

Running head: PERCEPTIONS

**Teachers' Perceptions of NCLB:
A Multi-Year Study**

Sarah L. Hagge and Kris Waltman

Center for Evaluation and Assessment
The University of Iowa

Paper presented at the annual meeting for the
Iowa Educational Research and Evaluation Association, November 2007

Abstract

The goal of accountability policies, such as *No Child Left Behind* (NCLB), is to improve educational outcomes for students. However, previous research suggests that negative, unintended consequences may be more prevalent than the intended outcomes. This study was conducted to understand teachers' perceptions of the impact of NCLB in four areas: aspects of education, pressure to increase test scores, school focus on increasing test scores versus improving overall student learning, and extent of narrowing and/or refocusing of curriculum and instruction. Perceptions of teachers of core subject areas in elementary and MS/HS schools were examined during two study periods (2004-05 and 2006-07). Descriptive and inferential statistics were used to describe how teachers perceived the impact of actions in response to NCLB and to examine how teachers' perceptions evolved over the course of the two study periods. The results of this study indicate that teachers perceive both positive and negative impacts, with perceptions appearing to have improved from the 2004-05 study period to the 2006-07 study period. These findings have a number of practical implications as well as implications for future research.

This work was supported by the Iowa Department of Education (DE). The authors take full responsibility for the work and no endorsement from the Iowa DE should be assumed.

Teachers' Perceptions of NCLB: A Multi-Year Study

Introduction

Although the intended goal of accountability in the educational system is to improve educational outcomes for students, debates exist over whether accountability movements have led to positive responses. Among the concerns addressed in the literature are the impact on curriculum and instruction, attention to and resources for students, and educational climate. This study examines the perceptions of teachers within two representative samples of schools in the state of Iowa—one in 2004-05 and another in 2006-07. Teachers within each sample responded to questionnaires that asked them to report their perceptions of instructional practices and educational climate. The purpose of this study is to describe teachers' perceptions of the influence of educational accountability and examine how these perceptions have evolved over time.

Background

In the past, most elementary and secondary testing programs were used primarily for monitoring student performance. However, current accountability programs, such as *No Child Left Behind* (NCLB, 2002), have significantly changed the way scores from these testing programs are being used. As discussed by Kane (2006), adopting high-stakes tests for policy implementation can have a substantial impact on the individuals who use them. In order to evaluate testing programs (e.g., NCLB) and decisions based on testing programs, it is necessary to consider both the intended and unintended consequences. The body of literature on the impact of NCLB is extensive, yet the verdict is still out on its effectiveness as a catalyst for improving educational opportunities for all students. Although additional research is still needed, mixed opinions and empirical results in the literature suggest the impact of actions in response to NCLB may depend on a variety of factors, such as different populations of students or educators, different assessment contexts (e.g., implementation of new assessments, changes in stakes to existing assessments, etc.), or different time frames.

Impact on aspects of education. Considerable literature has focused on the impact of high-stakes accountability systems, such as NCLB, on various types of instructional practices. Included in the research on instructional practices is an investigation of the amount of time spent on tested and non-tested content areas, distribution of attention and resources to different types

PERCEPTIONS

of students, and use of various methods of instruction. In a discussion of things that might go wrong with NCLB, two of the possible negative consequences Goldhaber (2002) identified were increased focus on tested content or format and increased focus on certain students. In contrast, Cizek (2001) suggested positive consequences that might result from NCLB, including increased educational choice and improved learning for all students.

Burroughs, Groce, and Webeck (2005) examined the impact of testing and NCLB on the amount of time spent on social studies instruction in North Carolina, Texas, and Mississippi. Teachers in North Carolina indicated that time spent on social studies was reduced to focus on tested subject areas. In Texas, teachers noted that students arriving in middle school had weak social studies skills. However, since the addition of social studies to the Texas Assessment of Knowledge and Skills (TAKS), the focus on social studies had increased. In Mississippi, of the ten high school teachers in the study, eight expressed concern that social studies was being neglected and feared that students would not value the subject. Teachers also reported that standardized assessment dictated not only what was taught, but how it was taught. In a multi-year study by Hamilton et al. (2007), elementary and middle school teachers in California, Georgia, and Pennsylvania provided their opinions about the impact of state assessment systems. One of the most frequently cited impacts was a lack of time for non-tested content. Teachers perceived steady increases in instructional time in math and English/Language Arts (ELA), which resulted in less time for creative activities. In Washington, fourth-grade teachers spent two-thirds of the total amount of instructional time on the four subjects tested on the WASL (Stecher & Chun, 2001). In a survey of 249 general education teachers, special education teachers, and school psychologists in 99 urban, suburban, and rural schools, Christenson, Decker, Triezenberg, Ysseldyke, and Reschly (2007) found that only six percent of teachers of general education areas reported an increase in teaching of content in non-tested areas whereas 62% perceived an increase in instructional time allocated to reading instruction. Even prior to NCLB, Smith, Edelsky, Draper, Rotenberg, and Cherland (1991) suggested that non-tested content would be neglected when the focus of instruction was on tests.

Increased attention to low performing students at the expense of other students has also been addressed as a concern. Pedulla et al. (2003) suggested that teachers focused their attention on students who were close to the line of proficiency. In a study of 10 elementary and middle school teachers in four districts in Colorado, Mendoza (2006) found that teachers were

PERCEPTIONS

concerned gifted students were being overlooked and left to work independently. Half of the teachers were somewhat pessimistic that gifted education would worsen in the future. However, 20% remained somewhat optimistic it would improve. Christenson et al. (2007) found that approximately 80% of general education teachers reported an increase in efforts to accelerate learning of low performing students. However, there was no indication whether this increased effort resulted in decreased time for higher achieving students. Despite the evidence suggesting lower achieving students receive all of the attention, in a survey of urban schools in ten states, educators were ultimately concerned that their students achieved at high levels, despite pressure to make Adequate Yearly Progress (AYP) (Perkins, 2007).

Although a number of negative consequences have been cited in the literature, positive instructional practices have also been recognized. Christenson et al. (2007) found that 61% of general education teachers reported high-stakes assessment positively influenced what and how students were taught. Seventy-four percent of general education teachers indicated an increase in tasks emphasizing higher-order-thinking skills. Approximately 65% indicated increases in alternative teaching strategies and in teachers' knowledge and skill for teaching diverse groups of students. Increased efforts to improve school programming were reported by 85% of teachers. Other studies also found teachers were using a number of positive instructional practices more frequently than in previous years, with the largest increases seen in the use of data to inform instruction and practices related to individualized instruction (Hamilton et al., 2007; Rentner et al., 2006).

School climate. Studies investigating the impact of NCLB on school climate have commonly focused on pressure to increase test scores and faculty morale. For example, teachers in Mississippi, New Jersey, Washington, and Massachusetts have all reported feeling pressure to increase student test scores (Burroughs et al., 2005; Firestone et al., 2002; Stecher & Chun, 2001; Koretz & Hamilton, 2003). One view expressed in the literature is that pressure to increase test scores is not limited to one source, but can originate from a number of different sources (e.g., general public, district administrators, teachers themselves). Elementary teachers surveyed in one public suburban and one public urban school felt pressure to increase test scores because scores were published for the public to see and judge (Bickham, Burns, & Monahan, 2001). Additionally, 85% of teachers felt personally responsible for student performance on tests. Teachers in the study by Hamilton et al. (2007) also noted high pressure on students to perform.

PERCEPTIONS

Abrams, Pedulla, and Madaus (2003) found that teachers who reported pressure from administrators to increase test scores not only spent more time on test-preparation activities, but also worked in school buildings with overall low teacher morale. In Iowa, pressure to increase test scores was related to changes in instruction, use of questionable test-preparation practices, and perceptions of decreased faculty morale (Moore & Waltman, 2006). In two multi-year studies, decreased morale was commonly cited as an impact of NCLB (Rentner et al., 2006; Hamilton et al., 2007).

Curriculum narrowing and/or refocusing. Alignment between standards, curriculum or instruction, and assessments is critical to accountability systems (Herman, 2005). When implemented properly, alignment leads to a curriculum and an assessment system that match the standards deemed most important for student learning. When these three aspects align, information from assessments can be used to identify specific areas of the curriculum that are most difficult for students. However, when alignment is improperly implemented, instruction may shift, possibly resulting in a process that has been defined as “reallocation” by Koretz and Hamilton (2003). Herman (2005) found that the focus of alignment may not be on the curriculum standards, but rather on the specific content and format of the test. In some cases, this type of “alignment” can lead to a narrowing of the curriculum (Shepard and Dougherty, 1991) and score inflation (Stecher, 2002). Prior to NCLB, Herman and Golan (1993) found that over half of the teachers in their study thoroughly reviewed test items in order to ensure test content was covered. Additionally, nearly all of the teachers spent at least one week reviewing content prior to testing. Christenson et al. (2007) also found that 65% of general education teachers thought “teaching to the test” had increased and 56% believed narrowing of the curriculum had increased.

