with different levels of math ability. As a result, he has asked his teachers to teach an adapted version of the curriculum as it is found in the book. The following extended quote illustrates how they are adapting instruction, and details his thinking on the matter:

"We're using other resources. Or, I trained the teachers this summer: 'you're teaching the strategy. Whatever you need to do to adjust the content so the kids can practice the strategy, do that.' Because the intervention kids and the enrichment kids can use different content or skill levels. Some of the enrichment kids can work in billions and some of the intervention kids are struggling with thousands. But it's all one textbook that has all kids working with rounding numbers and ordering numbers,

let's say it's talking about the planets in the solar system. Well, you're talking billions of miles, and those numbers alone are blowing the intervention kids away. They're looking at the numbers, and they can't even use the strategy they're trying to work on. And that's where we're missing the boat. That's one of the things that we're working on this year. And then once the kids have strategies for problem solving, then you start jacking up the complexity of the problems."

A third difference is that at Jefferson, Hamilton, and Washington principals have instituted "character development" programs. When asked if there was anything similar at Adams, Mr. Lang replied, "No. We call it 'high expectations.'"

Finally, Adams like other schools screens incoming kindergartners for signs of being academically at-risk, but additionally, "we offer just an hour workshop" with parents of children who are identified as at-risk, Ophelia Franks told me. "...we give them a bag of materials and some ideas for working with some of those incoming kindergartners over the summer." The program is apparently successful. Those children who attend the workshop with their parents for the most part do not test as being academically at-risk when they begin kindergarten. "Did that little one hour program and suggestion for activities to work on over the summer make a difference? Did the parents really do it? I don't know."

Principal

Daryl Lang is a good example of an educator who is thrilled with the changes that NCLB has brought to his job. Standards have brought clarity and focus to his role as instructional leader, and he believes they explain in part the success of the students in his school. He also acknowledges that he has additional resources at his disposal from the families whose children attend Adams elementary.

Daryl's Beliefs

To Daryl, intelligence is

the innate ability to process data and learn from that processing. And I guess probably there'd be other aspects involved with the processing... the condition of the brain, the speed at which each individual brain can process, the amount and the ability to process data and retain information, long and short range memory.

At the root of it is "that innate ability to process information and problem solve. [That] really is intelligence."

Daryl believes that how much innate ability manifests itself is a product of a co-incidence of genetic endowment and environmental factors.

I think initially it's physical [physiological]. ... each individual may have a certain amount of innate ability they're born with (and everybody isn't born with the same amount from the get-go) and then I think environment comes into play. How far that that initial amount you're born with expands and develops is based on the environment, and that could be anywhere from diet, to parenting, to nurturing, it could be nutritional and chemical – I can only guess how they all intermix.

Note that here he postulates a unidirectional influence of environmental conditions on the individual, so while he envisions a complex of variables, he doesn't see a systematic multi-directional interaction.

In a hypothetical situation in which all environmental circumstances were ideal he does not believe that any given person could achieve mastery of any given material. Thus, while environment influences "how far that intelligence grows," hereditary endowment still plays a significant role. He agreed with the statement that "how intelligent a person becomes has nothing to do with the surroundings they grow up in," which suggests that genetic endowment is relatively insensitive to environmental

conditions. His metaphors of mind are primarily geographical and biological, but he introduces a sociological component when he discusses the role of schools.

Daryl believes that school can play an important role in the ultimate level of achievement that students can attain, even “low kids,” depending on the strategy educators use:

I think schools can have a great impact on those students by going down to their instructional level and starting to build from there and raising their skills from where they're at, rather than trying to fit them in to a grade-level by adapting and accommodating to get by.

The level of expectations set at a school are an important influence on student achievement as well. When I asked him if he thought kids were smarter now than a generation ago, he replied “we're demanding more of kids now, and that may be the reason why kids may be smarter. Maybe they were always that smart, but the expectations weren't as high.” Here he brings the sociological metaphor into his model for individual differences in achievement by suggesting that educators can structure a Vygotskyian zone of proximal development for students through higher expectations, and by “raising their skills from where they're at.” He communicates this to his teachers when he stresses that they follow district policy requiring them to teach problem solving strategies to all students, regardless of the “skill level” of students, by which he means the level of content the students can conceptualize. For example, the state's math anchors require that every third grader be able to work with numbers up to 9,999, but

you may have kids in third grade who can work up to 9,999,999. [So] you don't base your problem solving on [the anchor requirement], you base your problem solving on where the kids are at. They're all learning how to use that strategy. So, if kids are problem solving a strategy, all groups are learning the strategy but the content and the skill level is adjusted.

Nonetheless, he also believes that not all students can achieve mastery levels of performance.

Of all the principals, Daryl spoke the least about the importance of attitude, desire, and motivation. His responses to the items on the questionnaire related to the mutability of intelligence all suggest that intelligence can be influenced and is not entirely fixed at inherited levels. He is the only one who mentioned “work ethic,” when he mentioned it among the criteria by which giftedness is determined at Adams.

On the nature of intelligence, Daryl strongly agreed that “people have multiple types of intelligences, which means that different people have different learning styles.” However, he had little patience with the district’s past policy for using Howard Gardner’s MI theory in schools.

We were using all the MI checklists and observations to choose our enrichment kids and throw out the standardized tests and stuff.... I mean, it was so grey. you couldn’t even get one teacher to agree with another about one kid. It was like ‘well, I don’t know I didn’t see him at recess. I don’t know.’ Then we would try to go to more black-and-white to discriminate who had natural ability and was gifted....

I will discuss more about Daryl’s extreme satisfaction with the shift to standards based curriculum and assessments, but suffice it to say here that he enjoys that clarity it brings to his decision making; MI was unsatisfactory to him precisely because it was too nebulous for his liking.

Factors Other Than Intelligence That Effect Achievement: “Family Baggage” and Disabilities

Daryl is proud of his school’s success and links that success to good instruction in his building. He acknowledges also that “I don’t have the multiple issues that other

schools have, [for example] social, emotional, behavioral, economic factors” that he believes can negatively impact student achievement. “But all four buildings have different types of population. You look at the demographics and you’d be able to tell that.”

I asked if thought Adams is a model school, to which he replied:

it might be a model school, because it has the right conditions. We have our problems: we have our low kids, ESL problems, speech and language problems, kids with disabilities, low income kids, high income kids, gifted kids with needs. We just don’t have the *magnitude*, the numbers. The other thing that we have that a lot of schools don’t have, is I would probably say we have a higher percentage of kids from two-parent families than most schools.

Two-parent families, especially those with “moms at home,” support the efforts of his school in two ways, first by providing him with a healthy pool of volunteer parents, and second by providing stable home lives for Adams’ students. Parental involvement in the school is not only important for logistical or instructional support, but also because “parents take a lot of pride in the school and don’t want to leave it. Which means that our kids come with a very positive attitude towards school.”

In contrast, family instability is one of two issues that Daryl identified when asked what children have the hardest time making it in school.

We can say the home environment and everything that goes on in the home ... either negatively or positively effects school. That could run from nutrition to rest, from abuse to neglect, a positive attitude about school that parents have, or a negative attitude that parents have from their past in school. ... if school is not that important, [parents might have a] ‘you need to get a job’ attitude, ‘you need to learn to do something with your hands, you don’t have to have books.’ And then of course marriage issues: divorce, separation. How stable can the environment be for children who are like ping-pong balls? Weekends and holidays, they’re back and forth. I have kids here whose moms drop them off and he [dad] keeps them so long, and then he brings them home at 10 o’clock at night.”

Daryl feels that “baggage from personal issues at home” can “without a doubt” negatively effect student achievement.

The second issue he identified is “physical limitations... learning disabilities,” by which he meant “conditions such as autism or Asberger’s,” because those things get “in the way of their being able to perform academically.” However, the fact that Adams doesn’t have the “*magnitude*, the numbers” of students with disabilities or who have the other problems he mentioned in the first quote in this section, “I can’t say that we really have any problems with any—what would be any kind of discrimination or any kind of those issues at all. Kids with disabilities, black, white, rich, poor, we don’t have the issues, they all melt.” He believes this lack of problems creates a positive learning environment.

Out-of-school variables that limit achievement and student disabilities make his teachers worry his teachers about being held accountable for the achievement of children who deal with those conditions. Daryl says he is not concerned about such conditions. All he can do is “just try to tackle them and do the best I can. I try not to worry. I don’t, actually. I go home feeling pretty good most days.”

Daryl’s Beliefs and NCLB

Daryl is a strong advocate of the changes that NCLB has brought. He feels that it is “a very important law that needed to be in place long before today,” because “the high expectations that are associated with NCLB and the accountability factor have finally focused all public schools on really what’s most important: teaching all the kids what they need to know and be able to do, and holding people accountable for that.” He does

not worry about the sanctions that come with accountability, such as school takeovers, specifically because he knows he does not face the “magnitude” of issues that limit student achievement discussed above.

Daryl is pleased with the clarity and consistency to instruction that has come with standards-based reform. For a decade the progression of the state’s tinkering toward a standardized utopia has been “totally frustrating” to Daryl.

I mean, first there were the outcomes. They were about as clear as mud. Then came the standards, which were supposed to add more clarity. There’s eleven standards [for mathematics], but under each of these there are these objectives, like A to M, underneath *each standard*. I guess there’s like 70 or 80! And some of them are so global, you’re saying “ok, what does this actually *mean* for a third grader?” But now with the anchors it specifically says straightforward, [for example] when you’re dealing with number sense, a 3rd grader needs to be able to compare numbers less than, equal to, but not greater than 9,999. They’re to order sets of numbers up to that point. Finally, there’s clarity...finally we have a target. A clear target with the eligible content and the math anchors. So now we can focus on mastery instruction at every grade level.

Clarity is the key concept for Daryl, who saw the pre-standards era as dominated by “loosey-goosey” curricula and frustrating variation between classrooms: “four teachers within each *school* appeared to be teaching a curriculum that could’ve come from four different school districts [laughs].” But “now that [teachers] have been part of the process [of creating standards] and are held accountable by the federal government, it’s amazing now how the clarity is coming on the targets.”

The clarity that has come with the anchor documents is enhanced by the planning, assessment, and instructional procedures that come with the Learning Focus Schools model they have implemented. Recall that the LFS model stresses achievement data driven decision-making for assigning students to supplemental services, which Daryl

finds superior to other methods, such as MI profiles. Now that CSD has prioritized its curriculum with the state standards and shifted to using data from standardized tests and achievement data, all of the pieces are in place:

Your staff development, your teacher development, your instruction, and your assessment, they all have to be tied together in a triangle. So your assessment has to match your instruction and your instruction has to be connected to your curriculum and your teacher development, and your curriculum has to be connected to your state standards.

Clarity helps Daryl because “I’m very much an instructional leader. I don’t devise the curriculum, I don’t devise methods, I just focus teachers’ instruction.” Daryl has been particularly focused on the mathematics curriculum since he has been in charge of developing it for the four elementary schools. The following quote summarizes what such focus looks like, how the pieces have fallen into place, and why having the state clarify the “targets” with the anchors has been so important:

we’re in a process now of developing chapter math assessments that will drive the teachers’ instruction. And every question from every chapter is connected to a state anchor and standard. And then we give that test and we were able to use data analysis to figure out where our strengths and weaknesses are, not only within a whole class, but also individually. We can look at how each student will do. And then teachers can reteach, review, and loop back over time and know the strengths and weaknesses of their class and their skills and say “maybe I can teach this another way.”

The logical conclusion one draws is that Daryl wants teachers to teach to the test.

Absolutely! I have been telling people that we should be teaching to the test every day, every minute. And that makes people’s eyes go up when I say that, they look at me, and I say: “but you are! If we’re teaching the curriculum that’s in place, and you are aware of the standards and anchors that the state is expecting, then you are teaching to the test! Every day, every minute,” because the test is measuring the target. . . . we are teaching to the test because the test measures the standards. And that’s what our curriculum is focused on. We’re teaching exactly what we’re supposed to do, and [to] target!

Daryl apparently does not have any concerns about the validity of standardized tests.

Daryl avoided opportunities to discuss the expectation that all children achieve rigorous academic standards. When I presented him with excerpts from the text of NCLB, he picked up on words that qualified the “all child rhetoric” and added his own, which I have italicized in the following passage:

We’ve always ensured that every one of our kids had a fair, equal, and significant *opportunity* to obtain a quality education, and meet proficiency. As I told my staff today in a faculty meeting when we reviewed all our high percentage scores, having 50% of our kids in advanced range, that makes me proud. But what makes me most proud over the years is how our 2-8% in below-basic and 10-14% in basic, all our kids being pushed forward to do *better*. We’re helping all our kids achieve *higher* levels.

When I asked him to respond to the stated purpose for NCLB, “to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind” (107th Congress, 2002), he ignored the “no child left behind” rhetoric to focus on the achievement gap: “I’m not sure it will eliminate that gap. But what it’s going to do, it’s going to require people to try to do something to eliminate the gap. Now, whether or not it’s going to close the gap....”

There is a connection between his belief that intelligence is an innate problem solving ability that is acted upon by environmental variables but does not act upon them in turn, that fact that he declined opportunities to specifically discuss whether or not all children can achieve rigorous academic standards, and that he does not believe that the policies mandated by NCLB will close the achievement gap. He believes that children who are raised in home environments that limit the development of intelligence (due to the presence of drugs, poor nutrition, and high stress) and a positive orientation toward school cannot be expected to match the achievement of children who come from home

environments with conditions that promote achievement in school. Unlike other principals, he did not limit his expectations of which students cannot be expected to achieve proficiency at rigorous academic standards to learning disabled children or those in special education programs.

In summary, Daryl has good reasons to “go home feeling good most days.” His school does not have a magnitude of student-based issues that he believes negatively impact achievement and may bring sanctions; NCLB has created an environment in which he can focus on instructional achievement by eliminating “loosey-goosey” curricula and “grey” educational reforms such as Core Knowledge and Multiple Intelligences; and finally, he, his teachers, and his students don’t have to worry about the SSAT because all instruction is directly aligned with the curriculum and thus to the content of those standardized tests.

School Psychologist

Ophelia Franks has a pragmatic definition of intelligence. When asked, she acknowledged that there are many theories of intelligence, mentioned a few specifically, then said “*my* definition of intelligence...um...for school purposes we end up addressing kids with high verbal intelligence. I mean that seems to be what happens.” Her definition of the phenomenon thus reflects her perception of the focus of the institution in which she works.

I think that’s who we serve best—the kids that are verbal, that do well in reading. [Even] math requires that so much more than it used to too. Kids are required to explain how they got their answer, not just be able to do it. So I think that’s where we’re better at addressing kids.

Concerning the development of intelligence, she says:

I think the older I get the more I come back to [intelligence] being more innate. I don't know, and I can't support that [laugh]. But I just, well I've seen within my own family and what I've seen with kids I've taught over the years. I do think that it's a combination, like many things. ... there is some genetics ... and then the enriching environment at home, nutrition, emotional state, are factors.