Although much is known about the impact of NCLB, what is unknown is the extent to which these consequences evolve over time when the perceptions of all school professionals are considered. Studies by Hamilton et al. (2007) and Renter (2006) are two multi-year studies examining the impact of NCLB; however, multi-year studies are not prevalent in the literature. This study adds to current literature by providing a description of the perceived impacts of NCLB. Additionally, it extends current research by considering the impacts of NCLB over time by comparing teachers’ current perceptions to perceptions earlier in the implementation of NCLB.

PERCEPTIONS

Purpose of the Study

The purpose of this multi-year study was to investigate the impact of actions in response to NCLB as perceived by Iowa teachers over the course of two non-consecutive academic years. Specifically, this study addressed the following questions:

1. During 2004–2005, what were the perceptions of teachers regarding how actions in response to NCLB had impacted instructional practices, allocation of resources, and educational climate? How did teachers' perceptions compare across different types of schools (i.e., different grade-level configurations)?
2. During 2006–2007, what were the perceptions of teachers regarding how actions in response to NCLB had impacted instructional practices, allocation of resources, and educational climate? How did teachers' perceptions compare across different types of schools?
3. In what ways did the perceptions of teachers regarding how actions in response to NCLB had impacted instructional practices, allocation of resources, and educational climate evolve during the two years spanning 2004–2005 and 2006–2007?

Context of the Study

Historically, the *Iowa Tests of Basic Skills (ITBS)* and *Iowa Tests of Educational Development (ITED)* have been used voluntarily by Iowa schools primarily to obtain information for supporting instructional decisions. In nearly every Iowa school, “stakes” associated with outcomes of administering the *ITBS* and *ITED* were low—for students, teachers, and administrators. The low-stakes context no longer exists for Iowa as the stakes associated with the use of these tests have been incrementally increased as a result of the national accountability movement, which resulted in the passing of state and federal legislation (1994 *Elementary and Secondary Education Act*, Chapter 12 of the *Iowa Code*, and the 2002 *No Child Left Behind Act*). “Consequences” are now attached to achievement test scores and although the use of the *ITBS* and *ITED* are not specifically mandated via state legislation, it is the *expectation* that all districts administer the *ITBS* and *ITED* in order to comply with the Iowa accountability plan for NCLB—and all districts do.

It is important to note that although Iowa schools have a common measure by which to evaluate student achievement (i.e., the *ITBS/ITED*), currently there is not a common set of standards or curricula that must be followed by each school. Instead of having state mandated

PERCEPTIONS

standards and curricula, each school district has been given the authority to determine how best to serve its students. In the context of this local control, establishing the extent of alignment between standards and accountability measures—a requirement of NCLB—had to be completed separately for each of the roughly 370 school districts during the 2002-03 academic year. To accomplish this requirement, training was provided to educators from each school district for formally checking the alignment between its content standards and assessment system using a common set of criteria to evaluate the sufficiency of this alignment. (For details on this training see <http://www.education.uiowa.edu/cea/itap/>.) One required outcome of this alignment-checking process was evidence that—at a minimum—a district’s standards and benchmarks incorporated the content and skill areas covered by the *ITBS/ITED* in the areas of reading and math.

Although most districts used the alignment checking procedure modeled during this training, they differed greatly in terms of the extent of teacher involvement in the process. For example, some schools had all teachers participate in checking alignment, whereas in other districts, only school administrators were involved with the process. However, prior to this “formal” alignment checking training, teachers were long encouraged to review the content and skills measured by the *ITBS/ITED* so as to use assessment data in instructional decision making (i.e., the primary purpose of these achievement test batteries). Given these opportunities, teachers have been provided with ample exposure to the content and skills measured by the assessment used for school-level accountability purposes—more exposure than that afforded to teachers in most, if not all, other states.

Method

Samples

For both the 2004-05 and 2006-07 study periods, a representative sample of Iowa public schools (serving grades 4, 8, and/or 11) was selected for participation in this study by utilizing a stratified random sampling scheme to take into consideration both the size of the school and the overall level of achievement of students within the school. To classify all Iowa public schools according to size (excluding those schools serving exclusively special student populations), data obtained from the Basic Educational Data Survey (BEDS) was used to determine the smallest 25% of schools, the middle 50% of schools, and the largest 25% of schools based on the number of students enrolled at grades 4, 8, or 11 the previous year. The overall achievement level of each

PERCEPTIONS

school was defined using its prior year's performance on the *Iowa Tests of Basic Skills* or *Iowa Tests of Educational Development (ITBS/ITED)*. Median percentile ranks based on national student norms (NPRs) corresponding to the *Core Total (CT)* score were computed for each grade level in the school that took the *ITBS/ITED*. (The CT is a composite score based on the Reading, Language, and Mathematics tests.) A median CT score was then calculated for each school based on all relevant grade ranges within the school that took the *ITBS/ITED* during the prior academic year. The schools were then rank ordered based on these median CT scores. The lowest 25% of schools were classified as "low," the middle 50% of schools were classified as "moderate," and the highest 25% of schools were classified as "high." The sampling procedure involved randomly selecting schools within each of the nine cells (three levels of achievement by three levels of size) and then contacting the school to determine its willingness to participate in the study. Random selection within each cell was repeated until the required number of schools was obtained. (A small number of schools were lost each year due to attrition.)

It should be noted that the sampling procedure outlined above involved sampling schools—not teachers. Because teachers within a particular school are not independent, "schools" have been treated as the primary unit of analysis. The final sample included 131 schools in 2004-05 and 89 schools in 2006-07, representing school participation rates of 63% and 73%, respectively. A description of how the final samples of schools compared to the total population of Iowa public schools can be found in Table 1. The table has been separated by school configuration (i.e., elementary, middle, and high schools), with the middle- and high-school samples containing 22 schools in common during 2004-05 and 18 schools during 2006-07 because teachers within these schools teach students at both the middle- and high-school levels. The samples of schools were very similar to all Iowa public schools in the respective years in terms of socio-economic status (as measured by percent eligibility for free or reduced-price lunch), grade-level enrollment, and overall achievement (as measured by the median CT). The only exception is that for the middle- and high-school samples, the enrollment of schools in the sample was slightly smaller than in the population during the 2006-07 academic year.

PERCEPTIONS

Table 1.
Representativeness of the Sample of Participating Schools

| School Sample | Characteristics | Study Period | |
|--------------------|-----------------------------|-----------------|-----------------|
| | | 2004-05 | 2006-07 |
| Elementary Schools | Number of Schools | | |
| | Sample | 49 | 31 |
| | Population | 691 | 669 |
| | Median % Fr/Red Lunch Elig. | | |
| | Sample | 26.6 | 32.7 |
| | Population | 32.1 | 34.3 |
| | Median Grade 4 Enrollment | | |
| | Sample | 50.0 | 43 |
| | Population | 47.0 | 47 |
| | Median CT (NPR) | | |
| Sample | 70.0 | 69.3 | |
| Population | 67.0 | 68.3 | |
| Middle Schools | Number of Schools | | |
| | Sample | 54 ^b | 39 ^b |
| | Population | 388 | 382 |
| | Median % Fr/Red Lunch Elig. | | |
| | Sample | 25.7 | 30.8 |
| | Population | 27.4 | 29.4 |
| | Median Grade 8 Enrollment | | |
| | Sample | 63.5 | 56 |
| | Population | 63.0 | 63 |
| | Median CT (NPR) | | |
| Sample | 60.0 | 62.5 | |
| Population | 61.0 | 63.0 | |
| High Schools | Number of Schools | | |
| | Sample ^b | 50 | 37 |
| | Population | 361 | 355 |
| | Median % Fr/Red Lunch Elig. | | |
| | Sample | 22.9 | 26.0 |
| | Population | 22.5 | 24.3 |
| | Median Grade 11 Enrollment | | |
| | Sample | 61.0 | 53 |
| | Population | 60.0 | 64 |
| | Median CT (NPR) | | |
| Sample | 64.2 | 60.3 | |
| Population | 64.0 | 63.8 | |

^a Twenty-two schools are in both the Middle- and High-School Samples for 2004-05

^b Eighteen schools are in both the Middle- and High-School Samples for 2006-07

Schools were sampled in such a way as to obtain representative numbers of schools serving generally low-, moderate-, and high-achieving students. Due to the blending of middle- and high-schools, the fluctuation of a school's achievement level across years (i.e., the field test

PERCEPTIONS

year versus the prior year, when schools were sampled), and the loss of a small number of schools due to attrition, the intended 1:2:1 ratio for low:moderate:high achieving schools no longer holds for three distinct school configurations (i.e., elementary-, middle- and high-schools). Instead, the distribution of schools across achievement levels varies by school configuration, as depicted in Table 2.