Ophelia believes that there are some children who will never be able to reach high levels of achievement, and not just those who have learning disabilities, regardless of early intervention strategies. This view is demonstrated in the following statement about reading ability:

I think there are kids that have limited ability by an IQ test standard who are able to read words really well. But are you going to get them to make predictions and analyze reading? No. I don't believe those sophisticated comprehension skills are going to occur for kids who have very limited ability. And [for] kids who have truly have a severe learning disability, I think decoding words is going to be hard. I do believe early intervention is a prohibitive attempt, but I still think there are going to be kids that aren't going to be able to read. No matter what.

Ophelia's Beliefs and NCLB

Ophelia may have avoided providing a more theoretical definition of intelligence because "I don't know that intelligence comes up a whole lot in school. Everything shifted years ago³⁷" to measures primarily of reading, writing, and math achievement, topics "that match what schools address primarily nowadays." She feels that in some ways this has been a positive change for teachers:

I remember teaching when kids were identified [as gifted] on the basis of intelligence and there was *a lot* of resentment on the part of teachers because there were kids qualifying for that who weren't achieving, and these kids got to leave the classroom to do what looked like fun stuff when they weren't even completing the requirements in their core subjects. So they had a high IQ score but they weren't achieving. Some of them were very unmotivated.

In contrast to IQ scores, measures of achievement are “more nailed down, and you can” better “compare kid A to kid B to kid C.”

However, Ophelia shares Ursula’s concerns about the academic saturation of the elementary curriculum, especially in the early grades, because it goes against her beliefs in the epistemological development of intelligence. The focus on academic achievement, the prioritization of the curriculum with the standards, and the drive to frequently assess progress is stressful to children, and may be distracting educators from the “harder to measure” but equally important development of non-academic knowledge, i.e. social intelligence and morals. “One of my concerns is that I’m not sure kids have enough opportunities just to work out conflicts on their own.” She attributes part of the problem to standardized testing:

I really do think one of the reasons we’re so into the kinds of measures we’re doing nowadays is because like I said before, they’re easier to give and it’s something that you can point to. ... Quick, easy, can give us a score, and we can measure against that. And then sometimes I get concerned about whether we’re really measuring the correct thing. We’re choosing to go with what’s easy to do, but is it meaningful? ... we’re so busy measuring and that’s what everything is geared toward.

She also attributes children’s lack of opportunities for epistemological development to broader social changes. She would be less concerned if the world outside of school was similar to the world in which she grew up:

I’m not sure [children] are getting some of those things at home any more either because home life is just as busy [as school]. ... kids have up to an hour of homework every night and then they have music lessons and organized sports ... their lives are very tightly scheduled in the evening. ...the idea of going out and playing in the neighborhood doesn’t happen as much any more. And we just don’t have conventional family lives as we did before. So, with a lot of single parents there’s a lot ... I mean the parents are very busy with earning an income and their own problems. I

don't know that there's family meal time, conversations, some of the things that are hard to measure.

Like Ursula, therefore, Ophelia worries about how subgroups are going to perform under standards-based reform in a climate of accountability. But while Ursula worries about her low-SES and ESL subgroups, Ophelia worries about the largest subgroups at Adams: middle- to high-SES children whose lives are too scheduled, and children who are dealing with "baggage" related to non-traditional parental and family situations.

Teachers

Adams Teachers on Intelligence

Each of the three teachers at Adams believes that intelligence is determined to some extent by genetics, but is mutable. Individual's intelligence is increased by such things as "surrounding yourself with knowledge" (Ms. Mintz) or through personal experience and education (Ms. Xavier and Ms. Coming).

Ms. Mintz's beliefs about intelligence are strictly related to knowledge: "I don't think intelligence is a matter of your IQ, I think it's ability to attain knowledge and gather knowledge." That "ability" is governed primarily by "attitude" and motivation. All children can be expected to achieve, but their achievement will be relative to their performance upon entering school:

I think we can get the below basics to our basics. And I think we can get some of our basics to our proficient. I don't think we can get all of them. There's no way. There's no way.

Ms. Xavier doesn't deny that intelligence is "a matter of your IQ," as Ms. Mintz does. Innate differences mean that "people with a higher IQ get it quicker." But she believes that experience and prior knowledge affect IQ. "Even children with low IQ's can be taught things and you can raise the IQ with experience." When I asked her why she believed that she said, "I guess because if I didn't believe that, I wouldn't bother working with my low kids." Her belief that even "low kids" can increase their IQ is an important motivation to her work. Nonetheless, she does not believe that all children will meet the standards.

Ms. Coming has been the topic of discussion already, in the discussions about the K+ program, in Chapters 4 and 5; she is discussed here again because of the interesting interaction between her beliefs and the district's K+ policy change. Ms. Coming, recall, believed that since children develop at different rates, an educator can expect that at some point they will be ready to receive instruction, but that it is ineffective to push them before they are developmentally ready, as illustrated by our discussion about two of her struggling students:

EC: What do you feel like you were battling against with those two kids who weren't proficient . . .

NC: Time. I think had I had a little bit more time They just weren't ready yet. You know they were, they were fighting an uphill battle.

EC: in what way weren't they ready?

NC: Developmentally. Towards the end of the year they were just starting to pull it all together. You know, and everyone takes off at different times you know? And so they just hadn't hit it yet.

This is a clear example of how her epistemological metaphor for intelligence frames her attributions for achievement. When Ms. Coming related the above anecdote

about particular students, her feeling was not that a year's worth of education had been successful, it was that the child needed to hit a particular developmental level to have it click. This belief is slightly different than an innate pathologies perspective, even though it places the problem in the learner, since it suggests that *in time* a learner will be able to deal with specific material. In the way that Ms. Coming talked about readiness, she used it both to mean developmentally in a cognitive sense ("they just needed time to develop and grow") and experientially.

Ms. Coming supported K+ primarily because she felt it was a suitable place for those children who "take off" a little later than others. She additionally opposes the use of scripted reading materials for the same reason. "we believe in early intervention. And so like we try to 'fix' them in kindergarten and first grade...if you don't know some of your letters and sounds coming in it's time to pull you in kindergarten. [Some students are] not ready for it yet!"

Adams Teachers and NCLB

Adams is the only school at which all of the teachers I interviewed were firmly opposed to NCLB. When I mentioned NCLB, one teacher curled her lip and another rolled her eyes. None of them believe that all children can achieve; for Ms. Xavier and Ms. Mintz, only learning disabled children cannot be expected to meet the benchmarks.

Each of the teachers was resentful that they were having to adhere to changes brought forward by principals and district administrators in response to NCLB. Their resentment stems from the fact that Adams enjoys such high levels of student

achievement. They are proud of their achievement and believe that they deserve some credit for it. Ms. Coming clearly summarizes their views:

Our [state standardized test] scores are phenomenal. In third grade they're like in the 90th percentile. ...But instead of saying "why is yours so great and everyone else is not so great?," they just say "oh you have a different population." You know? instead of saying "well what are your teachers doing that is working?"

Added Ms. Xavier, "they're taking some schools that were not broken and because they're making changes, I'm afraid they're going to start breaking it." They do not see a reason to tinker with their methods.

In a clear example of the "behind-closed-doors" insubordination clearly documented in policy research, the result is neatly demonstrated by this quote from Ms. Coming: "So. Well, pretty much we're not doing what you told us to do and it's working out great."

Summary

The most salient belief about intelligence that emerged from the interviews with educators at Adams is that intelligence is modified largely by environmental circumstances. By their definitions of environment, these educators primarily meant family situation and schooling. The positive benefit of a stable (which most often meant two-parent) family to motivation and support for learning, when combined with good instruction, enhance intelligence and result in high achievement.

At Adams, educators agree that NCLB's accountability measures are a positive development in the abstract, though teachers are upset that the consequence has been a drive toward the standardization of procedures across the district. While Daryl

acknowledges that much of Adams' high achievement is due to the resources that an upper-middle to high SES community contribute to logistical support and academic expectations for children that match the goals of schooling, teachers attribute the success primarily to their own efforts. Thus, to the teachers the district's movement toward educational strategies that are different than their traditional practice is an unwelcome effort to fix what is not broken.

Some critics of NCLB have speculated that the law's benefits and sanctions will unfairly support schools that serve well-resourced communities and punish schools that serve poorly-resourced communities. One would suspect that the educators in schools like Adams would be supportive of the law, but at Adams this is not the case. Policies that the district has adopted to ensure that low-achieving children are able to succeed in the new standards climate, specifically early reading intervention and the use of scripted reading instruction, are alienating teachers at the school serving the district's best-resourced community. Karen Matthews suggested that these interventions were the most beneficial for low-performing students from low-SES households, which the other three schools serve a larger number of than Adams. As a result, teachers at Adams ignore or modify those policies to the extent that they are able.

Chapter 9

Discussion and Implications

The original intent of this study was to examine whether formal organizational structures in schools in this district were structured around the rational, core myths of the classical conception of intelligence (e.g., Oakes, 1985). I found little evidence that they are. Instead, the “legitimizing ideology” (J. W. Meyer, 1986) most represented in the schools in this district reflects an ideology of achievement within a standards-based curriculum. Given the intentions embodied in NCLB, this should not come as a surprise if one were to assume that the law had been fully implemented. What was surprising was the degree to which the implementation of standards based reforms and assessments has become incorporated as a rational myth of education. Reform cycles often leave detectable residue of previous reforms in their structures (David Tyack & Cuban, 1995), but in the case of this district, I found that adoption of the state’s standards framework and adaptation to the priority on reading and math achievement in NCLB so complete that even the most recent past reform (Multiple Intelligences) is both unrepresented in formal structures and not a discretionary option for teachers.

This chapter is organized into five sections. In Section I, I begin with by discussing the nature of CSD educators’ beliefs as detailed in Chapters 5-8. I then describe in the second section the importance of the “non-finding” that beliefs about intelligence 1) do not matter in the daily process of schooling and education, and 2) do not come up in discussions about NCLB in Section II. In this second section I discuss how the core rational myths defining the formal organization is changing under NCLB

and pressure from information in the environment from which the myths are drawn. New institutional rules from the state and federal government are resulting in a tighter coupling of local organizations (schools) to the state's core myths of achievement. There are also new legitimizing accounts for differences in school achievement that resonate with educators in this district. In Section III I discuss the finding that beliefs about intelligence did occasionally become relevant to local policy decisions and the positions educators held about those policies. Section IV is a polyglot of other findings. The chapter closes with Section V, the implications drawn from these findings.

I. Identifying educator's beliefs

The first question guiding this study, regarding the nature of this district's educators' beliefs about intelligence has been addressed by the descriptions in Chapters 5-8. I will provide a brief summary here and discuss the innate pathologies metaphor introduced by Karen and Kevin.

The notion of a monolithic intelligence is not dominant in this district. Most teachers' conceptions of intelligence include the belief that it is multi-faceted, as in Howard Gardner's MI theory. With one exception all of the evocations of the Sternberg's systems metaphors were specifically about Multiple Intelligences.

The general belief about how intelligence is manifested in an individual is that it is largely a product of genetic potential, the expression of which is enhanced or limited by environmental phenomena that act upon it, but which it does not act upon in turn. "Environmental phenomena" to these participants generally does not mean the types of social interactions in which intelligence "begins in the social environment and directs

itself inward” as described by Vygotsky’s theory of internalization (Sternberg, 1990, p. 242). Generally participants viewed intelligence as something that begins in the individual, develops as the person matures, and is dampened or supported by the circumstances of the home and family, e.g. what sorts of experiences parents give their children, the presence of drugs or other toxins in the home, whether parents are positively oriented to schooling, etc.

Beliefs about intelligence varied between individual participants. Three categories of beliefs about intelligence emerged from the data: the degree of sensitivity to environmental influence; whether it is a more fluid or crystallized construct; and its importance to life or academic success relative to other internal attributes such as attitude or motivation. None of the respondents in this study took either a strict hereditarian or environmental stance on the nature of intelligence. Respondents’ differed on the amount of intelligence that can be attributed to heredity, which environmental conditions or circumstances had greater effects on intelligence, and the importance of intelligence to academic success relative most specifically to attitude and motivation. There are no categorical commonalities in this data between principals’, school psychologists’, and teachers views of intelligence.

The most interesting finding is that intelligence itself is not considered as important a factor in explaining academic success as the variables – barring heredity – which respondents believe are responsible for conditioning it. The classical conception of intelligence upon which many practices or policies in schools were based for decades proposed that IQ and achievement were directly associated. But when these educators discussed achievement, IQ is one possible factor explaining differences in achievement,

but none expected high IQ to guarantee high achievement, and most said that they did not believe that low IQ (barring congenital cognitive defects) necessarily guaranteed low achievement. Other factors they raised include attitude, motivation, desire, “worldiness,” and the supportiveness of parents and communities. Participants believe that the conditions in the home of a student, especially parenting, exert some influence on the expression of genetic intellectual potential, but they believe that the conditions in the home and parenting have a very large influence on a student’s educational attainment, and were more likely to attribute observed differences in achievement to conditions in the home than to intelligence.

II. Why beliefs about intelligence don’t matter to the daily operation of schooling: The genesis of new rational myths

Which, if any, of these beliefs play a role in the daily operation of schooling, and which are brought up in discussions of NCLB and its rhetoric of proficiency for all children? The immediate answer, according to principals and school psychologists, is “none.” Their answer is corroborated by the lack of mention of intelligence by teachers when discussing NCLB and the likelihood that all children will achieve rigorous academic standards. Administrators report that they do not explicitly “use” their beliefs about intelligence very often as they carry out their jobs. The daily requirements of their jobs focus administrators on such explicit issues as instruction, curriculum, and the identification of students for supplemental services.

To Ursula, intelligence test scores are “old school,” “moot.” Kevin says he doesn’t think he is really concerned with intelligence in his role as school psychologist.

Ophelia claims that intelligence “doesn’t come up a whole lot” in schools any more, “there isn’t any intelligence test component or any other way of gathering information about intelligence. It’s really only achievement that gets out and it’s in the same areas that match what schools address primarily nowadays: reading, writing, math.”

Administrators in CSD do not believe that the construct of intelligence is the most critical factor explaining the academic success of their students. None of them feel that intelligence is the most important factor explaining variations in academic achievement. When teachers discuss the barriers to learning that children face, or why all children cannot be expected to achieve rigorous academic standards, they do not mention intelligence (or any of its proxy terms, such as “natural ability”) as a factor.

They believe that the children’s home environment, along with interpersonal factors such as motivation, attitude toward school and learning, and hard work are at least as important to how and how well students achieve in school as intelligence, if not more. Principals feel there is some control over this motivation in the form of expectations that educators communicate to their students. They have less control over the other factor they believe has major influence on school achievement, the quality of the home environment, by which they for the most part meant the parents’ attitude toward achievement and the stability of the home (which most often meant a two-parent family without severe marital problems).

I propose two reasons for the shift away from focusing on individual differences in intelligence for explaining the range of achievement in schools. The first reason is that the policy environment has changed to a focus on the achievement of a standards-based curriculum, which has the effect of more tightly coupling the efforts of the state, district,

school, and classrooms. The second reason is related to two relatively new “legitimizing” explanations for school achievement originating in the environment (J. W. Meyer, 1986; J. W. Meyer & Rowan, 1977). The first legitimizing account originates in the field of educational psychology, which has shifted away from *g*-based examinations of individual differences to a focus on the cognitive attributes of specific disabilities and the strategies which may be used to remediate them, and to research on other personal attributes, such as motivation, that affect achievement. The second legitimizing account is the rise of alternative sociological theories for differences in school achievement. Taken together, the change in the institutional climate toward an achievement ideology and new legitimizing accounts of school achievement are producing changes in the formal organization of schooling at the local level.

Coupling through curriculum and accountability

While educators in Central School District don’t specifically attribute the shift away from intelligence to NCLB’s focus on achievement and its accountability measures, the law has played a role if not been a catalyst. Focus on the achievement of a standards-based curriculum does not necessarily move educators’ attention away from individual differences in intelligences in and of itself. The focus on achievement data, when tied to the sanctions and rewards under NCLB’s accountability measures, does apparently motivate these educators to concern themselves with the aggregate achievement of the students for whom they are responsible, rather than focusing on individual differences.

Weick (1976) argued that in educational settings core processes are decoupled from outcomes. As schools implement curricular standards set forth by the state and

submit themselves to the required assessments, one would expect to see evidence that the technical processes of education are becoming more tightly coupled with outcome measures. Indeed, that is one direct intention of the law (Fusarelli & Johnson, 2004). One goal of NCLB is ratchet up the technical attributes of education by establishing grade-level standards as assessable units of measure, and to promoting a coupling of processes by linking instruction to assessment. The designation of technical outcome measures for which schools and educators are to be held accountable is a change to one of the core myths of education, which prior to the standards reform era was under no official accountability for academic outcomes.

The four elementary schools in this district have made considerable reform efforts to align their curriculum with the state standards. State documents setting forth standards were problematic at first issue, but were clarified by subsequent documents detailing objectives for local educators. Daryl summarizes the evolution this way:

I mean, first there were the outcomes. They were about as clear as mud. Then came the standards, which were supposed to add more clarity. There's eleven standards, but under each of these there are these objectives, like A to M, underneath *each standard*. I guess there's like 70 or 80! And some of them are so global, you're saying "ok, what does this actually *mean* for a third grader?" But now with the anchors [for example] it specifically says, straightforward: when you're dealing with number sense, a 3rd grader needs to be able to compare numbers less than, equal to, greater than 9,999. They're to order sets of numbers up to that point. ... Finally, there's clarity.

Such clarity facilitated action at the local level, such as the purchase of math and reading texts aligned with the state's standards, the choice of LFS as a school-wide reform model, and the creation of a district math curriculum that supplements lessons the texts with detail from the anchors.

Each level of clarity has the effect of reducing the level of discretion available to the “street level” teachers regarding what content they teach. Veteran teachers and administrators are able to compare the current climate to the way teaching used to be conducted in the district, as in these examples:

Daryl: ...at that time not only did each elementary school look like it came from a different district curriculum-wise, but the four teachers within each *school* appeared to be teaching a curriculum that could've come from four different school districts [laughs]. And lots of times the curriculums were so loosey-goosey. There was no direction. So actually I applaud the state and NCLB for putting in this accountability....

Ms. Long: we were left pretty wide open as far as what we wanted to teach. We had a curriculum, and how you went about teaching, what you needed to teach was up to you, however you chose to do it. That has changed in that you don't have that freedom any more. There is a particular curriculum that needs to be strictly adhered to.

Denise: When I first came to this district and went around to observe classes in all of the buildings language arts was *all over* the place. There was no continuity anywhere, even within a building. When I taught middle school, I had a lot of flexibility [in choice of which texts or books to use]. Sometimes it came down to what I liked or thought the kids liked. I think a lot of teacher passion had to be eliminated. How'd we do that...? We got our curriculum worked out first, and then chose a reading series that matched our curriculum based on the standards. It really is doing what's best for kids and the learning, not what you personally have a preference for.

These statements are examples of how educators in this district spoke about the increasingly tight link between state expectations of technical processes and instruction in the classrooms. Without direct observation of classroom activity, I cannot verify that classroom processes are indeed so tightly linked to expectations in state standards and federal benchmarks; however, they do represent evidence that how educators speak of the processes of educating students has changed under the new climate created by NCLB and state standards. As educators describe it, the coupling of the school curriculum to state

standards is thorough, and as the standards are tied to state assessments, the content of the state's tests drives instruction. According to Mr. Steele, a teacher at Jefferson, the school and district administration "definitely promotes how the instruction is being taught because it's all geared towards standardized test scores and that. They—you know it's very specific; do this, do that ... because everything is geared and related to scores— [state] standards and all that stuff. So you know certainly what is on the test ends up being a lot of what we teach." Other statements corroborate this sentiment:

Mr. Svaboda: You don't like to put everything on what's on test, which is of course what it becomes. I don't like to hear other people say 'you teach to the test,' because in reality, you're always teaching to the test. The state...says 'this is what you have to know. We expect a 5th grader to know this.' Now, you can disagree with what they want them to know, but if that's what they want them to know, then well hey, Guess what? That's what we're going to teach them because that's what the state wants them to know. The other stuff might be nice, but if the state says "hey, you gotta know this," go on, you gotta teach [it]. So I mean, I know what people are trying to say, that we're just teaching them to take the test, but in reality you're not, you're teaching them what the state says they need to know!

Ms. Thornton: The preparation that we do for testing for the [state standardized assessment test], it really guides our curriculum I mean as we take the standards in. You know it definitely has a big impact on what we do. It has to.

Carl George: Over the past year we have been working with the anchor documents to align our documents to it. Big push. The "eligible content" is what's going to be on the [state standardized achievement test]. So here's what they say: "standards are still the standards, and you have to teach the standards. But this is the eligible content, this is what's going to be on the [state standardized achievement test]." Tell me: what are people going to do? [laughs] It's not going to happen! [laughs].

Steven Smith: I think assessments that we as a district have developed do what it is that you know that should be done, which is looking at our instruction, and matching it up. ... theoretically we're lining up what it is that we're doing with what's on the [state standardized achievement test] anyway.

The curriculum at the four elementary schools in CSD has so completely adapted to the institutional environment set by NCLB that places priority on reading and math skills that other core subjects, specifically science and social studies, receive less attention than they did prior to the enactment of the law. Reading and math instruction has long been a priority for educators (Sorenson, Hallinan, Useem); what is different is that NCLB has created a new “cover” under which to place these priorities. Now the priority is attributed to governmental institutions backed by the force of law, rather than being attributable to environmental expectations created by common conceptions of schooling and reinforced by professional organizations such as academic specialists, teachers’ organizations, etc. Carl discussed his practice of giving students who tested below grade-level for reading extra periods of reading instruction that “has supplanted social studies and science and in some cases special area instruction.” Denise added “We kind of put science and social studies on the back burner. We do teach it, we just don’t put as much emphasis on it as we do reading and math and writing.” The only assessments the district use measure reading and math skills. This practice has been recently observed in other districts (Center on Educational Policy, 2005; Mabry & Margolis, 2006)

Both district and state assessments use a metric of grade-level achievement. The state’s standards documents designate which academic skills a generic student must be able to show mastery of, and to what level. Student scores are measured and reported against the grade level standard. From discussions with educators about students and achievement, this grade-level ranking has clearly been adopted over any other metric (namely IQ, ability, intelligence). As an example of how the educators speak about how

formal organizations of schools are adapting the institutional ideology of achievement is their descriptions of the categorization and grouping of children by their reading ability. This grouping results in students spending much of the day moving to different teachers with other children at their reading level. The justification presented is that such grouping allows teachers to tailor instruction in other core subjects to the appropriate reading levels (students are regrouped for math classes). This prompted Ms. Mintz at Adams to say, "...you're thinking: 'okay the pull-out program or the switching [of classrooms, teachers during the day],' like you're saying, 'wow this is *elementary school*.' Again 'no child'... it's all related to accountability and No Child Left Behind." Though such grouping is reminiscent of practices during the 1970s and 1980s (see, e.g., Oakes, 1985; see, e.g., Sorenson, 1970), educators today attribute the practice to expectations created by NCLB. Perhaps the legislation merely provides new bottles for old wine, but grouping students by reading level, and discussions of achievement by "grade-level" scoring is a different policy than what educators report the school was using prior to NCLB, when they had been sorting students by the criteria of the Multiple Intelligences curriculum.

As an example of a formal organization structure legitimized by the new core myth of achievement, students are grouped by their reading ability to the extent that they spend much of the day moving to different teachers with other children at their reading level so that instruction in other core subjects can be tailored to their reading level (students are regrouped for math classes). Teachers generally characterize and rank students with labels from the new framework, adopting the language of the policy in normal conversation:

Ms. Mintz: I take the below basic group. So it's one up from learning support.

Ms. Long: Let's say if they went from achieving at a third grade level in fifth grade, and at the end of that year if they have gained an entire year worth of knowledge, then I think that they have accomplished something. In the eyes of the law right now it would be "well, sorry they're still left behind because they're not on that fifth grade level."

Mr. Svaboda: We need to work to use whatever means possible to get those kids up to grade-level.

Ms. Xavier: we have advanced and proficient, kind of grouped together. It's one group but two teachers take it; then we have a basic group and a below basic group. Then there's like an intervention and that's like a learning support teacher or somebody that they go to you know for extra support.

Accountability measures assessing the standards-based curriculum are by definition criterion referenced, which means that norm-referenced metrics aren't used. There is no effective legitimating institutional myth concerning individual differences in intelligence, ability, or potential. Even for determining placement in enrichment services, "there isn't any intelligence test component or any other way of gathering information about intelligence [at Adams]. It's really only achievement that gets out and it's in the same areas that match what schools address primarily nowadays: reading, writing, math," said Ophelia Franks. Kevin at Hamilton agreed, "I'm not sure how much I'm focused on the construct of intelligence. I'm more focused on achievement than intelligence."

As a result beliefs about intelligence do not "come up a lot" during the daily operation of schooling as Ophelia put it. She added that "everything shifted years ago." Here she specifically refers to the disregard of data on individual IQ scores in favor of achievement data. Steven Smith attributes the shift specifically to NCLB: "when we meet on kids that's one of the primary objectives is looking at that kid and saying it's our

job as a school to get that child proficient. [Before NCLB] the focus was more on individual growth—looking at a child and you know they’re here; you know this is a reasonable amount of growth as long as they were making growth in relationship to themselves we were happy with that.” Alternatively, NCLB may be legitimating the shift in focus from IQ to achievement that professional fields, such as educational psychology, have been promoting in recent decades.

As these schools coupled themselves tightly with the state by adapting to the institutional framework of standards, the elimination of the K+ program additionally reduced opportunities for discretionary decision-making by teachers. As an example of the discretion of street level bureaucrats, Lipsky (1980, p.13) pointed out that “Teachers ... make subtle determinations of who is teachable.” The anecdotes Kevin shared (p. 117) concerning his discussions with teachers about students who should attend the K+ program are nice examples of teachers determining that a student was unteachable and required another year of similar instruction before they would be. Since the elimination of K+ teachers no longer have that particular discretion. The loss of the K+ option couples them more tightly to the state in two ways. First, simply because it eliminated a local district program. Second, what replaced that local option is new discretionary methods for determining which students will require extra help, and the form that help largely takes. That form mirrors the recommendations of Project READ included in NCLB.

This model for reading instruction dovetails with beliefs Kevin and Karen, who formed a policy coalition that pushed CSD to use the Response to Intervention model. Educators are so concerned with the particular skills believed to be fundamental to reading skills that their efforts bridge divide between primary schools and homes, as well

as pre-schools, as administrators push parents toward particular behaviors they believe will result in better basal reading skills, i.e. phonemic awareness upon entering Kindergarten. According to Carl: “So we’ve been telling parents and preschools in our area – since we know some of this information – *work hard on sounds.*”

What parents are asked to do with their children represents changing core myth of school readiness. Whereas previously readiness was believed to be represented by fine motor skills such as cutting and holding a pencil, and letter recognition, now it is defined as being able to hear segmented word sounds. Teachers’ beliefs about readiness were partly responsible for the popularity of the K+ program for some. Kevin’s beliefs clash severely enough with beliefs about the delayed onset of readiness that he advocated the elimination of the program. This action represents an effort, essentially, to silence myths of readiness with an institutionalized myth of early intervention for the remediation of disabilities.

Intelligence and NCLB: The Potency Of The All Child Rhetoric

Intelligence also doesn’t come up in discussions about NCLB, most specifically related to the “all-child” rhetoric. I had expected that discussions of which students would not be considered likely to achieve rigorous academic standards would bring up discussions of IQ, ability, or some innate level potential or intelligence. Though there were a scattered few of those comments, they were not mentioned in response to questions about whether all children could achieve proficiency on the state’s standards-based assessments. This lack of discussion about the role of intelligence in schooling

suggests that a rational myth underlying expectations of achievement in education have shifted.

These questions consistently evoked discussion about cognitive disabilities or severe developmental issues, and learning disabilities. Though discussions that followed questions about the biggest barrier to learning that children faced were consistently followed by discussions about the role of student's home lives, none of the respondents targeted children with bad home lives or harmful family situations as those who would not achieve rigorous academic standards. In the 1960s, discussions of "cultural deprivation" were presented as an explanation for poor and minority students' lack of educational achievement relative to wealthy and white students. Without exception participants responded with comments about students with disabilities or learning disabilities. The comments of Ms. Xavier, 2nd grade teacher at Adams summarized the views of many participants:

So in actuality, I don't think they could actually say "oh we're only going to expect 80%; we're going to let 20% off the hook." And I don't think they can do that. But in reality, 100%: I don't think it's going to happen. I think our handicapped kids, our learning disabled, our mentally retarded kids aren't going to make it.

There is the general belief that policymakers have underestimated how many students in schools have such severe disabilities. School psychologists tended to put the figure at 5% or less; teachers and principals set the figure much higher, though Ms. Xavier's figure sets the upper limit cited by participants. When educators used the term "learning disabilities," however, it was not always clear how they were defining it. School psychologists and Carl ("we can prevent some disabilities, um, but there are some

Down's kids that are not going to do it") were relatively specific, but the other principals and the teachers did not explicate what they meant by the term³⁸.

The selected comments below show that how educators use the term apparently may have different meanings, though they suggest that "learning disabled" connotes mental retardation:

Can every second grader do my second grade materials? No. I'm thinking of kids with learning disabilities. Can they progress academically? Absolutely. Can they do a rigorous academic schedule? No.

The students who have special needs don't have the same cognitive ability as a regular student. So they're not going to be able to achieve the mastery of certain topics as other students will. So you can't expect them to be proficient or advanced on a subject that you expect the people who were gifted and given the cognitive ability. So I really don't think you can ask special ed students to perform as high as other students.

[who won't achieve rigorous academic standards?] I think our handicapped kids, our learning disabled, our mentally retarded kids. ... there are just some kids who have learning disabilities or whatever that it's just not possible for them to achieve.

I don't know what the percentages are of students, let's just stay in our district, who are learning disabled. I'm not sure what we identify them as now, those kids who we used to call them years ago the 'trainable...' you know, if you can get them to take care of themselves that's a big thing. If you're counting those kids too, then, there's no way. ...there's obviously always going to be kids who don't cut it. It doesn't mean you can't try. I guess with those kids who are LD especially, and those kids with you know, serious emotional...they can learn, but obviously it's a stronger battle there.