Table 2.
Number of Schools By Achievement Level within School Configuration

| School Configuration | 2004-05 | | | | 2006-07 | | | |
|----------------------|--------------------------|----------|------|-------|--------------------------|----------|------|-------|
| | School Achievement Level | | | Total | School Achievement Level | | | Total |
| | Low | Moderate | High | | Low | Moderate | High | |
| Elementary | 9 | 27 | 13 | 49 | 5 | 21 | 5 | 31 |
| MS | 4 | 20 | 8 | 32 | 5 | 11 | 5 | 21 |
| MS & HS | 6 | 11 | 5 | 22 | 4 | 13 | 1 | 18 |
| HS | 4 | 16 | 8 | 28 | 6 | 7 | 6 | 19 |
| Total | 23 | 74 | 34 | 131 | 20 | 52 | 17 | 89 |

Given that there were four distinct types of grade-level configurations represented in the samples, it was necessary to decide if any of these groups of schools could be pooled together for the analyses. This determination was guided by both theoretical considerations and statistical comparisons. At the elementary level, there were sufficient theoretical grounds for treating these schools separately. Factors included in this justification included the following: 1) elementary teachers are more likely to teach multiple subject areas, whereas middle and/or high school teachers are more likely to teach a single subject area; 2) elementary schools are more likely to receive Title I funding than middle and/or high schools; and 3) elementary teachers have historically been more likely than middle and/or high schools to use the *ITBS (ITED)* data for improving instruction due to grade-level and/or curricular differences. Unlike the elementary sample, there were no compelling factors, other than school size, that distinguished the remaining three types of schools (i.e., MS, MS & HS, HS). Thus, teacher responses to sections of the questionnaire related to school climate and curricular changes were examined and compared across the three groups of schools (Stevenson & Waltman, 2006). Because these comparisons yielded no statistically significant differences ($\alpha = .05$), the three groups of schools have been pooled together to form a single group representing middle and/or high schools (i.e., MS/HS).

Within each school, all teachers were asked to complete questionnaires regardless of teaching assignment or position. From these two samples of schools, completed questionnaires

PERCEPTIONS

were received from approximately 3,800 teachers in 2004-05 and 2,400 teachers in 2006-07. The median percentage of teachers within a school who returned completed questionnaires was 94% and 97%, respectively, for 2004-05 and 2006-07. The school-level teacher response rates varied; however, from 58% to 100% for each sample. These high response rates were most likely due to the fact that teachers and administrators were aware that if at least 90% of the teachers in their school submitted completed questionnaires their school would receive compensation for participating in the research study.

For this study, only teachers from core subject areas (i.e., ELA, math, science, and social studies) and non-primary grades (grades 3 through 12) were included in the analyses. (The perceptions of other types of teachers will be included in a future paper.) A description of how the sample of teachers was distributed across subject areas and years of experience has been summarized in Table 3, with the middle-school and high-school samples combined because of the schools that contain teachers responsible for students at both levels. As can be seen by examining the data for 2004-05 and 2006-07, although the sample of teachers was smaller in 2006-07, both years are similar in terms of subject areas taught and years of experience.

PERCEPTIONS

Table 3.
Description of Core Teachers

| School Sample | Subject Areas & Experience | 2004-05 | | 2006-07 | |
|---------------|----------------------------------|---------|-------|---------|-----|
| | | N | % | N | % |
| Elementary | Subject Area Taught ^a | | | | |
| | ELA | 286 | 96 | 238 | 96 |
| | Math | 267 | 89 | 211 | 85 |
| | Science | 214 | 72 | 186 | 75 |
| | Social Studies | 221 | 74 | 190 | 77 |
| | Years Experience ^b | | | | |
| | 1 to 5 | 41 | 14 | 33 | 13 |
| | 6 to 10 | 61 | 20 | 52 | 21 |
| | 11 to 20 | 85 | 28 | 68 | 27 |
| | 21 to 30 | 74 | 25 | 62 | 25 |
| | > 30 | 37 | 12 | 33 | 13 |
| | Total # of Teachers | | 299 | | 248 |
| Middle/High | Subject Area Taught ^a | | | | |
| | ELA | 358 | 34 | 280 | 36 |
| | Math | 289 | 28 | 202 | 26 |
| | Science | 264 | 25 | 188 | 24 |
| | Social Studies | 254 | 24 | 213 | 27 |
| | Years Experience ^b | | | | |
| | 1 to 5 | 213 | 21 | 178 | 23 |
| | 6 to 10 | 170 | 16 | 150 | 19 |
| | 11 to 20 | 280 | 27 | 192 | 24 |
| | 21 to 30 | 233 | 22 | 130 | 17 |
| | > 30 | 128 | 12 | 132 | 17 |
| | Total # of Teachers | | 1,039 | | 784 |

^a Some teachers teach multiple subject areas, thus the percentages do not sum to 100%.

^b Percentages do not sum to 100% due to missing values: 1 elementary and 15 MS/HS in 2004-05, and 2 MS/HS in 2006-07

Instrument Development and Data Collection

Two questionnaires were developed—one for 2004-05 and one for 2006-07. The development of the questionnaires was based on information from a thorough review of the related literature as well as collaboration with the Iowa DE. During questionnaire construction, care was taken to refrain from using jargon in the hopes of increasing teachers’ understanding of the questions. To check readability, the questionnaire was piloted with a small group of teachers and reviews were solicited from several measurement specialists. The full questionnaire contained questions organized by the following five sections: 1) teacher background information, 2) instructional practices, 3) testing practices, 4) professional development and resources, and 5) perceptions regarding the impact of NCLB. Results from the questionnaires administered during

PERCEPTIONS

the 2004–2005 academic year were then used to make small modifications to the questionnaires developed for 2006–2007.

The current study focuses on teachers' responses to the last section of the questionnaire: perceptions regarding the impact of NCLB. Specifically, this study examines four subsections: 1) changes to aspects of education, 2) school focus on increasing test scores or improving overall learning, 3) pressure to increase test scores, and 4) extent of narrowing and/or refocusing of curriculum and instruction. The first three subsections under investigation were included on the questionnaires administered in both study periods (i.e., 2004-05 and 2006-07). The last subsection is unique to the 2006-07 questionnaires. A copy of the specific questions being used for this study can be found in Appendix A.

Teachers completed the questionnaire shortly after administering the *ITBS/ITED* so that they could more easily recall the types of activities used with their students in preparation for taking these tests. (Schools decide locally when the tests will be administered. Thus, the tests are administered as early as October in some schools and as late as April in other schools.) The typical amount of time needed to complete the questionnaire was 30 minutes. Once a teacher completed the questionnaire, it was sealed in an envelope and returned to the building administrator (who returned the complete set) or mailed directly to the researchers. Responses to each questionnaire were entered into a database. Each response was then verified by two people for accuracy.

Analyses

For both the elementary and MS/HS samples, results have been analyzed based on the *school* as the unit of analysis because responses from teachers within a particular school are not independent. For example, a school's climate is likely to directly impact the extent of pressure a teacher might feel to increase the scores of his or her students. Additionally, many schools have promoted the use of building-wide initiatives in response to NCLB. Therefore, the *school* was used as the primary unit of analysis instead of the *teacher*. The purposes of the analyses were to describe what was occurring during 2004-05 (the baseline year of data collection), describe teachers' perceptions two years later during 2006-07, and make comparisons between the two study periods in order to determine how teachers' perceptions have changed.

Description of perceptions. Because analyses were based on the school as the unit of analysis, all analyses were first conducted at the school-level before aggregating across schools.

PERCEPTIONS

First, the percentage of teachers in each school reporting a given response to each question was calculated. For example, as shown in Appendix A, the first subsection pertains to teachers' beliefs about how aspects of education have changed. Each question has four response options: increased, decreased, no change, and don't know. A percentage was calculated for each aspect and response option for every school individually (e.g., percentage of teachers who said increased *quality of education*, percentage of teachers who said decreased *quality of education*). Then, the median percentage across all schools in each sample (i.e., elementary and MS/HS) as well as the range of percentages were calculated and reported in order to compare the frequency with which different perceptions were held. The same procedure was used for the other subsections of the questionnaires. In addition to the school-level analyses, descriptive analyses were conducted using the teacher as the unit of analysis in order to determine whether teachers attributed the changes in aspects of education to NCLB. Of the teachers who reported a perceived increase or decrease in a given aspect of education, the percentage of all core teachers attributing that change to NCLB was calculated.

The only difference between the analyses for the two study periods was in regard to the additional subsection on the 2006-07 questionnaire. This subsection first asked teachers the extent to which they believed NCLB had resulted in a narrowing and/or refocusing of curriculum and instruction. As described previously, median school-level percentages were calculated for each of the four response categories of this question. Analyses using the teacher as the unit of analysis were conducted for the second question in this section. Specifically, of those teachers who perceived a narrowing and/or refocusing "to a great extent" or "somewhat," the percentage of teachers who believed this change to be positive (primarily or mostly), negative (primarily or mostly), or balanced was calculated.