Because of this roughly specified population, most study participants believe that the "all-child" rhetoric was a noble but unrealistic goal. The "all-child" rhetoric of 100% achievement is an intentional effort to challenge a myth about the proportion of children who can be expected to achieve in school. That rhetoric seems to have significant potency in educators' statements, given the range of reaction from participants. This is

not to say that the rhetoric is completely effective. None of my participants believe that 100% of children will meet the requirements that define “not being left behind” under NCLB. Additionally, grouping students by reading and math ability persists, so how potent the rhetoric is to practice is not clear. However, in *discussions* of expectations for students without disabilities, the rhetoric resonates with educators.

Nonetheless, many of the educators in CSD, particularly the administrators, reported that they were going to strive to attain that goal. Administrators, particularly the principals, reported that they had exhorted their staffs to work as hard as possible to bring all students to at least proficient levels of performance on the state standardized assessment. In their statements to me, each of the principals said that they actively promoted the expectation to their teachers that no child was to be left behind. There is evidence that those signals vary in terms of how convincing they are to teachers, or perhaps that in private conversations with teachers principals in fact convey messages different than their public statements, as shown Table 9-1.

Table 9-1: Teachers’ responses to the question: Do you think that administrators in this building believe that all children are capable of achieving rigorous academic standards?

School	No	They have to, it's their job	Yes, but not LD	Yes
Adams	3			
Washington	1	1		
Jefferson	1	1	1	
Hamilton			2	1

Regardless of what principals say to their staff, the gravity of the “all child” rhetoric for many educators is evidenced by the number of comments similar to Ms. Xavier’s above, in which respondents present a percentage of children who will be left behind. Though none of the respondents belief that all children will achieve rigorous

academic standards for the reason mentioned above, the titular rhetoric of the No Child

Left Behind Act apparently has a hortatory effect, as evidenced by these comments:

Ms Thornton: I think the goal of it is beneficial for all kids. I don't think it's an attainable goal, however.

Mr. Reed: ... it makes the school districts responsible for them. They can't just say "well, he's never going to get there." We have to figure out a way to get them somewhere. So it will help all students. Now do I think every student will reach 100%? No. but it's [NCLB] moving us in the right direction right now.

Ms. Urqhardt: All kids are not going to make it, but teachers are not letting any more kids fall through the cracks.

Mr. Svaboda: We're really trying pick up which kids need help, we have to have interventions for them. So in a lot of ways it's good for those kids, because years ago we would have looked at our state scores and said 'oh well we have 50-60% of the kids are really great, and the other 40 or 50%, well, you know....' Now, there's a lot more pressure on to do something for that 30 or 40% of kids... I guess if the president would have come out and said 'we want to see 80% of the kids being able to read on level,' somebody else would have come out and said, 'but what about the other 20% you're leaving behind?'

Daryl: The policy is forcing people to do something about it [achievement gap]. It's focusing everybody in one direction to meet this goal.

The potency of the no child rhetoric for administrators is exemplified (adversely)

in this comment by Ms. Coming:

no matter what I do, no matter how much time I put into it, no matter you know how far my kids go, it's never good enough. You know I had kids that left my classroom last year on a third grade reading level [first grade teacher]. But what was acknowledged was the fact that I had two that weren't where they needed to be. But I had five that were on second- and third-grade reading levels.

And this statement by Carl George:

A generation ago the kids were—teachers had this "well if they don't make it... well, that's OK. Some kids are to make it in some kids are not going to make it." And it's kind of that sorting process. One of the things that NCLB says is that there is no sorting process. There aren't any kids that

can be left behind and it would just be OK. We're going to have to knock ourselves out to get every kid as high as we possibly can get them.

Thus, the effort to send new institutional signals in the form of curricular standards and accountability from the top (the federal government and the state) down (to districts and individual schools) that all children will achieve rigorous academic standards has been incorporated at the local level to mean that every effort must be made by educators to have every child who does not have severe cognitive disabilities performing on grade-level. The potency of these messages and measures of accountability to a standards-based ideology of achievement have obviated discussion of intelligence, ability, potential by educators. There are also messages in the environment external to the institution of education, such as the theory of multiple intelligences and beliefs about motivation, attitude and orientation toward schooling, that resonate with educators as explanations for why children achieve at different levels in schools that are crowding out discussions of intelligence.

Changing Environmental Myths That Have Reduced The Discussion Of Intelligence In Schools

The second reasons that intelligence is no longer a focus of educators' attention in schools are related to changes in what Meyer (1986) called legitimizing rules in the environment. The two specific "rules" that study participants discussed were related to changes in research in psychology on the mitigation of disabilities with robust early interventions, and sociological explanations of differences in school readiness or orientation toward schooling. "The testimony of the sciences, represented by professional consultants of all stripes, is a powerful sort of rationalization" (J. W. Meyer, 1994).

Educators in CSD accept the testimony from the fields of educational psychology and sociology concerning phenomena that effect school achievement.

The school psychologists whom I questioned about changes in the field of educational psychology all agree that there is currently little focus on intelligence in individual differences in educational psychology; research is instead more focused on other issues, such as intervention strategies that may prevent learning disabilities. Indeed, Woodcock (2002) described advances in the design of cognitive tests over the “past 30 years” allow for “finer diagnostic interpretations” of results than early forms of cognitive testing, such as the Stanford-Binet and the Wechsler scales. Thus Woodcock stresses that the purpose of cognitive tests is not to find an IQ score.

Steven says that school psychologists now approach their job by thinking

How can we as psychologists help teachers with interventions, with strategies that are going to help these kids get to a level that we want them to get to? I think that's a change. I don't think that psychologists 20 years ago were doing as much of that. ... what can we do to help teachers affect a larger population of kids? there's been a shift from essentially believing that you can't do much to intervene in a kids' achievement trajectory to believing that you actually can.

The success of intervention strategies in these four elementary schools in significantly reducing the number of kids that are considered at-risk for learning disabilities has downplayed the role of beliefs about intelligence. In other words, there may be genetic differences in how intelligent a person may become, but those differences are not great enough to preclude the vast majority of children from becoming proficient at the academic skills they are exposed to in elementary school. This means, for example, that Ophelia can say that while the expectation that all children will be able to read at

superior levels of comprehension is unrealistic, but the expectation that schools will ensure that all children read at grade level is not.

The shift in their field described by these school psychologists represents a changing legitimating ideology of schooling. Karen described the shift as “a behavioral problem solving model. ... More of a systems ecological perspective. We started a paradigm shift in psychology I would say about 20 years ago.” She added that “It’s now finally making its way to practice but only because we’ve had a lot of pushing [from] NCLB,” by which she means the “30 years of research bridging science and practice” in reading instruction (she recommended, for example, Shaywitz, 2005b).

The changes in the field of psychology are reflected in the different methods of assessment given to incoming Kindergartners today as compared with several decades ago, as Ophelia’s story below shows:

the person I interned with here had gone through the graduate program and school psychology—same school I did—but she did it probably in the ‘70s and it was very different. She had entire courses on draw a man, draw a tree, and draw a house³⁹. And really put a lot of stock in incoming kids being screened for school and then drawing an analyzing the drawing. And it was very, very much that way. She didn’t have any hard core courses whereas by the time I went through – which is very recently – it was very data driving as far as analyzing things.

In addition, Kevin and Karen are optimistic that ongoing research will reveal more, and more effective, ways to prevent learning disabilities before they manifest themselves. To Karen, “that’s like preventing cancer! Wow!”

All four of the school psychologists believe that the number of children who are labeled as having learning disabilities is a small proportion (they estimated between 2.5% and 5%) of the student body, and most likely won’t present a challenge to schools in

terms of them meeting the state's standards for achievement. This view is in direct contrast with many of the other respondents, for example Carl, Ursula, and seven of the teachers, who feel that schools may not reach mandated aggregate benchmarks primarily because of students with learning disabilities and congenital cognitive disabilities, for which they are given a 1% under current guidelines⁴⁰.

The final reason that educators don't express much of a focus on intelligence is that they are more likely to speak about the sociological explanations for different levels of achievement, specifically the role of parenting and the student's home environment for individual differences in school achievement. Many teachers believe that a student's home life, or how much community or society influences student behavior toward school makes a difference in how they approach school and how well they therefore achieve in school. Participants most often spoke of the detrimental effects of divorce, low levels of parental interaction with their children, and drugs or alcohol in the home; the implication, occasionally stated directly, is that two-parent families that are positively oriented toward schooling is the ideal "environment" for supporting high achievement (though a few specifically mentioned that a stable marriage was no guarantee that the parents would be actively involved in their children's education). These statements echo the cultural deprivation myth of the 1960s.

In summary, there are other factors educators believe adequately explain individual differences in achievement besides intelligence; intelligence is being crowded out by other legitimizing rules in the environment explaining school success, and by the strength of institutional requirements for the implementation of standards-based reforms and the benchmark goals of assessments of those standards.

However, particular beliefs about the nature of intelligence are in fact associated with specific local policy positions, as I discuss in the next section.

III. Beliefs About Intelligence and Local Policy Decisions

Though the new institutional and environmental signals negate evocation of beliefs about intelligence in matters related to the daily operation of schooling or reactions to NCLB, there are two examples in which beliefs about intelligence were related to the positions educators took on local policies. The first is the process by which students are selected for enrichment and intervention programs. The second example is the decision to discontinue a K+ program.

Giftedness and Intervention Placement

Deciding who needs intervention and, particularly, who is gifted reflect administrators' beliefs about intelligence. In Chapter 4 I discussed differences between Adams Elementary and the other three elementary schools concerning the identification of students for enrichment services. Adams is the only school that does not include IQ tests among the standardized assessments used to identify potential enrichment students, and use a higher cut-off score, 95%, than the other schools, which use 90%.

Perhaps because the district shifted to a standards-based curriculum and assessment system, and because the understanding of learning disabilities has become more fine-grained, administrators spoke of intervention programs as temporary

placements, rather than the permanent placements that they expressed had occurred in the past. In the case of interventions aimed at remediating or correcting specific learning deficits, the tracking of students into permanent channels that saw little movement between them (Oakes, 1985), and which Oakes described as reifying a psychometric conception of intelligence, does not occur in this district.

Dr. Lowry sees a success story in declining numbers of students in intervention services:

I believe with learning support that we are seeing more students moving out because of the RTI approach and better instructional strategies. We are better able to also pin point the weak areas and address them more effectively and efficiently. Many of our learning support teachers are now trained in a variety of new instructional strategies.

Ursula apparently uses enrichment courses, or what was once called gifted education, differently than Daryl. Though the numbers that Dr. Lowry are disputed by Karen, that at least suggests that they are fluid. Dr. Lowry claimed that the district wants enrichment services to reach as many students as possible within guidelines. Recall that the district guidelines allow for a child who has a tested IQ below 130 to be referred by a teacher for enrichment.

The attitude toward placement in enrichment is different at Adams. Daryl requires that students be achieving at the 95 percentile on achievement tests to qualify for enrichment in a content area, while other schools use a lower cut-off score of the 90 percentile. At two of the other schools, principals admitted to being flexible on those guidelines while Daryl is “by the book.” According to Daryl, first and second graders get “little enrichment goodies,” but “it’s in the third, fourth, and fifth grades where once they’re in, they’re accelerated. There’s no turning back, because they’re already

advanced. So we gotta make sure that we're choosing the right kids who can handle this.”

In other words, once a child reaches about 7 or 8 years old, a pattern for high achievement (and lower achievement) is set.

In Central supplemental services (both intervention and enrichment) are based on a student's particular needs in a curricular area. A student could therefore be in an enrichment math class and a reading intervention program. Students who are in intervention are required to have an IEP, with goals which when met moves the student out of intervention services. No schools require an IEP for placement in enrichment. Adams notwithstanding, these facts taken together do not suggest that how Central students are “tracked” for supplemental services reifies a classical conception of intelligence; instead, the policies are institutionalizing a belief that low achieving students can improve their achievement, and that intelligence is not a monolithic general power.

K+ and the “Response To Intervention” Model: Clashing Beliefs

In Chapter 4 I discussed CSD's K+ program, which was purportedly a year of additional instruction for kindergarten graduates whom educators did not consider ready for first grade. Both Daryl and Carl supported K+, as did a few teachers, most specifically Ms. Coming at Adams, who brought the story to my attention. While data about the districts response to intervention (RTI) program came from several interviews, only two participants specifically discussed the K+ policy during the interviews conducted at the end of my period of access to the district. While the amount of data contained in these two interviews is relatively small, they represent adequate cases of two conflicting views of a program.

To Kevin, K+ as it was run in Central School District was just a farce: merely retention under the guise of enhanced instruction for those children needing help. In reality, he said, it was a means to hold back under-achieving kindergartners for “more of the same” instruction. To Ms. Coming at Adams, K+ was “fantastic.” “...they went there and it was like their year of ‘okay I can get all this together, I can pull all this stuff together.’ And then they came to first grade and they flew. They just took off.” What explains such contrasting views of the same policy?

At play in the debate over the K+ program were two clashing beliefs about intelligence. The first is the metaphorically biological perspective held by Kevin Quinton, in which windows of opportunity in brain development create an opportunity for preventing disabilities, and which must be capitalized upon before the period of sensitivity ends. The competing belief is based in an epistemological metaphor of intelligence that Ms. Coming, the teacher at Adams presented as justification for the program. In this model, children develop skills at different rates, and some instruction is ineffective if the child “isn’t ready” to receive it.

Kevin views the epistemological model this way:

there’s this notion [about] why they [kids] develop into good readers or they won’t, or they develop into good students or they won’t. It’s that there’s some mystical, magical process that happens, a light switch just clicks and all of a sudden they can do it whereas yesterday they could not. ... So what they were giving the kids [in K+] was the gift of time. They were going to develop over that year and mature and then come back great students.

But the windows of opportunity model that Kevin believes means to him that

Time is not our friend. Time is our enemy. We have a limited amount of window in which we can make a change and if we don’t capitalize on it, we’ve lost them.

For this reason he and Karen are also strong advocates for the RTI model that Central has implemented. Ursula, Ophelia, Steven, and Ms. Coming each thought of the development of intelligence in epistemological terms as developing with age. This belief led to concerns that the increase in academic content of early grades, and early interventions for academic skills, was too stressful for young children.

In the case of Kevin and Karen, their personal beliefs closely match those articulated by the language in NCLB related to reading skills instruction and intervention, both in terms of substance and method. This seems to have enhanced their ability to be influential in the policy choices made by the district because the types of reading reforms they proposed are specifically listed in NCLB (and funding is available to support those reforms). Those whose beliefs about intelligence did not match that embodied in the policy are less willing or able to translate their beliefs or concerns into policy action, for example by resisting the implementation of policy, as in the case of Ms. Coming and her first-grade colleagues and their resistance to scripted reading programs.

Thus, while educators claimed that they did not focus on intelligence per se “any more,” in fact there are policies that trigger their beliefs about intelligence. This finding underscores that beliefs about intelligence, especially for those who have not had any training in a discipline that explicitly studies intelligence, operates at an unarticulated level until something triggers those beliefs.

IV. Other Findings

Contrasting Central School District with Spillane's South Carolina District

Spillane (2003) found that educators in the South Carolina districts he studied believed that children who come from socially disadvantaged backgrounds and those who are labeled “at-risk” will not be able to achieve rigorous academic standards as mandated by the state’s policies. In Central, while educators felt that socially disadvantaged backgrounds may hinder the development of intelligence, they did not express the sentiment that children who come from socially disadvantaged backgrounds would not meet this state’s standards. Educators in Central felt that students with disabilities were going to have trouble meeting the standards, but children who are merely “at risk” for disabilities were never mentioned as being “at risk” for not meeting the standards. Furthermore, children who are at risk for developing disabilities are being very closely attended to in order to ensure that they do not develop those disabilities.

In the districts Spillane studied, educators focused closely on reinforcing basic skills to bring low performing students to higher performance levels. In Central, the LFS model stresses the delivery of problem solving skills across the curriculum in conjunction with basic skills. A few CSD teachers mentioned that they taught more basic skills than problem solving, and that basic skills must necessarily precede problem solving skills. However, most educators, including administrators, felt that stressing basic skills over problem solving skills was inappropriate. None of the teachers reported delaying the introduction of problem solving skills instruction until basic skills had been mastered.

Conspiracy Theories

The expectation NCLB has established that all children achieve rigorous academic standards seems so unrealistic to some of the participants that they questioned whether NCLB was intentionally designed to fail. Private schools are not held to the same standards of accountability since the federal government has no jurisdiction over them, but NCLB includes measures granting parents the freedom of choice to move students to private schools if their school fails to make adequate yearly progress toward the goal of 100% achievement of standards. This issue has caused some administrators and a few teachers to raise questions about the real intent of NCLB. There are whisperings of a conspiracy to undermine public education and facilitate the growth of private education. Carl George said,

The real difficulty is going to be ... if you send that same child over the private school and you don't put that same standard on that child, how is that going to be "accountable?" How is that going to put us all under this? And that's where some people get into this conspiracy thing. They say that this is just a conspiracy to undermine public education and put us out of business. ... did somebody purposefully or knowingly do this? Or did they just not think of the ramifications? If you have the documents that's that thick [indicates with fingers], how much time have you spent researching it? And that's what causes some people to say this is just bigger...that there's these people with a lot of information trying to undo us, and they're writing this in such a way to make that happen.

For the most part, participants distanced themselves from the belief as Carl did, claiming to have heard others raise the conspiracy theory without explicitly claiming to believe it themselves. Others, like Kevin Quinton, claimed it for himself:

So you essentially take a struggling school, take so many [students] away from them, and then increase their costs because you're allowing students to be transported to another school by that original school district. And I'm not exactly sure how that is a sound pattern to remedy the situation. How does that help the school change and improve. ... I think it is

essentially setting that school up for failure at that point. And I'm sure part of that was by design for maybe a couple of reasons. One, perhaps not so devious is that on the one level it was probably designed that way to make it so onerous that most schools would improve their practice to avoid having that happen. And one probably devious: there's part of me that's just cynical enough to think that [this] probably was on purpose and intentional so that way there would be a lot more schools failing and then you could get ... some vouchers in place and start to "diversify" education by having private schools that really have not demonstrated they're any more effective than the public schools take over some of the burden.

Still, he doesn't believe that the legislation was intentionally designed to "put schools out of business," as Carl put it, as much as it was designed to facilitate support for private schools.

The implication of the distrust participants voiced, exemplified by the comments above, for the longevity of the law remains to be seen. What the conspiracy theories represent however, is an underscoring of the strength of feeling among educators that not all children are going to achieve rigorous academic standards, and that it is unfair to hold teachers accountable for the achievement of children with congenital cognitive defects, or whose parents do not reinforce the importance of schools at home.

In the mean time the accountability measures are rigid enough to ensure compliance. There may be long-term repercussions for lawmakers and educational policymakers however. Carl predicts that it will be the implementation of the accountability measures that will ultimately undo the law, because so many schools are going to fail to meet the standards, he believes, that either state governments will be bankrupted by the costs associated with taking over schools, or standards will drop so precipitously as to dilute the law.

The Role Beliefs Play

Beliefs give momentum to educators' behavior by providing them reason to be optimistic about how effective they can be with those children who might be expected to only be willing or capable of low achievement.

Ursula Downs: I will not come down to socio-economical status, I will not say it's truly language, I will not say it's all those things, because I don't believe that ...once we start believing that, we may as well throw in the towel, because it's not going to happen.

Carl George: I will not have the same answer perhaps that Ursula might, or that an urban individual would have. They would probably talk more about economic issues and prejudice and bigotry and less opportunity and things like that. If I was to go to work in Richmond, which I do some consulting work for Virginia Department of Education with 100% poverty schools, which are 99% black, they have a different perspective on that than I do. But the thing that I've talked to that principal about is that your challenge is to make sure that the kids have every advantage, every possible advantage through what we know is the research-based, scientifically based programs that will make a difference on student achievement. We can equip students, we'll give them every opportunity, every advantage for being successful in life. I believe educators can intervene and the most important thing is what the educators do.

Karen Matthews: "I'd like it if [intelligence] was 50/50 (genetics/environment) because that gives me hope that we can do more instructionally to influence verbal ability."

E. Xavier: I do believe that even children with low IQ's can be taught things and you can raise the IQ with experience. (EC: Why do you believe that?) Why do I believe that? I guess because if I didn't, I wouldn't bother working with my low kids.

How does hope triumph over predictions of low achievement, especially in the high-accountability framework of policy? One way in which Ursula's beliefs makes this possible, in a sense, is that she differs from other participants in her definition of "home life," as it relates to environmental factors that shape intelligence. She is the only participant to separate parents and parenting from the physical conditions of the home.

For most of the other participants “home life” is inseparable from parents and parenting. Ursula also believes that NCLB will have a positive effect on the achievement gap, even though she is reluctant to believe that standardized tests are entirely valid, and will not be personally important to the individual in the future. Karen refers to statistics that deny the influence of poverty and limited English language skills on achievement, and promotes the early intervention strategies that will support curriculum and instruction, even though she acknowledges that when poverty is combined with many of the same factors many of the students at Washington face, it *does* deter achievement. They apparently allow discrepancies in their beliefs because they have to have the hope that their efforts will matter to her students regardless of their circumstances out of school.

V. Further Implications

McLaughlin (1990) argued during the pre-NCLB era that policy cannot mandate what matters to implementation at the local level, namely the capacities and will of local policy actors. She also argued that policy pressures can effect behavioral change as long as normative changes are not required (McLaughlin, 1987). On several fronts, Ursula has shelved “what matters” to her (e.g. keeping the academic load of the kindergarten low in order to allow for social development) in light of the fact that NCLB “is federal law,” and that her school is at risk for not achieving the benchmarks for adequate yearly progress⁴¹.

It is not clear from Ursula’s statements that the threat of accountability is the most salient reason for her choosing to ignore her beliefs and toe the policy line, since she added that she was not concerned about losing her job as much as she wondered whether the reform agenda might in fact be beneficial to students in the long run. Her willingness

to wait and see is probably due to the hortatory efforts of her school psychologist, rather than the hortatory rhetoric of the legislation. Nonetheless, accountability pressures have influenced Ursula's will to comply with its mandates, and it has forced her to ignore several of her fundamental beliefs about the appropriate education for very young children.

External Policy as a Catalyst for Changes in Personal Beliefs

As much as it seems a person's beliefs influence at least their views of policy (McLaughlin, 1987; Spillane, 2002b), it is certainly also true that policies can change people's beliefs (McLaughlin, 1990). Indeed one of the intentions of NCLB's rhetoric is to change educators' ideas about every child's ability to achieve rigorous academic standards. Evidence from this study suggests that NCLB has been successful in indirectly leading to the change of at least one educator's beliefs about the ability of all children to achieve rigorous academic standards, as seen in the case of Carl George.

The ideological ground for believing all children can achieve may have been softened by MI theory, which was very popular with teachers in this district, and which disputes *g*-based models of intelligence. However, one of the changes the district made to position themselves to deal with changes under NCLB was to eliminate the use of MI in profiles of students and lesson plans. Steven Smith commented, "I think the administration probably said 'well, it's a really nice theory and we agree with that in principle [but] that's not going to help us reach the levels of NCLB.' It comes down to that bottom line." If indeed NCLB has changed the bottom line for district administrators away from using curricula and assessments based on Multiple Intelligences, then there is

additional evidence that policy may be able to influence local policymakers' will to put aside "bottom line" beliefs and comply with the law.

Beliefs and Insubordination

Others are resistant to changing their beliefs. Daryl does not believe that all children will achieve rigorous academic standards, and that message is communicated intentionally or unintentionally to his teachers. Educators at Adams have the least reason to see a need to comply with changes Central has implemented since NCLB; as a result at least the first grade teachers resist the district's reforms and continue their status quo practices behind closed doors. The scripted reading instruction policy and early intervention policies are anathema to Ms. Coming and, she says, to her colleagues in the first grade teaching corps. They judiciously pick and choose from among the changes they are asked to implement, and completely ignore others, such as DIBELS.

In this case context matters. Daryl does not believe that all children can achieve, but he does not have any reason to change his practice in light of the law because students at his school have consistently high achievement scores, and the "conditions" of his school mean that he does not feel that he will encounter the threat of sanctions under NCLB's accountability framework. At the other schools, principals and teachers feel more pressure from the threat of accountability.

As much as NCLB is a fair target for criticism from several quarters, there are implications for the creation of new policy in some of the precedents set by NCLB. In this district NCLB has been effective as a lever with which to influence the will of local policy makers. The policymakers behind NCLB recognized that the change in normative

beliefs they were asking for would require attractive incentives and strong sanctions if the policy was to enjoy any semblance of fidelity or consistency in its implementation.

Educators at three of the four schools in this study have accepted the mandate that all children will need to at least achieve proficiency on state standards, even when they, like Ursula and Ophelia, are unsure whether the consequences will be a total benefit to their students. At these schools, the strength of the accountability measures in NCLB has dampened resistance to the reform that might be expected of educators who do not believe that its central tenet is realistic. Policy can indeed effect the will of local implementers to adhere to the law, even if it goes against their fundamental beliefs about how children learn, or what is the best type of education for their intellectual development.

At the fourth, Adams, Daryl and some of his teachers resist having to change their practice in step with the other three schools, but there is no ill consequence for doing so, either for the school or for the majority of their children, who will do well in school, even if all their teachers are “sitting there with lumps on their heads,” as Karen put it.

Additionally, educational reforms that challenge popular beliefs about intelligence would do well to follow another example set by NCLB. As has been noted in the policy literature, effective policies convey a balance between pressure and support and include hortatory efforts at influencing the will of implementers (McLaughlin, 1987). The language of NCLB includes references to current educational research, for example on reading instruction (see Appendix 3); it also provides funding for training in instructional strategies related to that research. Hortatory rhetoric should only be expected to have limited effects on the will of local policy agents if it does not extend beyond the text of

the policy. The language of the policy is reinforced by grants and other supports that act to direct implementers to with material or programs that provide justification for the policy.

Carl's experience at LFS made him a believer. By providing freedom to districts to determine their own means to attain the mandates of the law, the policy facilitated his experience rather than limiting it by providing a boilerplate that all districts would have to follow. Of course, providing similar experiences to educators in all school districts is obviously beyond the capacity of states, not to mention the federal government. Thus hortatory efforts and funding links to research or organizations that support them is crucial.

The implications for the continued implementation of NCLB are less directly clear. While none of the educators unequivocally stated all children could be expected to achieve rigorous academic standards, to the majority of them it is those students who are in special education or who have congenital cognitive defects who cannot be expected to reach that benchmark. With the exception of the school psychologists, educators believe that the number of those students is greater than policymakers have recognized. One implication of this belief is that those educators harbor at least a mild suspicion of the motivations behind the act. Another is that they report feeling anxious about being held accountable for the success of students whose failure to reach the mandated benchmarks is due to conditions, educational "pathologies," that teachers feel are beyond their control. Even the school psychologists' most positive estimate of the proportion of their students that have severe disabilities is 2.5 times greater than the current level of exemption under state law.

Educators here are looking toward the federal government to provide them with some relief from their anxiety about having to be held accountable for students with disabilities. Teachers and principals believe that either the federal or state governments must increase resources available to districts for this purpose, or they must increase the number of exemptions for disabled students.

Finally, research on cognitive performance and intelligence now suggests that intelligence is significantly modifiable (Ceci, 1990; Martinez, 2000; Mayer, 2000; Richard E Snow, 1996; Sternberg, 1990), and thus that the development of intelligence is *not* insensitive to efforts to improve cognitive functioning, especially efforts in the form of instructional practice (Mayer, 2000; Richard E. Snow, 1982; Richard E Snow, 1996). In this district, as in the South Carolina district that Spillane (2002b) studied, there are educators whose beliefs do not reflect new research on intelligence and intelligent functioning. Unlike the district in Spillane's study, I found no evidence that Central School District on the whole is not making a good faith effort to raise the achievement of low performing students. The district has implemented an RTI model that has been effective in reducing the number of students who are at risk for reading disabilities; Adams, ever the maverick, has distributed its own pre-K school readiness packet, which has been effective at reducing the number of incoming students who are at-risk; and those students who do receive interventions for disabilities are not locked into programs from which they do not emerge to reenter the regular classroom.

Finally, the new research on intelligence offers hope that low achieving students can be given skills and training that will raise their achievement. Several educators in this study cited the belief that intelligence is beneficially modifiable by educational practice

as being a source of optimism and motivation for their efforts in their schools and classrooms. Educational training programs are remiss, therefore, if they do not include specific explorations of new theories of intelligence. Administrator training programs, the curricula of which include very few courses related to instruction or educational psychology are not equipping future principals with skills they will need as the instructional leaders that NCLB is pushing them to be. Thus I add my voice to the ever growing list of those who have called for this change.

Appendix A

Questionnaire for principals

SA= Strongly Agree A= Agree D= Disagree SD= Strongly Disagree

1. You have a certain amount of intelligence, and you can't really do much to change it.
SA A D SD
 2. Your intelligence is something about you that you can't change very much.
SA A D SD
 3. No matter who you are, you can significantly change your intelligence level.
SA A D SD
 4. To be honest, you can't really change how intelligent you are.
SA A D SD
 5. You can always substantially change how intelligent you are.
SA A D SD
 6. You can learn new things, but you can't really change your basic intelligence.
SA A D SD
 7. No matter how much intelligence you have, you can always change it quite a bit.
SA A D SD
 8. You can change even your basic intelligence level considerably⁴²
SA A D SD
 9. People have multiple types of intelligences, which means that different people have different learning styles.
SA A D SD
 10. There are only two different types of intelligence, fluid and crystallized, that every person has.
SA A D SD
 11. How intelligent a person becomes has nothing to do with the surroundings they grow up in.
SA A D SD
 12. The habits of a community can limit or increase the amount of intelligence their children grow up to have.
SA A D SD
- On curriculum and instruction:
13. There is a big difference between the intelligence you use to solve novel problems and the intelligence you use to acquire and store new knowledge.
SA A D SD
 14. Creative problem solving is a process that should permeate the entire curriculum.
SA A D SD

15. Close alignment of curriculum with assessment benefits student learning⁴³.
SA A D SD
16. Basic skills are required in any subject before problem solving skills or higher order thinking can be taught.
SA A D SD
17. For students, a demonstration of good reasoning should be regarded even more than student's ability to find correct answers.
SA A D SD
18. Frequent testing benefits student learning.⁴⁴
SA A D SD
19. Standardized tests should be used as a means to strengthen instruction.
SA A D SD

Appendix B

Teachers' Interview protocol

The Roles of Conceptions of Intelligence and Considerations of Context in Principals' Interpretation of External Policy Requirements and Implementation of Local Policy.