Comparison of samples. The second type of analyses used inferential statistics to determine whether any differences between the school samples (i.e., elementary and MS/HS) and study periods (i.e., 2004-05 and 2006-07) were statistically significant. For the set of questions pertaining to perceptions of changes to aspects of education, an overall rating was created for each aspect to combine all of the response options into a single score. The four response options were combined into a single score by assigning a numerical value to each response as follows: increase = +1.00, decrease = -1.00, and no change and don't know = 0. An average rating was calculated for each school by summing the responses from all of the teachers

PERCEPTIONS

in the school and dividing by the total number of teachers. No change and don't know received the same value because the difference between these two categories is conceptually indistinguishable. Conceptually, a response of don't know indicates there is not enough evidence to justify a response of increase or decrease. Hence, to the best of the teachers' knowledge, the aspect has not changed.

A two-sample Wilcoxon test (also known as Mann-Whitney) was conducted for each of the questions to make the following four types of comparisons: 1) elementary versus MS/HS in 2004-05, 2) elementary versus MS/HS in 2006-07, 3) elementary 2004-05 versus 2006-07, and 4) MS/HS 2004-05 versus 2006-07. Using the overall rating, sixteen tests (one for each aspect of education) were conducted for perceptions of aspects of education. Seven tests (one for each source of pressure) were conducted for perceptions of pressure to increase test scores using the percentage of teachers within a given school perceiving a lot of pressure to increase test scores. A Bonferroni correction was used to adjust the alpha level of each individual test. In order to provide a conservative test of significance (so as not to exaggerate differences), the experiment-wise alpha level of .05 was divided by 16 and seven, respectively, for changes to aspects of education and pressure to increase scores.

The Wilcoxon non-parametric approach to a t-test was chosen because of concerns about the normality of the distributions and concerns about the stability of the percentages, as the population of teachers in some schools was small. Wilcoxon tests for differences in the locations of two distributions. Based on the entire sample of schools (elementary combined with MS/HS), the value for each school received a rank. If the ranks of one school were lower than the ranks of the other schools, the Wilcoxon test would have determined that there was a significant difference.

Results

The results are presented in four sections. Perceived changes to aspects of education are presented first, followed by perceptions of pressure to increase test scores, school focus on increasing test scores versus improving overall student learning, and extent of narrowing and/or refocusing of the curriculum. In each section, teachers' perceptions from both sample years are described, and comparisons between school samples and study periods are made.

PERCEPTIONS

Perceptions of Change to Aspects of Education

Description of perceptions in 2004-05. Teachers were asked to indicate how they perceived 16 different aspects of education to have changed within the past two academic years by choosing one of four response options: increase, decrease, no change, or don't know. The medians and ranges of school-level percentages for each of the four response options are reported in Tables 4 and 5, respectively, for the elementary and MS/HS samples. The 16 aspects are presented in order from the educational aspect most often identified as increasing to the aspect most often identified as decreasing. The order also takes into consideration the overall rating of change created for each variable. Aspects have been grouped, as indicated by the horizontal lines in the tables, in order to identify those aspects of education that teachers appear to perceive as having changed in a somewhat similar manner.

As can be seen in the first column of data in Table 4, the three aspects of education teachers in the typical elementary school most often indicated had increased were *use of data to inform instruction*, *attention to low performing students*, and *professional development opportunities* (75%, 67%, and 60%, respectively). The next group of aspects are factors that teachers still generally believed had increased but to a lesser extent than the first group of aspects. The last row of the table, *faculty morale*, is the aspect for which the greatest percentage of teachers in the typical elementary school indicated a decrease (80%). Teachers also tended to perceive a decrease in *field trips*, *public regard for the teaching profession*, and *instruction in areas other than reading, math, or science* (approximately 45%). The middle group of aspects, beginning with *resources for low students*, includes aspects that teachers perceived as generally remaining the same, with approximately 55% of teachers in the typical school perceiving no change in these aspects.

It is also important to note that although results have been summarized across schools, there was a large amount of variability in the perceptions of teachers across schools. For example, looking at the first row of Table 4 it can be seen that in the typical school, 75% of the teachers believed that there had been an increase in the *use of data to inform instruction*, and that this viewpoint ranged from a low of 0% in one school to a high of 100% in another school. Looking at the last row of Table 4, it can be seen that in the typical school, 0% of teachers perceived an increase in *faculty morale*, but it ranged from a low of 0% to a high of 50%.

PERCEPTIONS

Table 4.
2004-05 School-level Percentage of Elementary Teachers Perceiving a Change in Aspects of Education

| Educational Aspect | Increase | | Same | | Decrease | | DK | |
|---|----------|-------|------|--------|----------|-------|-----|-------|
| | Mdn | Range | Mdn | Range | Mdn | Range | Mdn | Range |
| Use of Data | 75 | 0-100 | 11 | 0-67 | 0 | 0-50 | 0 | 0-50 |
| Attention to Low students | 67 | 0-100 | 29 | 0-100 | 0 | 0-20 | 0 | 0-33 |
| PD opportunities | 60 | 0-100 | 33 | 0-100 | 0 | 0-67 | 0 | 0-50 |
| Teachers leaving profession | 43 | 0-89 | 33 | 0-100 | 0 | 0-14 | 22 | 0-80 |
| Quality of Instruction | 50 | 0-100 | 33 | 0-100 | 0 | 0-50 | 0 | 0-33 |
| HOTS | 40 | 0-100 | 44 | 0-86 | 0 | 0-40 | 0 | 0-40 |
| Resources for low students | 25 | 0-75 | 50 | 0-80 | 0 | 0-33 | 20 | 0-60 |
| Multidisciplinary approaches | 25 | 0-75 | 50 | 0-100 | 0 | 0-50 | 11 | 0-56 |
| Attention to middle students | 22 | 0-88 | 60 | 13-100 | 0 | 0-43 | 0 | 0-33 |
| Attention to high students | 14 | 0-100 | 63 | 0-100 | 13 | 0-67 | 0 | 0-33 |
| Resources for high students | 0 | 0-50 | 60 | 20-100 | 14 | 0-67 | 20 | 0-60 |
| Access to specials/electives | 0 | 0-50 | 57 | 0-100 | 14 | 0-78 | 20 | 0-67 |
| Instruction dedicated to areas other than read, math & sci | 0 | 0-50 | 33 | 0-100 | 50 | 0-100 | 0 | 0-33 |
| Public regard for teaching | 0 | 0-50 | 29 | 0-100 | 44 | 0-100 | 14 | 0-50 |
| Field trips | 0 | 0-50 | 50 | 0-100 | 43 | 0-100 | 0 | 0-33 |
| Faculty morale | 0 | 0-50 | 10 | 0-67 | 80 | 0-100 | 0 | 0-50 |

The school-level percentages for the MS/HS samples, reported in Table 5, have been ordered and grouped the same as for the elementary sample in order to more easily make comparisons between the two samples. However, any differences in percentages between the two samples must be considered with caution, and inferential statistics have been presented later in order to determine whether any differences are statistically significant. As can be seen by comparing the medians in Tables 4 and 5, the trends were similar in the two samples of schools. For example, *use of data*, *attention to low students*, and *professional development opportunities* had the highest percentage of teachers indicating an increase in both samples. *Faculty morale* was also the aspect for which the largest percentage of teachers in the typical school reported a decrease (approximately 80%). Although the trends were similar, they were not strictly the same. For example, although teachers tended to perceive an increase in *higher-order-thinking skills* in the typical elementary school, the majority of teachers in the typical MS/HS tended to perceive

PERCEPTIONS

no change in *higher-order-thinking skills*. A similar difference is evident with a decrease in *instruction in areas other than reading, math, or science* in the fourth group of aspects.