Date:

Time:

Place:

Interviewer: Eric Cummings

Participant:

Position/Title of Participant:

Prior to the first question, please follow this procedure:

*Has the participant read and signed the implied consent form?

*Turn on your tape recorder.

*Read the following statement: "Before we begin I would like to make the following information known to you. Data attributable to your comments will be confidential in the transcriptions and in the report. Pseudonyms will replace your name, the name of the school, the district, and any other means of establishing identity. I will be contacting you after interviews to cross-check the validity of my interpretations of your statements. All data will be securely stored. As this is my dissertation, a copy of the completed project will be placed in the Penn State library, and portions may be published for an academic audience. Do you understand the nature of your confidentiality and the audience of the report?"

"I would like to ask you a few questions about education, intelligence, NCLB, and your school. I know you are busy, so please answer as briefly as you can. Do not feel the need to elaborate; if we need to discuss something further, I will ask you to. This is just to save your time. I will try to limit the interview to less than 20 minutes."

1. What do think is the biggest barrier to learning kids face?
2. What kids have the hardest time making it in school? Why?
3. How would you define intelligence? There is no right answer; even the experts widely disagree.
4. why are there variations in intelligence between people?
5. can it be increased, or is it fixed within an individual?
6. shifting topics: in instruction do basic skills have to precede problem-solving skills? To what extent?

7. how much basic skills vs. problem-solving instruction do you do? Why do you do it that way?
8. does the leadership at this school promote any views concerning instruction?
9. shifting topics again: do you believe that NCLB is beneficial for all kids? Some kids? For education in general?
10. how has NCLB changed what happens in your classroom?
11. do you believe the message that NCLB promotes that all children are capable of achieving rigorous academic standards?
12. do you believe that district and building administrators agree with this rhetoric?

Thanks very much for your time!

Appendix C

Example of Coding Matrix

Institutionalized myths of intelligence

Category	Subcat/ (some concepts)	Evidence from Data	Comments
g-based views	Rankable	<p>CG: For the lowest of the students, some of the students have IEPs and some of them do not, but they are still basically performing within that range, they will get something we use: Project READ.</p> <p>DL: And I have worked on developing an instructional philosophy to deliver math instruction [?] to our enrichment kids all the way down to our learning support intervention kids and all the kids in between</p>	“low” suggests hierarchy
	Mental power of the child	DL: The first and second graders just go down for little enrichment goodies. It’s the third, fourth, and fifth where once they’re in, they’re accelerated. There’s no turning back, because they’re already advanced. So we gotta make sure that we’re choosing the right kids who can handle this.	
	Stable trait	KQ: they [Middle School] basically have a dichotomous system. You either were okay or you weren’t at the middle school level and at the high school level. And so what we started to talk to them about saying you know there’s got to be a intermediary level there. There are those kids, and these are the ones that everybody complains about that probably were the big reason why we got No Child Left Behind who were those kids who slipped through the cracks, who will graduate from high school and they can’t read. Well there’s going to be an intermediary level. Those guys aren’t necessarily ending up in special ed. If they did then there would be nobody complaining because we would have said “yeah, they would have known all along that they were learning disabled” and I think that’s part of what’s going on. They were having trouble reading. But there’s that intermediary level of kids that just kind of skate by. They’re not the worst of the worst but pretty, pretty, pretty much not doing very well and they sort of came to all their classes but you know that’s just what they do.	How labels are used: those who are not labeled as LD, but who do not have high achievement (“intermediate level”) become “slow learners.”

		That's why people say oh well you know he's just, he's just slow—he's a slow learner. S1T1: we're grouped based on reading skills. And that's what the majority of the day those are the kids that we see. We have them for social studies and you know language arts, things like that. A big chunk of our day we have the same kids. They're in their ability levels within reading you know texts and things like that and yet they still get a different teacher. We change [grouping] for math. [Then they're organized by advanced, proficient, etc. achievement category]	Reading ability is primary means of sorting children.
	Internal trait	EC: do you still see innate pathology thinking in, in educators, teachers, administrators, district people? KM: Oh sure. When you look at the consultation literature, the instructional behavioral consultation literature where I'm a consultant, the school psychologist consults with a teacher about a behavioral or instructional problem. The research shows that 13% of teachers are open to consultation. Meaning that they're willing to alter something in the environment, have more of an ecosystemic perspective, are willing to see that they can alter things in the environment to change the behavior, i.e. the learning behavior or the social behavior of a child. The other 87% aren't interested. Just get the kid out.	Describes clash between ecosystemic perspective (that changes in environment can result in improved student achievement) and what she claims she experiences often, that teachers don't believe that they can do much to improve student achievement for those with "Innate Pathologies."
	Measurable	none	
	As knowledge	S2T2: It can be increased. I mean if I didn't work as hard as I worked in school I wouldn't be as intelligent as I am now. I didn't know this stuff before I went to school.	An incremental view of intel. Links knowledge gained from school as intelligence.
Particular "types" of intel	Verbal	OF: I think that's who we serve best—the kids that are verbal, that do well in reading, ah because verbal intelligence...I mean math, math requires that so much more than it used to too. Kids are required to explain how they got their answer, not just be able to kind of do it. So I think that's where we're better at addressing kids.	Changes in math instruction that are focused on improving student understanding (NCTM) introduce more verbal component to Math.
	Skills based	S2T1: But I think some kids, some kids come to kindergarten knowing how to read. Some kids come not even knowing their colors. So I think that plays a big part in intelligence	To her, intelligent behavior in part mirrors school behaviors.

New institutional myth of achievement

Category Subcategory

Academic achievement	as new technical dimension for monitoring	Evidence	Comments
		KQ: I don't think the [state standardized assessment test] is a reliable enough tool to really accurately reflect a students' reading, math or writing skills the way the have them designed. I	States put forth test for particular use (school monitoring), educators use it for additional uses (student monitoring), and the results become

		<p>don't think it's there yet. And there's a lot of really important decisions being made on not necessarily the most reliable data in the world. And trying to impose a capitalistic notion on public education is a little flawed and by that I mean when they publish the scores in the newspaper and they try to say "well we're going to cut your funding. And you better keep up with that school. And you better be doing something differently." I think <i>some</i> of that is good because it's made schools start to reflect a little bit.</p> <p>SS: when we meet on kids that's one of the primary objectives is looking at that kid and saying it's our job as a school to get that child proficient. [Before NCLB] the focus was more on individual growth—looking at a child and you know they're here; you know this is a reasonable amount of growth as long as they were making growth in relationship to themselves we were happy with that.</p> <p>You know the thing is in school as far as intelligence I don't know that it comes up a whole lot. Everything had shifted years ago. We used to do I mean even . . . we used to do IQ tests on anybody who was being considered for enrichment services. And I think we probably even called it gifted services – we don't even call it that any more. It's totally based on achievement now. So there isn't any intelligence test component or any other way of gathering information about intelligence. It's really only achievement that gets out and it's in the same areas that match what schools address primarily nowadays: reading, writing, math.</p> <p>S1T3: And I feel as though I'm definitely held more accountable, not that I wasn't accountable before. But I got to have it in writing. Or I got to have proof of the kids' scores and you know even in our lesson plans now they're collected and we have to have our standards in our lesson plans. . . . that from our administration, I've never been questioned on it and I mean they see what I teach now that I hand in lesson plans. So they know. They've come in for observations—formal observations and informal observations—and they know what I do and it has not been questioned.</p> <p>S2T2: The students who have special needs don't have the same cognitive ability as a regular student. So they're not going to be able to achieve the mastery of certain topics as other students will. So you can't expect them to be proficient or advanced on a subject that you expect the people who were gifted and given the cognitive ability. So I really don't think you can ask special ed students to perform as high as other students.</p>	<p>a way to pressure schools toward uniformity.</p> <p>Proficient level is target of school psych's efforts. (Not local expectations of individual gains anymore). State/Fed expectations supplant local determinations of reasonably expectable growth).</p> <p>Classical notion of IQ (as addressed by Draw a man test, e.g. see below) not "at play" in schools anymore. Achievement is primary metric. Why? It "may be down to that, it's a little looser you know the whole concept of intelligences we've been talking about, whereas achievement is more nailed down and you can compare kid A to kid B to kid C."</p> <p>Teachers must provide proof of standards in lesson plans, of students' scores. Local administrators check teachers' reports, work to confirm compliance with adaptation of state's metric.</p> <p>Uses the metric labels of the state test to situate "special needs" & gifted kids.</p> <p>Old & new labels meshing.</p>
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		<p>S3T2: And I take the below basic group. So it's one up from learning support.</p> <p>S3T3: What the kindergarteners are doing now 10 years ago that's what I was doing in the first grade. If they came in and knew five letters I was like "yes! we are ready to go." Now if they don't know a letter or sound they need some reading services. ... a year or two ago I was cleaning out files and I found scores from one of my first years teaching and where the kids were at the end of the year compared to where my kids are at now it wasn't that big of a difference. And those kids came in not knowing their letters and sounds. But they came in being able to sit and listen and hold a pencil and cut on a line and had the basic skills that they needed to be ready to learn. So they came to me ready to learn. Whereas now, yeah, they know their letters and sounds, but they can't sit to save their lives. They don't know that you don't talk when I'm talking. So you know we spend a lot of time working on that kind of stuff too.</p> <p>CG: The one thing that the assessment piece has really helped us to define that a little bit and given us a little bit – I don't know quite how to say it – but given us a kind of prescriptive model for how we're going to deal with some of those students based on how well they do on phonemic awareness</p>	<p>Hierarchy of categories of students.</p> <p>Changed expectation of school readiness in emphasis on phonics rather than small-motor skills, behavioral expectations.</p> <p>Score on tests of phonemic awareness dictates "what we're going to do with ... students"</p>
	<p>In structure of schooling</p>	<p>S3T2: Again you know you're thinking okay the pull-out program or the switching [of classrooms, teachers during the day] like you're saying, wow you know this is <i>elementary school</i>, Eric. Again "no child" ... it's all related to accountability and No Child Left Behind.</p> <p>S3T3: What the kindergarteners are doing now 10 years ago that's what I was doing in the first grade. If they came in and knew five letters I was like "yes! we are ready to go." Now if they don't know a letter or sound they need some reading services.</p> <p>CG: this is probably the best picture of this assessment piece: we have an oral sound fluency [test] that we give them as an entrance into kindergarten, so we're making some instructional decisions based on which of the students are going to be invited to extended day kindergarten, coming into kindergarten based on some of those things that we gave at registration.</p> <p>CG: [designation of "at-risk"] is fluid, so you may have some students who were at-risk at one point but are no longer at risk, and you have some students that were at some risk that have fallen into the at-risk category. But the goal, obviously, is to push as many of those students up into the low-risk category as possible.</p>	<p>Pull-out = enrichment & intervention. Switching = students moving during the day, grouped with their reading ability group.</p> <p>Services expanded (?) compared to 10 years ago because of practices related to READ First initiative.</p> <p>"instrumental decisions" about extended vs. full day kindergarten made based on test given before child enters school.</p> <p>Big shift.</p>

Sorting		<p>CG: A generation ago the kids were—teachers had this "well if they don't make it... well, that's OK." Now they're not <i>saying</i> that. It's never OK, but it's sort of like this kind of thing that said "well, some kids are to make it in some kids are not going to make it." And it's kind of that sorting process. One of the things that NCLB says is that there is no sorting process. There isn't any kids that can be left behind and it would just be OK. We're going to have to knock ourselves out to get every kid as high as we possibly can get them.</p> <p>CG: One of the things that NCLB says is that there is no sorting process. There isn't any kids that can be left behind and it would just be OK. We're going to have to knock ourselves out to get every kid as high as we possibly can get to them. EC: So you feel NCLB has really changed... CG: ... the paradigm. Absolutely. I mean, teachers may not want to admit to it, they may not want to talk about it, but I believe that there is [a paradigm shift].</p> <p>CG: [looking over the data I noticed that] socio-economic was not a factor in that low-group, which was interesting. The only... the highest correlate was special education, students with IEPs. Truly, when I have done work with instructional support, you often find that students for one reason or another find themselves in that low ability grouping. And I don't think there's any – there doesn't seem to be – any real commonality that's involved with it.</p>	<p>Testing that creates intervention group does not categorize students around variables unrelated to skills tested?</p>
Psychology's focus	Shifts	<p>SS: How can we as psychologists help teachers with interventions, with strategies that are going to help these kids get to a level that we want them to get to? I think that's a change. I don't think that psychologists 20 years ago were doing as much of that. ... what can we do to help teachers affect a larger population of kids? there's been a shift from essentially believing that you can't do much to intervene in a kids' achievement trajectory to believing that you actually can.</p> <p>EC: Do you think that would sort of move from an innate pathology viewpoint to a more cultural-ecological perspective that says that previously we were more focused on what is happening in this kid that we can't do anything or much about, to looking at a broad range of influences on that learning trajectory?</p> <p>SS: Absolutely. We're definitely moving that way. There's still the medical model phenomena but, looking at what's happening instructionally, ecologically, that's all I think become a part of the texture for sure.</p> <p>OF: the person I interned with here had gone through the graduate program and school psychology—same school I did—but she did it</p>	<p>Psych's focus on instructional methods, strategies for improving (aggregate) performance (Not on looking at individual performance and tracking).</p> <p>Draw a man test: Florence Goodenough's early non-verbal IQ test. Now more observations of kids</p>