Table 5.
2004-05 School-level Percentage of MS/HS Teachers Perceiving a Change in Aspects of Education

| Educational Aspect | Increase | | Same | | Decrease | | DK | |
|---|----------|--------|------|--------|----------|--------|-----|-------|
| | Mdn | Range | Mdn | Range | Mdn | Range | Mdn | Range |
| Use of Data | 71 | 13-100 | 21 | 0-88 | 0 | 0-9 | 6 | 0-42 |
| Attention to Low students | 70 | 22-100 | 22 | 0-75 | 0 | 0-15 | 0 | 0-50 |
| PD opportunities | 58 | 11-100 | 26 | 0-67 | 6 | 0-50 | 7 | 0-40 |
| Teachers leaving profession | 45 | 0-88 | 33 | 0-73 | 0 | 0-18 | 17 | 0-60 |
| Quality of Instruction | 41 | 0-100 | 41 | 0-100 | 9 | 0-33 | 9 | 0-40 |
| HOTS | 33 | 0-89 | 50 | 0-88 | 6 | 0-43 | 10 | 0-60 |
| Resources for low students | 37 | 0-90 | 33 | 0-100 | 0 | 0-29 | 20 | 0-80 |
| Multidisciplinary approaches | 29 | 0-80 | 50 | 11-100 | 8 | 0-42 | 11 | 0-40 |
| Attention to middle students | 19 | 0-70 | 57 | 20-100 | 15 | 0-51 | 4 | 0-27 |
| Attention to high students | 13 | 0-55 | 54 | 14-100 | 25 | 0-63 | 0 | 0-27 |
| Resources for high students | 5 | 0-36 | 50 | 17-100 | 17 | 0-57 | 20 | 0-80 |
| Access to specials/electives | 7 | 0-64 | 56 | 0-89 | 22 | 0-92 | 11 | 0-60 |
| Instruction dedicated to areas other than read, math & sci | 9 | 0-67 | 49 | 0-100 | 31 | 0-83 | 13 | 0-60 |
| Public regard for teaching | 0 | 0-40 | 38 | 0-83 | 44 | 0-79 | 14 | 0-60 |
| Field trips | 0 | 0-40 | 37 | 0-86 | 46 | 0-100 | 10 | 0-60 |
| Faculty morale | 0 | 0-29 | 13 | 0-64 | 78 | 27-100 | 0 | 0-29 |

When teachers perceived an increase or a decrease in an aspect of education, they also reported whether they attributed the change to NCLB. For the elementary and MS/HS samples, respectively, reported in Tables 6 and 7 are the percentages of teachers, using the teacher as the unit of analysis, attributing a perceived change to NCLB. The first column of data is the overall number of teachers who reported an increase in an aspect and made an attribution. Presented in the next three columns are the percentages of teachers who made each attribution. The same information is provided in the second set of columns for teachers who indicated a decrease.

PERCEPTIONS

Table 6.
2004-05 Percentage of Elementary Teachers
Attributing to NCLB an Increase or Decrease in Aspects of Education

| Aspect of Education | Type of Change | | | | | | | |
|--|----------------|------------------------|----|----|-----------|------------------------|----|----|
| | Increased | | | | Decreased | | | |
| | N | % Attributable to NCLB | | | N | % Attributable to NCLB | | |
| | Yes | No | DK | | Yes | No | DK | |
| Use of Data | 218 | 87 | 7 | 6 | 2 | 0 | 50 | 50 |
| Attention to Low students | 188 | 82 | 11 | 7 | 6 | 83 | 17 | 0 |
| PD opportunities | 173 | 78 | 10 | 12 | 17 | 53 | 29 | 18 |
| Teachers leaving profession | 127 | 86 | 5 | 9 | 2 | 50 | 0 | 50 |
| Quality of Instruction | 133 | 50 | 35 | 16 | 30 | 97 | 3 | 0 |
| HOTS | 118 | 38 | 40 | 22 | 20 | 100 | 0 | 0 |
| Resources for low students | 91 | 87 | 4 | 9 | 16 | 63 | 19 | 19 |
| Multidisciplinary approaches | 77 | 36 | 47 | 17 | 29 | 97 | 0 | 3 |
| Attention to middle students | 63 | 70 | 19 | 11 | 33 | 85 | 9 | 6 |
| Attention to high students | 46 | 37 | 41 | 22 | 54 | 89 | 7 | 4 |
| Resources for high students | 12 | 58 | 17 | 25 | 45 | 82 | 4 | 13 |
| Access to specials/electives | 8 | 63 | 25 | 13 | 56 | 75 | 13 | 13 |
| Instruction dedicated to areas other than read, math & sci | 23 | 52 | 26 | 22 | 148 | 94 | 3 | 3 |
| Public regard for teaching | 18 | 56 | 22 | 22 | 129 | 76 | 9 | 15 |
| Field trips | 7 | 29 | 57 | 14 | 126 | 57 | 29 | 13 |
| Faculty morale | 19 | 32 | 37 | 32 | 209 | 95 | 2 | 3 |

Note. N = Number of teachers indicating a change and making an attribution.

In the elementary sample, approximately 80% of teachers attributed increases in *use of data*, *attention to low students*, and *professional development opportunities* to NCLB, as reported in the first grouping in Table 6. Teachers were less likely to attribute increases in *quality of instruction* (50%) and *higher-order-thinking skills* (38%) to NCLB. Conversely, as shown in the set of columns for decrease, approximately 95% of teachers attributed decreases in *faculty morale* and *instructional time on areas other than reading, math, or science* to NCLB. Only 57% also attributed a decrease in *field trips* to NCLB. Similar trends can be seen in Table 7 for the MS/HS sample. One noteworthy difference, however, is that at this level only 36% of the teachers attributed an increase in *quality of instruction* to NCLB.

PERCEPTIONS

Table 7.
2004-05 Percentage of MS/HS Teachers
Attributing to NCLB an Increase or Decrease in Aspects of Education

| Aspect of Education | Type of Change | | | | | | | |
|--|----------------|------------------------|----|----|-----------|------------------------|----|----|
| | Increased | | | | Decreased | | | |
| | N | % Attributable to NCLB | | | N | % Attributable to NCLB | | |
| | Yes | No | DK | | Yes | No | DK | |
| Use of Data | 663 | 85 | 8 | 7 | 9 | 67 | 22 | 11 |
| Attention to Low students | 702 | 81 | 12 | 7 | 12 | 67 | 25 | 8 |
| PD opportunities | 507 | 76 | 12 | 12 | 106 | 58 | 27 | 15 |
| Teachers leaving profession | 471 | 78 | 9 | 13 | 11 | 36 | 55 | 9 |
| Quality of Instruction | 387 | 36 | 47 | 17 | 123 | 80 | 14 | 6 |
| HOTS | 339 | 29 | 57 | 15 | 100 | 84 | 10 | 6 |
| Resources for low students | 405 | 85 | 6 | 9 | 44 | 61 | 11 | 27 |
| Multidisciplinary approaches | 273 | 40 | 44 | 16 | 117 | 82 | 12 | 6 |
| Attention to middle students | 193 | 70 | 21 | 9 | 182 | 85 | 8 | 7 |
| Attention to high students | 137 | 34 | 50 | 16 | 276 | 85 | 7 | 8 |
| Resources for high students | 67 | 30 | 42 | 28 | 221 | 82 | 6 | 11 |
| Access to specials/electives | 82 | 30 | 56 | 13 | 282 | 73 | 16 | 11 |
| Instruction dedicated to areas other than read, math & sci | 99 | 66 | 22 | 12 | 317 | 88 | 4 | 8 |
| Public regard for teaching | 47 | 68 | 21 | 11 | 456 | 76 | 10 | 14 |
| Field trips | 45 | 18 | 64 | 18 | 462 | 47 | 34 | 19 |
| Faculty morale | 41 | 24 | 49 | 27 | 758 | 90 | 5 | 5 |

Note. N = Number of teachers indicating a change and making an attribution.

Description of perceptions in 2006-07. Perceived changes to aspects of education are presented in Tables 8 and 9, respectively, for the elementary and MS/HS samples. They have been ordered the same as in the 2004-05 study period in order to more easily make comparisons across the two time periods. In the second column of data in Table 8, it can be seen that in the typical elementary school during 2006-07, approximately 80% of teachers indicated an increase in *use of data* and *attention to low students*. The next set of aspects are those aspects that teachers generally perceived an increase in, although to a lesser extent than the first group of aspects. However, because the ordering of aspects reflects perceptions of teachers in 2004-05 rather than in 2006-07, a greater percentage of teachers perceived an increase in some of the aspects than others. For example, within this second group of aspects, 67% of teachers in the

PERCEPTIONS

typical school perceived increases in *profession development opportunities* and *quality of instruction*. Only approximately 30% of teachers perceived increases in *teachers leaving the profession* and *resources for low students*. *Faculty morale* was still the aspect for which most teachers indicated a decrease (approximately 70% in the typical school). The third and fourth groups, respectively, are aspects that teachers perceived as remaining the same and decreasing (although to a lesser extent than for *faculty morale*). Similar trends were seen in the MS/HS sample, as shown in Table 9. However, one notable difference is in regard to the second group of aspects. In contrast to the elementary sample, the median percentages among the six aspects are more similar. There was also a large amount of variability across schools in both the elementary and MS/HS samples.