		<p>probably in the '70s and it was very different. She had entire courses on draw a man, draw a tree, and draw a house. And really put a lot of stock in incoming kids being screened for school and then drawing and analyzing the drawing. And it was very, very much that way. She didn't have any hard core courses whereas by the time I went through – which is very recently – it was very data driving as far as analyzing things. She, I don't think she had any experience even with observations that were time-on-task kinds of observations. She just did narratives. So, I know the program changed a lot between the time she went and when I went.</p> <p>KM: The deficiencies exist within the individual or within factors that I have no control over as a teacher versus school. So what you need to do is disseminate accurate information, which is you know wow, this is empowering that the factors that represent the most variance in terms of academic outcome, instruction and curriculum, you have control over. E: Are manipulable. KM: Oh my God! Absolutely. And so this whole movement that school psychology is in, in terms of pushing regular ed reform is exactly about this conversation.</p> <p>EC: talk about the shift. KM: It's a behavioral problem solving model. That's what it is. That was the shift. More of a systems ecological perspective. We shifted, we started a paradigm shift in psychology I would say about 20 years ago, maybe even longer. It's now finally making its way to practice but only because we've had a lot of pushing NCLB.</p> <p>DL: ten years ago, 15 years ago, without a doubt, with MI and learning styles, that's all the reading that I did and that was available was really focused on that. We got away from looking at the scientific end of it to more of an environmental or instructional [focus]; what teachers can do instructionally to enhance the growth of their students. So more on instruction, curriculum, assessment, planning. That's really the new way, even though now scientific based research programs – I think the cycle has come back. Maybe that has to do with just more information about the brain than ever [being available] based on the new electronic devices and ways that scientists can understand how the brain works.</p>	<p>in context, e.g. "time on task observations."</p> <p>Innate Pathologies definition.</p> <p>Shift in psych is on ed reform that is focusing on manipulability of LDisabilities, away from belief that they aren't mutable.</p> <p>Shift in psychology making it's way into schools because of NCLB, she says.</p>
	<p>Creates "grade-level" definitions of knowledg</p>	<p>S1T1: And if they went from you know let's say they're achieving at a third grade level in, in fifth grade, they're achieving at a third grade level, and so at the end of that year they have you know gained an entire year worth of, worth of knowledge that I think that they have accomplished something. In the eyes of the law right now it would be well sorry they're still left behind because they're not on</p>	<p>Knowledge becomes represented as "grade-level." Coming from standards, (coming from "what every second grader needs to know"?)</p>

	e and achievement	<p>that fifth grade level. To make sure that for someone that is in a learning support classroom right now to be expected to be on a fifth grade level at the end of the year, it's not going to happen because you can't make up a couple of years worth of growth.</p> <p>S4T2: We need to work to use whatever means possible to get those kids up to grade-level.</p>	
	Institutionalizes new roles for teachers, new areas of profession	<p>S1T3: we have advanced and proficient, kind of grouped together. It's one group but two teachers take it; then we have a basic group and a below basic group. Then there's like an intervention and that's like a learning support teacher or somebody that they go to you know for extra support.</p> <p>DH: And you know when it comes to offering that classroom support for those at-risk students, that's limited. And it's a lot of the times, you know, take the reading specialist or take the learning support teacher and it's "take them out and fix them."</p>	<p>Role of teachers changing. Classroom support for at-risk not expected. It's domain of specialist.</p>

Bibliography

- 107th Congress. (2002). Public Law 107-110: The No Child Left Behind Act (Vol. 115 Stat. 1425): Government Printing Office.
- Andrews, R., & Soder, R. (1987a). Principal leadership and student achievement. *Educational leadership.*, 9-11.
- Andrews, R., & Soder, R. (1987b). Principal leadership and student achievement. *Educational leadership.*, 9-11.
- Arredondo, D. E., & Rucinski, T. T. (1998). Principal perceptions and beliefs about integrated curriculum use. *Journal of Educational Administration*, 36(3), 286-.
- Babad, E. (1998). Preferential affect: The crux of the teacher expectancy issue. In J. Brophy (Ed.), *Advances in research on teaching: Expectations in the classroom* (pp. 183-214). Greenwich, CT: JAI Press, Inc.
- Bandura, M. M. (1983). *Children's conceptions of intelligence in relation to achievement goals and patterns of achievement-related cognition, affect, and behavior*. Unpublished Ph.D., The Pennsylvania State University, University Park.
- Barge, J. K. (1994). *Leadership: Communication skills for organizations and groups*. New York: St. Martin's Press.
- Berg, C., & Sternberg, R. J. (1992). Adults' conceptions of intelligence across the adult life span. *Psychology and Aging.*, 7(2), 221-231.
- Binkley, N. (1997). Principals' role in policy change: Mediating language through professional beliefs. *Journal of Educational Administration*, 35(1), 56-.
- Blair, C., Gamson, D., Thorne, S., & Baker, D. (2005). Rising Mean IQ: Cognitive Demand of Mathematics Education for Young Children, Population Exposure to Formal Schooling, and the Neurobiology of the Prefrontal Cortex. *Intelligence*(33), 93-106.
- Bolman, L. G., & Deal, T. E. (1993). Everyday epistemology in school leadership: Patterns and prospects. In P. Hallinger, K. Leithwood & J. Murphy (Eds.), *Cognitive perspectives on educational leadership* (pp. 21-33). New York: Teachers College Press.
- Boring, E. G. (1929). *A history of experimental psychology*. New York: The Century Co.
- Bourdieu, P. (1973). Cultural reproduction and social reproduction. In R. Brown (Ed.), *Knowledge, education and cultural change*. (pp. 71-112). London: Tavistock.
- Bowles, S., & Gintis, H. (1976). *Schooling in Capitalist America*.
- Bowles, S., & Gintis, H. (2002). Schooling in capitalist America revisited. *Sociology of Education*, 75(1), 1-18.
- Boyan, N. J. (1988). Describing and explaining administrator behavior. In N. J. Boyan (Ed.), *Handbook of research on educational administration* (pp. 77-97). New York: Longman Inc.
- Boyd, W., & Crowson, R. (2002). The quest for a new hierarchy in education: from loose coupling back to tight? *Journal of Educational Administration*, 40(6), 521-533.
- Brown-Miller, A. (1995). *Intelligence policy*. New York: Plenum Press.

- Bruer, J. (1999). *The myth of the first three years: A new understanding of early brain development and lifelong learning*. New York: The Free Press.
- Burns, J. M. (1978). *Leadership*. New York: Harper & Row, Publishers`.
- Butler, R. (2000). Making judgments about ability: The role of implicit theories of ability in moderating inferences from temporal and social comparison information. *Journal of personality and social psychology*, 78(5), 965-978.
- Carson, J. (2003). The culture of intelligence. In T. Porter & D. Ross (Eds.), *The Cambridge History of Science: The Modern Social Sciences* (Vol. 7, pp. 635-649). Cambridge, UK: Cambridge University Press.
- Ceci, S. J. (1990). *On intelligence -- More or less*. Engelwood Cliffs, NJ: Prentice-Hall, Inc.
- Center on Educational Policy. (2005). *NCLB: Narrowing the curriculum?* (Policy Brief No. 3). Washington, D.C.: Center on Education Policy.
- Center on Educational Policy. (2006). *From the capital to the classroom: Year 4 of the No Child Left Behind Act*. Washington, D.C.: Center on Education Policy.
- Central School District. (2004). District Profile. In Department of Education (Ed.) (pp. 2): Central School District.
- Chapman, P. D. (1988). *Schools as sorters: Lewis M. Terman, applied psychology, and the intelligence testing movement, 1890-1930*. New York: New York University Press.
- Cianciolo, A. T., & Sternberg, R. J. (2004). *Intelligence: A brief history*. Malden, MA: Blackwell Publishing.
- Coburn, C. (2001). Collective sensemaking about reading: How teachers mediate reading policy in their professional communities. *Educational Evaluation and Policy Analysis*, 23(2), 145-170.
- Cohen, D. K. (1990). A revolution in one classroom: The case of Mrs. Oublier. *Educational Evaluation and Policy Analysis*, 12(3), 327-345.
- Cohen, R. (1968). The relation between socio-conceptual styles and orientation to school requirements. *Sociology of Education*, 41(2), 201-220.
- Cravens, H. (1978). *The triumph of evolution: American scientists and the heredity-environment controversy 1900-1941*. Philadelphia: University of Pennsylvania Press.
- Cuban, L. (1993). *How teachers taught: Constancy and change in American classrooms 1880-1990* (2d ed.). New York: Teachers College Press.
- Cummings, E. (2002, November 2). *The relationship between popular American conceptions of intelligence from 1900-1925 and the rapid adoption of intelligence testing in schools*. Paper presented at the History of Education Society, Pittsburgh, PA.
- Deal, T. E., & Peterson, K. D. (1991). *The principal's role in shaping school culture*. Washington, D.C.: U.S. Department of Education.
- Dillon, S. (2006, March 26). Schools cut back subjects to push reading and math. *The New York Times*.
- Durkheim, E. (1961). *Moral Education*. New York: The Free Press.
- Dweck, C. S. (1996). Implicit theories as organizers of goals and behavior. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior*. (pp. 69-90). New York: The Guilford Press.

- Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality, and development*. Philadelphia: Psychology Press.
- Dweck, C. S. (2002). Beliefs that make smart people dumb. In R. J. Sternberg (Ed.), *Why smart people can be so stupid*. (pp. 24-41). New Haven: Yale University Press.
- Dweck, C. S., & Bempechat, J. (1983). Children's theories of intelligence: Consequences for learning. In S. Paris, G. M. Olson & H. W. Stevenson (Eds.), *Learning and motivation in the classroom*. (pp. 239-256). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95(2), 256-273.
- Edmonds, R. (1979). Effective schools for the urban poor. *Educational leadership*, 15-24.
- Eggen, P., & Austin, C. (2004, April 15). *A longitudinal study of teachers' and educational leaders' conceptions of classroom interaction*. Paper presented at the Annual meeting of the American Educational Research Association, San Diego, CA.
- Elmore, R. F. (1996). *Staff development and instructional improvement: Community district #2, New York City*. Philadelphia: Consortium for Policy Research in Education.
- Farkas, G., Grobe, R. P., Sheehan, D., & Shuan, Y. (1990). Cultural resources and school success: Gender, ethnicity, and poverty groups within an urban school district. *American Sociological review*, 55, 127-142.
- Ferguson, A. A. (2001). *Bad boys: Public schools in the making of black masculinity*. Ann Arbor: University of Michigan Press.
- Firestone, W. (1989). Using reform: Conceptualizing district initiative. *Educational Evaluation and Policy Analysis*, 11(2), 151-164.
- Firestone, W. A., & Louis, K. S. (1999). Schools as cultures. In J. Murphy & K. S. Louis (Eds.), *Handbook of research on educational administration* (Second ed., pp. 297-322). San Francisco: Jossey-Bass Publishers.
- Fusarelli, L., & Johnson, B. (2004). Educational governance and the new public management. *Public Administration and Management: An Interactive Journal*, 9(2), 118-127.
- Gamoran, A., & Dreeben, R. (1986). Coupling and control in educational organizations. *Administrative Science Quarterly*, 31(4), 612-632.
- Gamoran, A., & Mare, R. D. (1989). Secondary school tracking and educational inequality: Compensation, reinforcement, or neutrality? *The American Journal of Sociology*, 94(5), 1146-1183.
- Gardner, H. (1983). *Frames of Mind: The theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. (1992). Assessment in context. In B. R. Gifford & M. C. O'Connor (Eds.), *Changing assessments: Alternative views of aptitude, Achievement and Instruction* (pp. 77-120). Boston: Kluwer Academic Publishers.
- Gardner, H., Kornhaber, M. L., & Wake, W. K. (1996). *Intelligence: Multiple perspectives*. Fort Worth: Harcourt Brace College Publishers.

- Goddard, R. D., Hoy, W., & Woolfolk Hoy, A. (2000). Collective teacher efficacy: Its meaning, measure, and effect on student achievement. *American Educational Research Journal*, 37(2), 479-507.
- Goddard, R. D., LoGerfo, L., & Hoy, W. (2004). High school accountability: The role of perceived collective efficacy. *Educational Policy*, 18(3), 403-425.
- Goldman, E. (1998). The significance of leadership style. *Educational Leadership*, 55(7), 20-22.
- Good, T. L., & Brophy, J. (1986). *Educational psychology* (3rd ed.).
- Good, T. L., & Nichols, S. L. (2001). Expectency effects in the classroom: A special focus on improving the reading performance of minority students in first-grade classrooms. *Educational Psychologist*, 36(2), 113-126.
- Gordon, G. (2004). *Do principals make a difference? The answer is yes -- but it all depends on the principal.*, 2004, from <http://education.gallup.com/content/default.asp?ci=1057>
- Gottfredson, L. (2004). Schools and the *g* factor. *Wilson Quarterly*, 35-45.
- Gould, S. J. (1996). *The mismeasure of man*. (2d ed.). New York: W. W. Norton & Company.
- Greenfield, P. M. (1997). You can't take it with you: Why ability assessments don't cross cultures. *American Psychologist*, 52(10), 1115-1124.
- Hallinger, P., Bickman, L., & Davis, K. (1996). School context, principal leadership, and student reading achievement. *The Elementary School Journal*, 96(5), 527-549.
- Henderson, V. L., & Dweck, C. S. (1999). Motivation and achievement. In S. S. Feldman & G. R. Elliot (Eds.), *At the threshold: The developing adolescent*. (pp. 308-329.). Cambridge: Harvard University Press.
- Henderson, V. L., & Dweck, C. S. (1999). Motivation and achievement. In G. R. Elliot (Ed.), *At the threshold: The developing adolescent*. (pp. 308-329). Cambridge: Harvard University Press.
- Higham, J. (1988). *Strangers in the land: Patterns of American nativism, 1860-1925* (2d ed.). New Brunswick: Rutgers University Press.
- Hong, Y.-y., Chiu, C.-y., Dweck, C. S., Lin, D. M.-S., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology*, 77(3), 588-599.
- Hong, Y., Chiu, C., Dweck, C., Lin, D., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology*, 77(3), 588-599.
- Jensen, A. R. (1969). How much can we boost IQ and scholastic achievement? *Harvard Educational Review*, 39(1), 1-123.
- Kamin, L. J. (1974). *The science and politics of IQ*. Potomac, MD: Lawrence Erlbaum Associates.
- Kennedy, M. (2004, April 7). *Reform ideals and teachers' practical intentions*. Retrieved 4/9/2004, from <http://epaa.asu.edu/epaa/v12n13/>
- Kennedy, M. M. (2004, April 7). *Reform ideals and teachers' practical intentions*. Retrieved 4/9/2004, from <http://epaa.asu.edu/epaa/v12n13/>
- Kohn, A. (1998). Only for my kid: How privileged parents undermine school reform. *Phi Delta Kappan*.