Table 8.
2006-07 School-level Percentage of Elementary Teachers Perceiving a Change in Aspects of Education

| Educational Aspect | Increase | | Same | | Decrease | | DK | |
|--|----------|--------|------|--------|----------|--------|-----|-------|
| | Mdn | Range | Mdn | Range | Mdn | Range | Mdn | Range |
| Use of Data | 86 | 20-100 | 13 | 0-43 | 0 | 0-11 | 0 | 0-40 |
| Attention to Low students | 75 | 20-100 | 14 | 0-71 | 0 | 0-33 | 0 | 0-25 |
| PD opportunities | 67 | 14-100 | 22 | 0-57 | 0 | 0-29 | 0 | 0-25 |
| Teachers leaving profession | 30 | 0-83 | 29 | 0-100 | 0 | 0-17 | 25 | 0-83 |
| Quality of Instruction | 67 | 20-100 | 20 | 0-75 | 0 | 0-25 | 7 | 0-60 |
| HOTS | 50 | 14-100 | 33 | 0-60 | 0 | 0-29 | 0 | 0-60 |
| Resources for low students | 31 | 0-83 | 29 | 0-71 | 0 | 0-25 | 25 | 0-80 |
| Multidisciplinary approaches | 44 | 14-100 | 40 | 0-67 | 0 | 0-29 | 10 | 0-50 |
| Attention to middle students | 20 | 0-80 | 50 | 17-100 | 10 | 0-62 | 0 | 0-50 |
| Attention to high students | 22 | 0-100 | 50 | 0-100 | 14 | 0-71 | 0 | 0-50 |
| Resources for high students | 0 | 0-50 | 50 | 14-100 | 10 | 0-57 | 25 | 0-70 |
| Access to specials/electives | 0 | 0-33 | 44 | 17-80 | 14 | 0-50 | 33 | 0-63 |
| Instruction dedicated to areas other than read, math & sci | 14 | 0-50 | 40 | 0-83 | 38 | 0-100 | 0 | 0-40 |
| Public regard for teaching | 0 | 0-30 | 36 | 0-75 | 29 | 0-80 | 25 | 0-60 |
| Field trips | 0 | 0-25 | 50 | 0-100 | 40 | 0-85 | 0 | 0-25 |
| Faculty morale | 0 | 0-33 | 17 | 0-86 | 67 | 14-100 | 5 | 0-40 |

PERCEPTIONS

Table 9.
2006-07 School-level Percentage of MS/HS Teachers Perceiving a Change in Aspects of Education

| Educational Aspect | Increase | | Same | | Decrease | | DK | |
|--|----------|--------|------|-------|----------|--------|-----|-------|
| | Mdn | Range | Mdn | Range | Mdn | Range | Mdn | Range |
| Use of Data | 71 | 10-100 | 15 | 0-75 | 0 | 0-13 | 12 | 0-43 |
| Attention to Low students | 75 | 33-100 | 13 | 0-67 | 0 | 0-17 | 10 | 0-29 |
| PD opportunities | 60 | 17-100 | 22 | 0-67 | 0 | 0-67 | 10 | 0-42 |
| Teachers leaving profession | 50 | 0-86 | 22 | 0-57 | 0 | 0-17 | 21 | 0-60 |
| Quality of Instruction | 43 | 0-83 | 28 | 0-100 | 11 | 0-60 | 14 | 0-40 |
| HOTS | 49 | 0-100 | 25 | 0-67 | 10 | 0-56 | 13 | 0-67 |
| Resources for low students | 50 | 0-89 | 17 | 0-64 | 0 | 0-29 | 29 | 0-60 |
| Multidisciplinary approaches | 40 | 0-78 | 33 | 0-100 | 9 | 0-42 | 17 | 0-40 |
| Attention to middle students | 20 | 0-80 | 50 | 0-100 | 20 | 0-56 | 9 | 0-40 |
| Attention to high students | 11 | 0-50 | 42 | 8-86 | 33 | 0-84 | 11 | 0-40 |
| Resources for high students | 3 | 0-38 | 40 | 0-86 | 22 | 0-80 | 29 | 0-70 |
| Access to specials/electives | 14 | 0-67 | 43 | 0-88 | 25 | 0-67 | 13 | 0-60 |
| Instruction dedicated to areas other than read, math & sci | 14 | 0-60 | 33 | 0-71 | 32 | 0-84 | 17 | 0-60 |
| Public regard for teaching | 0 | 0-23 | 29 | 0-86 | 36 | 0-85 | 23 | 0-70 |
| Field trips | 0 | 0-50 | 33 | 0-73 | 50 | 13-100 | 14 | 0-33 |
| Faculty morale | 0 | 0-60 | 11 | 0-43 | 78 | 29-100 | 6 | 0-33 |

Reported in Tables 10 and 11 are percentages of teachers, using teachers as the unit of analysis, attributing a perceived change to NCLB for the elementary and MS/HS samples, respectively. As shown in the second column of data in Table 10, approximately 80% of elementary teachers in the typical school who perceived an increase in *use of data*, *attention to low students*, and *professional development opportunities* also attributed this increase to NCLB. In contrast, a smaller percentage of teachers attributed increases in *quality of instruction* and *higher-order-thinking skills* (approximately 40%) to NCLB. In the last row and second set of columns, it can be seen that approximately 80% of the teachers who perceived a decrease in *faculty morale* also attributed this decrease to NCLB. Only 30% of the teachers perceiving a decrease in *field trips* also attributed this decrease to NCLB, as shown in the second to last group of aspects. The attributions of MS/HS teachers were similar to those made by elementary teachers.

PERCEPTIONS

Table 10.
2006-07 Percentage of Elementary Teachers
Attributing to NCLB an Increase or Decrease in Aspects of Education

| Aspect of Education | Type of Change | | | | | | | |
|---|----------------|------------------------|----|----|-----------|------------------------|----|----|
| | Increased | | | | Decreased | | | |
| | N | % Attributable to NCLB | | | N | % Attributable to NCLB | | |
| | Yes | No | DK | | Yes | No | DK | |
| Use of Data | 181 | 85 | 7 | 9 | 1 | 100 | 0 | 0 |
| Attention to Low students | 169 | 79 | 12 | 9 | 3 | 33 | 67 | 0 |
| PD opportunities | 145 | 78 | 9 | 13 | 10 | 40 | 40 | 20 |
| Teachers leaving profession | 89 | 76 | 10 | 13 | 1 | 100 | 0 | 0 |
| Quality of Instruction | 144 | 42 | 37 | 22 | 13 | 77 | 15 | 8 |
| HOTS | 124 | 41 | 40 | 19 | 12 | 100 | 0 | 0 |
| Resources for low students | 80 | 89 | 3 | 9 | 8 | 50 | 13 | 38 |
| Multidisciplinary approaches | 96 | 50 | 27 | 24 | 10 | 80 | 0 | 20 |
| Attention to middle students | 49 | 59 | 24 | 16 | 32 | 88 | 9 | 3 |
| Attention to high students | 51 | 49 | 29 | 22 | 45 | 84 | 9 | 7 |
| Resources for high students | 12 | 58 | 8 | 33 | 31 | 81 | 6 | 13 |
| Access to specials/electives | 17 | 29 | 47 | 24 | 27 | 70 | 15 | 15 |
| Instruction dedicated to areas other than read, math & sci | 37 | 57 | 16 | 27 | 87 | 78 | 9 | 13 |
| Public regard for teaching | 20 | 25 | 30 | 45 | 64 | 59 | 8 | 33 |
| Field trips | 7 | 29 | 43 | 29 | 87 | 30 | 53 | 17 |
| Faculty morale | 9 | 0 | 67 | 33 | 152 | 82 | 10 | 8 |

Note. N = Number of teachers indicating a change and making an attribution.

PERCEPTIONS

Table 11.
2006-07 Percentage of MS/HS Teachers
Attributing to NCLB an Increase or Decrease in Aspects of Education

| Aspect of Education | Type of Change | | | | | | | |
|---|----------------|------------------------|----|----|-----------|------------------------|----|----|
| | Increased | | | | Decreased | | | |
| | N | % Attributable to NCLB | | | N | % Attributable to NCLB | | |
| | Yes | No | DK | | Yes | No | DK | |
| Use of Data | 478 | 83 | 7 | 10 | 9 | 56 | 11 | 33 |
| Attention to Low students | 537 | 82 | 9 | 9 | 17 | 71 | 12 | 18 |
| PD opportunities | 407 | 74 | 10 | 15 | 34 | 50 | 26 | 24 |
| Teachers leaving profession | 370 | 78 | 12 | 11 | 8 | 38 | 13 | 50 |
| Quality of Instruction | 295 | 35 | 41 | 23 | 99 | 74 | 16 | 10 |
| HOTS | 325 | 39 | 37 | 24 | 82 | 84 | 11 | 5 |
| Resources for low students | 351 | 87 | 3 | 10 | 23 | 48 | 9 | 43 |
| Multidisciplinary approaches | 250 | 46 | 34 | 20 | 71 | 69 | 11 | 20 |
| Attention to middle students | 128 | 64 | 23 | 13 | 177 | 84 | 7 | 9 |
| Attention to high students | 85 | 33 | 44 | 24 | 256 | 85 | 6 | 9 |
| Resources for high students | 39 | 41 | 33 | 26 | 184 | 82 | 4 | 14 |
| Access to specials/electives | 80 | 18 | 49 | 34 | 198 | 75 | 12 | 13 |
| Instruction dedicated to areas other than read, math & sci | 93 | 75 | 13 | 12 | 254 | 85 | 5 | 9 |
| Public regard for teaching | 33 | 45 | 36 | 18 | 305 | 70 | 11 | 19 |
| Field trips | 18 | 11 | 61 | 28 | 340 | 39 | 32 | 29 |
| Faculty morale | 28 | 7 | 64 | 29 | 540 | 86 | 5 | 9 |

Note. N = Number of teachers indicating a change and making an attribution.