- Kornhaber, M. L. (1997). *Seeking strengths*. Unpublished Unpublished doctoral dissertation., Harvard, Cambridge.
- Kornhaber, M. L. (1999). Multiple intelligences theory in practice. In J. H. Block, S. T. Everson & T. R. Guskey (Eds.), *Comprehensive school reform*. (pp. 179-191). Dubuque: Kendall/Hunt.
- LeDoux, J. (2002). *Synaptic self: How our brains become who we are*. New York: Penguin Books.
- Lee, K. (1996). A study of teacher responses based on their conceptions of intelligence. *Journal of Classroom Interaction*, 31, 1-12.
- Leonardi, A., & Gialmos, V. (2002). Implicit theories, goal orientations, and perceived competence: Impact on students' achievement behavior. *Psychology in the Schools*, 39(3), 279-291.
- LeTendre, G. K., Hofer, B. K., & Shimizu, H. (2003). What is tracking? Cultural expectations in the United States, Germany, and Japan. *American Educational Research Journal*, 40(1), 43-89.
- Lipsky, M. (1980). *Street-level bureaucracy: Delimmas of the individual in public services*. New York: Russell Sage Foundation.
- Lortie, D. (1975). *School Teacher*. Chicago: University of Chicago Press.
- Loveless, T. (1999). *The tracking wars: State reform meets school policy*. Washington, D.C.: Brookings Institution Press.
- Mabry, L., & Margolis, J. (2006). NCLB: Local implementation and impact in Southwest Washington State. *Education Policy Analysis Archives*, 14(23).
- MacLeod, J. (1995). *Ain't no makin' it: Aspirations and attainment in a low-income neighborhood*. (2nd ed.). Boulder: Westview Press.
- Majone, G., & Wildavsky, A. (1978). Implementation as evolution. In H. Freeman (Ed.), *Policy studies annual review* (Vol. 2). Beverly Hills, CA: Sage.
- March, J. G. (1997). Understanding how decisions happen in organizations. In Z. Shapira (Ed.), *Organizational decision making*. (pp. 9-32). New York: Cambridge University Press.
- Martinez, M. E. (2000). *Education as the cultivation of intelligence*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Maxwell, J. A. (1996). *Qualitative research design: An interpretive approach* (Vol. 41). Thousand Oaks, CA: Sage Publications, Inc.
- Mayer, R. E. (2000). Intelligence and education. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 519-533). Cambridge, UK: Cambridge University Press.
- McCarthy, M. (1999). The evolution of educational leadership preparation programs. In J. Murphy & K. S. Louis (Eds.), *Handbook of research on educational administration: A project of the American Educational Research Association* (Second ed., pp. 119-139). San Francisco: Jossey-Bass Inc., Publishers.
- McLaughlin, M. W. (1987). Learning from experience: Lessons from policy implementation. *Educational Evaluation and Policy Analysis*, 9(2), 171-178.
- McLaughlin, M. W. (1990). The Rand change agent study revisited: Macro perspectives and micro realities. *Educational Researcher*, 11-16.
- McLaughlin, M. W., & Talbert, J. E. (1993). How the world of students and teachers challenges policy coherence. In S. H. Fuhrman (Ed.), *Designing coherent*

- education policy: Improving the system.* (pp. 220-249.). San Francisco: Jossey-Bass, Inc.
- Meyer, H. D. (2002). From "loose-coupling" to "tight management:" Making sense of the changing landscape in management and organization theory. *Journal of Educational Administration*, 40(6), 515-520.
- Meyer, J. W. (1986). Organizations as ideological systems. In T. Sergiovanni & J. Corbally (Eds.), *Leadership and organizational culture* (pp. 186-205). Urbana: University of Illinois Press.
- Meyer, J. W. (1994). Rationalized environments. In W. R. Scott & J. W. Meyer (Eds.), *Institutional environments and organizations: Structural complexity and individualism.* (pp. 28-54). Thousand Oaks: SAGE Publications, Inc.
- Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, 83(2), 340-363.
- Miles, M., & Huberman, M. (1984). Drawing valid meaning from qualitative data: Toward a shared craft. *Educational Researcher*, 13(5), 20-30.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Miller, S. (1988). Parents' beliefs about children's cognitive development. *Child Development*, 59, 259-285.
- Morgan, E. P. (1979). *Inequality in classroom learning: Schooling and democratic citizenship.* New York: Praeger Publishers.
- Mugny, G., & Carugati, F. (1989). *Social representations of intelligence.* Cambridge, UK: Cambridge University Press.
- Murray, C., & Herrnstein, R. J. (1994). Race, genes and I.Q. -- an apologia: The case for conservative multiculturalism. *The New Republic*, 211, 27 (11).
- Muus, R. E. (1996). *Theories of adolescence.* (Sixth ed.). New York: The McGraw-Hill Companies, Inc.
- Nicholls, J. G., Patashnick, M., & Mettetal, G. (1986). Conceptions of ability and intelligence. *Child Development*, 57(3), 636-645.
- Oakes, J. (1985). *Keeping track: How schools structure inequality.* New Haven: Yale University Press.
- Oakes, J. (1992). Foreword. In A. Wheelock (Ed.), *Crossing the tracks: How "untracking" can save America's schools* (pp. ix-xv). New York: The New Press.
- Oakes, J., & Guiton, G. (1995). Matchmaking: The dynamics of high school tracking decisions. *American Educational Research Journal*, 32(1), 3-33.
- Oakes, J., & Lipton, M. (2003). *Teaching to change the world.* (2d ed.). Boston: McGraw-Hill.
- Oakes, J., Selvin, M., Karoly, L., & Guiton, G. (1992). *Educational matchmaking: Academic and vocational tracking in comprehensive high schools.* (No. R-4189-NCRVE/UCB). Berkeley: RAND Corporation, National Center for Research in Vocational Education.
- Oakes, J., & Wells, A. S. (1998). Detracking for high student achievement. *Educational Leadership*, 55(6), 38-41.

- Oakes, J., Wells, A. S., Jones, M., & Datnow, A. (1997). Detracking: The social construction of ability, cultural politics, and resistance to reform. *Teachers College Record*, 98(3), 482-510.
- Okagaki, L., & Sternberg, R. J. (1993). Parental beliefs and children's school performance. *Child Development*, 64, 36-56.
- Paige, R. (2003). *Remarks by Secretary Paige to the Commonwealth Club of California.*, from <http://www.ed.gov/news/speeches/2003/03/03122003a.html>
- Persell, C. H. (1977). *Education and inequality: A theoretical and empirical analysis*. New York: Macmillan Publishers.
- Pretzlik, U., Olsson, J., Nabuco, M. E., & Cruz, I. (2003). Teachers' implicit theories of intelligence predict pupils' self-perceptions as learners. *Cognitive Development*, 18, 579-600.
- Purkey, S. C., & Smith, M. (1983). Effective schools: A review. *The Elementary School Journal*, 83(4), 427-452.
- Raty, H., Snellman, L., & Vornanen, A. (1993). Public views of intelligence: A Finnish study. *Psychological Reports*, 72, 59-65.
- Ravitch, D. (2000). *Left Back: A century of failed school reforms*. New York: Simon & Schuster.
- Rhodewalt, F. (1994). Conceptions of ability, achievement goals, and individual differences in self-handicapping behavior: On the application of implicit theories. *Journal of Personality*, 62(1), 67-86.
- Rosenbaum, J. E. (1976). *Making inequality*. New York: Wylie and Sons.
- Rosenthal, D., & Gold, R. (1989). A comparison of the Vietnamese-Australian and Anglo-Australian mothers' beliefs about intellectual development. *International Journal of psychology*, 24, 179-193.
- Rosenthal, R., & Jacobson, L. (1992). *Pygmalion in the classroom: Teacher expectation and pupils' intellectual development* (2d ed.). New York: Irvington Publishers, Inc.
- Sabatier, P. A. (1986). Top-down and bottom-up approaches to implementation research: A critical analysis and suggested synthesis. *Journal of Public Policy*, 6(1), 21-48.
- Salonen, P., Lehtinin, E., & Olkinuora, E. (1998). Expectations and beyond: The development of motivation in learning classroom context. In J. Brophy (Ed.), *Advances in research on teaching: Expectations in the classroom* (Vol. 7, pp. 111-150). Greenwich, CT: JAI Press, Inc.
- Sarason, S. B. (1996). *Revisiting "The culture of the school and the problem of change."* New York: Teachers College Press.
- Sarason, S. B. (2001). *American Psychology & Schools: A critique*. New York: Teachers College Press.
- Scarr, S. (1986). Intelligence: Revisited. In R. J. Sternberg & D. K. Detterman (Eds.), *What is Intelligence?* (pp. 117-120). Norwood: ALEX.
- Schommer, M. (1990). Effects of beliefs about the nature of knowledge on comprehension. *Journal of Educational Psychology*, 82(3), 498-504.
- Seidman, I. (2006). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (3rd ed.). New York: Teachers College Press.

- Shaywitz, S. (2005a). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level*. New York: Vintage Books.
- Shaywitz, S. (2005b). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level*. New York: Vintage Books.
- Shepard, L. (1991). Psychometricians' beliefs about learning. *Educational Researcher*, 20(7), 2-16.
- Slate, J. R., Jones, C. H., & Charlesworth, J. R. (1990). Relationship of conceptions of intelligence to preferred teaching behaviors. *Action in Teacher Education*, XII(1), 25-29.
- Snellman, L., & Raty, H. (1995). Conceptions of intelligence as social representations. *European Journal of Education*, X(3), 273-287.
- Snow, R. E. (1982). The training of intellectual aptitude. In D. K. Detterman, Sternberg, Robert J. (Ed.), *How and how much intelligence can be increased* (pp. 1-37). Norwood, NJ: Ablex Publishing Corporation.
- Snow, R. E. (1986). Individual differences and the design of educational programs. *American Psychologist*, 41(10), 1029-1039.
- Snow, R. E. (1996). Aptitude development and education. *Psychology, Public Policy and Law*, 2(3/4), 536-560.
- Sorenson, A. (1970). Organizational differentiation of students and educational opportunity. *Sociology of Education*, 43(4), 355-376.
- Spillane, J. (1998a). A cognitive perspective on the role of the local educational agency in implementing instructional policy: Accounting for local variability. *Educational Administration Quarterly*, 34(1), 31-58.
- Spillane, J. (1998b). A cognitive perspective on the role of the local educational agency in implementing instructional policy: Accounting for local variability. *Educational Administration Quarterly*, 34(1), 31-58.
- Spillane, J. (2000). A fifth-grade teacher's reconstruction of mathematics and literacy teaching: Exploring interactions among identity, learning and subject matter. *The Elementary School Journal*, 100(4), 307-330.
- Spillane, J. (2002a). *Challenging instruction for "All Students": Policy, practitioners, and practice*. (No. 253). Chicago: Joint Center for Poverty Research, Northwestern University/University of Chicago.
- Spillane, J. (2002b). *Challenging instruction for "All Students:" Policy, practitioners, and practice* (No. 253). Chicago: Joint Center for Poverty Research, Northwestern University/University of Chicago.
- Spillane, J. (2004a). *Standards deviation: How schools misunderstand education policy*. Cambridge, MA: Harvard University Press.
- Spillane, J. (2004b). *Standards deviation: How schools misunderstand education policy*. Cambridge, MA: Harvard University Press.
- Spillane, J., Reiser, B., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research*, 72(3), 387-431.
- Spillane, J., Reiser, B. J., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research*, 72, 387-431.

- Spillane, J. P., Reiser, B. J., & Reimer, T. (2002). Policy implementation and cognition: Reframing and refocusing implementation research. *Review of Educational Research*, 72(3), 387-431.
- Standard & Poor's. (2006a). *SchoolMatters*. Retrieved March 29th, 2006, from www.schoolmatters.com
- Standard & Poor's. (2006b). *SchoolMatters*. Retrieved March 29th, 2006, from www.schoolmatters.com
- Standard & Poors. (2002). [Central] *School District Report*. Retrieved April 17, 2006, 2006, from http://www.ses.standardandpoors.com/pdf/suffix_reveals_district
- Stein, M. K., & Nelson, B. (2003). Leadership content knowledge. *Educational Evaluation and Policy Analysis*, 25(4), 423-448.
- Sternberg, R. J. (1990). *Metaphors of mind: Conceptions of the nature of intelligence*. New York: Cambridge University Press.
- Sternberg, R. J. (1996). What should we ask about intelligence. *The American Scholar*, 65(2).
- Sternberg, R. J. (1999). The g factor: The science of mental ability (Review). *Personnel Psychology*, 52(2), 471-476.
- Sternberg, R. J., Conway, B. E., Keton, J. L., & Bernstein, M. (1981). People's conceptions of intelligence. *Journal of Personality and Social Psychology*, 41(1), 37-55.
- Stevenson, H. W., & Stigler, J. W. (1992). *The learning gap: Why our schools are failing and what we can learn from Japanese and Chinese education*. New York: Summit Books.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: SAGE Publications, Inc.
- Terman, L. (Ed.). (1923). *Intelligence tests and school reorganization*. Yonkers-on-Hudson, NY: World Book Company.
- Thompson, A. G. (1992). Teachers' beliefs and conceptions: A synthesis of the research. In D. A. Grouws (Ed.), *Handbook of research on mathematics teaching and learning* (pp. 127-146.). New York: Macmillan.
- Turkheimer, E., Haley, A., Waldron, M., D'Onofrio, B., & Gottesman, I. (2003). Socioeconomic status modifies heritability of IQ in young children. *Psychological Science*, 14(6), 623-628.
- Tyack, D. (1974). *The One Best System: A history of American urban education*. Cambridge: Harvard University Press.
- Tyack, D., & Cuban, L. (1995). *Tinkering toward utopia: A century of public school reform*. Cambridge: Harvard University Press.
- Valenzuela, A. (1999). *Subtractive Schooling*. New York: State University of New York.
- Wagner, R. K., & Sternberg, R. J. (1984). Alternative conceptions of intelligence and their implications for education. *Review of Educational Research*, 54(2), 179-223.
- Weber, M. (1946). The rationalization of education and training. In M. Weber (Ed.), (pp. 16-19). Cambridge, UK: Oxford University Press.
- Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, 21(1), 1-19.
- Weick, K. E. (1995). *Sensemaking in organizations*. Thousand Oaks: Sage Publications.

- Weiss, C. H. (1983). Ideology, interests, and information: The basis of policy decisions. In D. Callahan & B. Jennings (Eds.), *Ethics, the social sciences, and policy analysis* (pp. 213-245). New York: Plenum Press.
- Willis, P. (1977). *Learning to labor: How working class kids get working class jobs*. Farnborough, UK: Saxon House.
- Woodcock, R. (2002). New looks in the assessment of cognitive ability. *Peabody Journal of Education*, 77(2), 6-22.
- Wrigley, J. (1982). *Class, politics, and public schools: Chicago, 1900-1950*. New Brunswick: Rutgers University Press.
- Yanow, D. (2000). *Conducting interpretive policy analysis* (Vol. 47). Thousand Oaks, CA: Sage.
- Zohar, A., Degani, A., & Vaaknin, E. (2001). Teachers' beliefs about low-achieving students and higher order thinking. *Teaching and Teacher Education*, 17, 469-485.
- Zollman, A., & Mason, E. (1992). The standards beliefs instrument (SBI): Teachers' beliefs about the NCTM standards. *School Science and Mathematics*, 92(7), 359-364.

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The George Washington University, B.A., Political Science, Washington, DC, 1991. Also elected to take Emergency Medical Technician training, 1990.

Awards and Accolades

2005-6 Alumni Society Graduate Student Research Initiation Grant.

2004 Graduate Assistant Outstanding Teaching Award.

2004 Andrew V. Kozak Fellowship, for promising Research Assistants.

2004 selected into Who's Who Among American Teachers.

2002 Lavanda Muller Fellowship, university-wide fellowship for promising graduate students.

Publications and Presentations

"A Developmental Neuroscience Approach to the Study of School Readiness," Clancy Blair, Hilary Knipe, Eric Cummings, David Baker, David Gamson, Paul Eslinger, and Steven Thorne, in *School Readiness, Early Learning, and the Transition to Kindergarten* (Pianta, R., ed., in press). Expected publication in December 2006.

"The influence of learning theory on the mathematics curriculum of the United States during the twentieth century." Annual Meeting of the American Educational Research Association, San Francisco, April 2006.

"The Ethical Burden of Conflicting Conceptions of Intelligence for School Administrators." Ethics in Education Conference, Barbados, October 2004.

"Popular American Conceptions of Intelligence from 1900-1925 and How They Influenced the Reception of Intelligence Testing in Schools." History of Education Society Conference, Pittsburgh, PA. November 2002.

Professional Experience

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