Comparisons between school samples and study periods. After looking at the tables from both school samples and study periods, there appear to be several differences. In order to determine whether these differences were statistically significant, a Wilcoxon non-parametric test based on the overall school-level rating was conducted for each of the aspects of education. The median school-level ratings are reported collectively in Table 12 for the elementary and MS/HS samples for the 2004-05 and 2006-07 academic years. The p-values based on the Wilcoxon test are also reported in this table for each of the following four types of comparisons: 1) elementary versus MS/HS in 2004-05, 2) elementary versus MS/HS in 2006-07, 3) elementary 2004-05 versus 2006-07, and 4) MS/HS 2004-05 versus 2006-07. Median ratings close to +1.00 indicate that teachers in the typical school tended to perceive a given aspect as increasing, and

PERCEPTIONS

ratings close to -1.00 indicate that teachers tended to perceive a given aspect as decreasing. P-values shaded in dark gray indicate that there was a significant difference (.003 after using a Bonferroni correction for the 16 aspects based on an original alpha of .05). Values shaded in a lighter gray indicate differences with p-values less than .01.

Table 12.
Comparison of Median School-Level Rating of Change to Aspects of Education

| Educational Aspect | 2004-05 ^a | | | 2006-07 ^b | | | <i>p</i> -values for 04-05 vs 06-07 | |
|---|----------------------|-------|----------|----------------------|-------|----------|--|-------|
| | Elem | MS/HS | <i>P</i> | Elem | MS/HS | <i>p</i> | Elem | MS/HS |
| Use of Data | .75 | .71 | .0535 | .83 | .71 | .0043 | .3280 | .9747 |
| Attention to Low students | .67 | .70 | .5014 | .75 | .73 | .5000 | .1617 | .2559 |
| PD opportunities | .60 | .50 | .2903 | .62 | .56 | .1328 | .2466 | .2297 |
| Teachers leaving profession | .43 | .43 | .4375 | .30 | .49 | .0472 | .5844 | .1764 |
| Quality of Instruction | .40 | .31 | .2807 | .60 | .33 | .0001 | .0086 | .9025 |
| HOTS | .33 | .25 | .0670 | .50 | .41 | .0906 | .0212 | .0064 |
| Resources for low students | .23 | .30 | .0761 | .29 | .50 | .0192 | .1548 | .0006 |
| Multidisciplinary approaches | .17 | .21 | .9166 | .40 | .29 | .0431 | .0028 | .0415 |
| Attention to middle students | .14 | .00 | .0494 | .11 | .00 | .0139 | .8318 | .0599 |
| Attention to high students | .00 | -.15 | .0063 | .00 | -.20 | .0003 | .4027 | .1567 |
| Resources for high students | -.11 | -.12 | .5460 | .00 | -.15 | .0238 | .2345 | .1924 |
| Access to specials/electives | -.14 | -.13 | .8186 | .00 | -.11 | .2520 | .0640 | .4962 |
| Instruction in areas other than read, math & sci | -.40 | -.21 | .0003 | -.20 | -.17 | .9725 | .0024 | .3696 |
| Public regard for teaching | -.43 | -.40 | .9583 | -.20 | -.33 | .0154 | .0085 | .1272 |
| Field trips | -.43 | -.44 | .7884 | -.29 | -.48 | .1143 | .4367 | .4437 |
| Faculty morale | -.78 | -.77 | .9372 | -.60 | -.72 | .0883 | .1521 | .6047 |

Note. *p*-values are based on two-tail approximation.

^a 49 elementary schools and 82 MS/HS, ^b 31 elementary schools and 58 MS/HS

Looking first at comparisons of elementary and MS/HS during 2004-05, it can be seen by inspecting the median school-level ratings in the first and second columns of data that there appears to be no general trend across all educational aspects. For some of the aspects, teachers in the typical elementary school were more likely than teachers in the typical MS/HS to rate an aspect as increasing or decreasing, but for other aspects, they were less likely to rate an aspect as increasing or decreasing. *Instruction in areas other than reading, math, or science* was the only aspect significantly different at the .003 level. The median rating for elementary schools was -.40

PERCEPTIONS

compared to -.21 for MS/HS, which indicates that teachers in elementary schools were more likely to perceive a decrease in this aspect than were teachers in MS/HS. In addition, teachers in MS/HS were more likely to perceive a decrease in *attention to high students* than were teachers in the typical elementary school ($p = .0063$).

In contrast, for the 2006-07 academic year (presented in the second set of three columns), ratings for the elementary sample were generally higher than for the MS/HS sample, suggesting that elementary teachers were more likely to perceive increases in educational aspects and less likely to perceive decreases than were MS/HS teachers. However, there were some exceptions. For example, *resources for low students* had a smaller rating for elementary than for the MS/HS sample, meaning that elementary teachers were less likely to perceive an increase than MS/HS teachers. Significant differences between the elementary and MS/HS samples in *quality of instruction* and *attention to high students* are shown by the dark gray shading in the sixth column. These results indicate that teachers in elementary schools were more likely to perceive an increase in *quality of education* than teachers in MS/HS and less likely to perceive a decrease in *attention to high students*. Elementary teachers were also more likely than MS/HS teachers to report an increase in *use of data* ($p=.0043$).

In addition to understanding and describing what occurred separately during the 2004-05 and 2006-07 study periods, it is important to understand how perceptions have changed over the two study periods. By looking at the first and fourth columns of data, ratings in the typical 2006-07 elementary school were generally higher in 2006-07 than those in 2004-05. This trend was also present for the MS/HS sample, although not to the same extent as in the elementary sample. P-values for differences between 2004-05 and 2006-07 are presented in the last two columns of Table 12. It is immediately evident from the shaded boxes that different aspects were significant for the two school samples. In the elementary sample, *multidisciplinary approaches* and *instruction in areas other than reading, math, or science* were significantly different in 2006-07 than in 2004-05. Teachers were more likely in 2006-07 than in 2004-05 to perceive an increase in *multidisciplinary approaches* ($p=.0028$) and *quality of instruction* ($p=.0086$). Teachers were less likely to perceive a decrease in *instruction in areas other than reading, math, or science* ($p=.0024$) and *public regard for the teaching profession* ($p=.0085$). In the MS/HS sample, teachers were more likely in 2006-07 than in 2004-05 to perceive an increase in *resources for low students* (.0006) and *higher-order-thinking skills* ($p=.0064$).

PERCEPTIONS

One important note about this table is that although some aspects appear to have remained the same across school samples or study periods based on the median values, the Wilcoxon test is based on the ranks of every value (i.e., every school's rating receives a rank). Therefore, although the median may be the same across samples or study periods, the position of the other values has bearing on the significance of the test.

Perceptions of Pressure to Increase Test Scores

Description of perceptions in 2004-05. Teachers were asked to indicate the extent of pressure they felt to increase test scores from seven different sources: *government, administrators, yourself, school board, general public, colleagues, and parents*. The median school-level percentages of teachers using each response option (i.e., a lot, a little, and not at all) are summarized in Table 13 for both the elementary and MS/HS samples. In the first column of data in this table, it can be seen that in the typical school, teachers reported feeling the most pressure from *government*, with over 75% of teachers in each sample indicating feeling a lot of pressure from this source. *Administrators* were also frequently cited as contributing to teachers feeling a lot of pressure (67% and 56%, respectively, for the elementary and MS/HS samples). In

Table 13.
2004-05 School-level Percentage of Teachers Feeling Pressure to Increase Test Scores

| School Sample | Source of Pressure | Extent of Pressure | | | | | |
|-------------------------|------------------------------|--------------------|--------|----------|-------|------------|-------|
| | | A Lot | | A Little | | Not at All | |
| | | Mdn | Range | Mdn | Range | Mdn | Range |
| Elementary (N = 49) | Government | 86 | 0-100 | 11 | 0-100 | 0 | 0-25 |
| | Administrators | 67 | 0-100 | 25 | 0-100 | 0 | 0-44 |
| | Yourself | 50 | 0-90 | 50 | 0-80 | 0 | 0-40 |
| | School Board | 50 | 0-100 | 33 | 0-100 | 11 | 0-60 |
| | General Public (e.g., media) | 60 | 0-100 | 25 | 0-86 | 14 | 0-60 |
| | Colleagues | 25 | 0-83 | 43 | 0-100 | 29 | 0-100 |
| | Parents | 20 | 0-100 | 50 | 0-86 | 30 | 0-80 |
| MS/HS (N = 82) | Government | 76 | 33-100 | 17 | 0-50 | 10 | 0-60 |
| | Administrators | 56 | 0-100 | 38 | 0-100 | 8 | 0-41 |
| | Yourself | 33 | 0-69 | 50 | 20-89 | 13 | 0-48 |
| | School Board | 40 | 0-89 | 38 | 0-83 | 20 | 0-67 |
| | General Public (e.g., media) | 44 | 0-80 | 32 | 0-67 | 22 | 0-55 |
| | Colleagues | 15 | 0-60 | 43 | 0-80 | 39 | 0-100 |
| | Parents | 15 | 0-60 | 42 | 0-80 | 42 | 0-82 |

PERCEPTIONS

contrast, *colleagues* and *parents* tended to contribute the least to pressure felt by teachers in either sample. As noted in the previous section, it is also important to consider the ranges of variables when interpreting these results. In the elementary sample, many of the sources of pressure ranged from 0% to 100%.

Description of perceptions in 2006-07. Shown in Table 14, in both the elementary and MS/HS samples, teachers felt the most pressure from *government*, with approximately 75% in both samples feeling a lot of pressure to increase test scores. In the elementary sample, 50% of teachers in the typical school felt a lot of pressure from *administrators*, *yourself*, and *general public*. These three sources were also the next largest sources of pressure in the MS/HS sample, with approximately 35% of teachers feeling a lot of pressure from these sources. Teachers in both samples felt the least pressure from *colleagues* and *parents*. Only approximately 10% of teachers in both samples felt a lot of pressure from these two sources. However, it is again important to note that there was large variability across schools.

Table 14.
2006-07 School-level Percentage of Teachers Feeling Pressure to Increase Test Scores

| School Sample | Source of Pressure | Extent of Pressure | | | | | |
|------------------------|------------------------------|--------------------|----------|----------|---------|------------|----------|
| | | A Lot | | A Little | | Not at All | |
| | | Mdn | Range | Mdn | Range | Mdn | Range |
| Elementary (N = 31) | Government | 78 | 25 - 100 | 20 | 0 - 50 | 0 | 0 - 29 |
| | Administrators | 50 | 0 - 100 | 43 | 0 - 86 | 0 | 0 - 50 |
| | Yourself | 50 | 0 - 100 | 43 | 0 - 100 | 0 | 0 - 60 |
| | School Board | 22 | 0 - 70 | 44 | 10 - 83 | 25 | 0 - 71 |
| | General Public (e.g., media) | 50 | 0 - 86 | 33 | 0 - 75 | 14 | 0 - 50 |
| | Colleagues | 10 | 0 - 50 | 45 | 0 - 83 | 40 | 0 - 100 |
| | Parents | 20 | 0 - 67 | 50 | 0 - 75 | 29 | 0 - 80 |
| MS/HS (N = 58) | Government | 75 | 33 - 100 | 17 | 0 - 50 | 8 | 0 - 60 |
| | Administrators | 42 | 0 - 88 | 40 | 13 - 86 | 11 | 0 - 57 |
| | Yourself | 33 | 0 - 70 | 44 | 0 - 86 | 20 | 0 - 71 |
| | School Board | 30 | 0 - 68 | 35 | 0 - 86 | 30 | 0 - 100 |
| | General Public (e.g., media) | 38 | 0 - 83 | 38 | 0 - 73 | 23 | 0 - 80 |
| | Colleagues | 5 | 0 - 36 | 40 | 0 - 83 | 50 | 13 - 100 |
| | Parents | 10 | 0 - 33 | 39 | 13 - 83 | 52 | 0 - 88 |

Comparison between school samples and study periods. The median percentage of teachers feeling a lot of pressure from a given source are summarized in Table 15 for each school

PERCEPTIONS

sample and study period. As described previously, the p-values are indicative of the level of significance based on a two-tail approximation of a Wilcoxon test. A Bonferroni correction has been used to correct across the seven sources of pressure. Before examining the table for significant differences, there are some general trends that are important to note. First, during both study periods, it appears that teachers in the typical elementary school were more likely to perceive a lot of pressure to increase test scores than teachers in the typical MS/HS sample. Also, across the two study periods, teachers tended to feel less pressure in the typical school in 2006-07 than in 2004-05, although this did not hold for all sources of pressure.

Table 15.
Comparison of School-level Percentage of Teachers Feeling A Lot of Pressure to Increase Scores

| Source of Pressure | 2004-05 ^a | | | 2006-07 ^b | | | <i>p</i> -values for 04-05 vs 06-07 | |
|------------------------------|----------------------|-------|----------|----------------------|-------|----------|--|-------|
| | Elem | MS/HS | <i>p</i> | Elem | MS/HS | <i>P</i> | Elem | MS/HS |
| Government | 86 | 76 | .0011 | 78 | 75 | .5648 | .0088 | .4755 |
| Administrators | 67 | 56 | .0379 | 50 | 42 | .4683 | .0215 | .0083 |
| Yourself | 50 | 33 | <.0001 | 50 | 33 | .0056 | .9058 | .6285 |
| School Board | 50 | 40 | .0010 | 22 | 30 | .3977 | .0003 | .0157 |
| General Public (e.g., media) | 60 | 44 | .0006 | 50 | 38 | .0952 | .0364 | .1126 |
| Colleagues | 25 | 15 | .0156 | 10 | 5 | .1892 | .0094 | .0018 |
| Parents | 20 | 15 | .2180 | 20 | 10 | .0090 | .9600 | .1335 |

Note. p-values are based on two-tail approximation.

^a 49 elementary schools and 82 MS/HS, ^b 31 elementary schools and 58 MS/HS

The results shaded in dark gray in Table 15 were statistically significant after using a Bonferroni correction for the alpha level of .05. The boxes shaded in light gray represent differences with p-values less than .01. During the 2004-05 study period, there was a significant difference between elementary and MS/HS for four of the seven sources of pressure. Specifically, teachers in the elementary sample felt more pressure than teachers in the MS/HS sample from *government*, *yourself*, *school board*, and *general public*. In 2006-07, the amount of pressure between the two samples was more similar, and the source from which teachers in elementary schools felt significantly more pressure than teachers in MS/HS from was *yourself*. Elementary teachers also felt more pressure than MS/HS teachers from *parents* ($p=.0090$). The last two columns of Table 15 contain p-values for differences between the two study periods for both elementary and MS/HS. Between the two study periods, pressure decreased from nearly all

PERCEPTIONS

sources for both the elementary and MS/HS samples. The largest differences in the elementary sample were pressure from *school board* ($p=.0003$) and *colleagues* ($p=.0094$). In the MS/HS sample, the largest differences were in pressure felt from *colleagues* ($p=.0018$) and *administrators* ($p=.0083$).

School Focus: Increasing Test Scores or Improving Overall Student Learning

Descriptions of perceptions in 2004-05. Teachers were asked to indicate whether they believed their school was more focused on improving overall student learning or only increasing test scores. In the elementary sample, the median school-level percentage of teachers who indicated their school was “test-centered” was 40%, but ranged from 0-89%. The median school-level percentage for the MS/HS sample was somewhat lower at 33% and ranged from 0 to 100%. Thus, the perceptions of teachers within a school who felt as though their school was more focused on increasing test scores varied considerably across schools. In some schools, no teachers indicated their school was most focused on only increasing test scores in contrast to other schools with approximately 90% to 100% of the teachers reporting their school was more interested in increasing test scores than improving overall student learning.

Description of perceptions in 2006-07. During the 2006-07 study period, 22% of teachers in the typical elementary school indicated their school was most focused on increasing test scores than improving overall student learning, with a range from 0-67%. The median school-level percentage for the MS/HS sample was somewhat higher at 33% and ranged from 0-83%. Although teachers were asked to choose one response, some teachers indicated that both descriptions could be used to describe the climate of their school. Specifically, seven teachers from the elementary sample and 15 teachers from the MS/HS sample indicated “both.”

Comparisons across school samples and study periods. The same four comparisons that were made using the Wilcoxon test for aspects of education and pressure were also used to test for differences in school focus. There were no significant differences across school samples for either study period. However, for both the elementary and MS/HS samples, the range of percentages was smaller in 2006-07 than in 2004-05. In 2004-05, the maximum percentages were 89% and 100% for the elementary and MS/HS samples, respectively. In 2006-07, the maximum percentage of teachers perceiving their school to be most focused on increasing test scores decreased by approximately 20% in each sample.

PERCEPTIONS

Perceptions of the Extent of Narrowing and/or Refocusing of Curriculum and Instruction

An additional question was added to the 2006-07 questionnaires that asked teachers to indicate the extent to which they believed NCLB had resulted in a narrowing and/or refocusing of the curriculum. School-level median percentages are shown in Table 16 for each school sample. Responses were similar in both the elementary and MS/HS samples. Approximately 20% of teachers perceived a narrowing and/or refocusing of the curriculum “to a great extent,” and approximately 60% believed the curriculum had been narrowed “somewhat.” When considering teachers by the subject area taught, the responses were similar across all types of MS/HS core teachers with the exception of ELA teachers. In the typical school, 0% of math, science, and social studies teachers in the typical MS/HS perceived narrowing of the curriculum “to a great extent.” In contrast, 27% of ELA teachers in the typical MS/HS indicated curriculum had been narrowed “to a great extent.”

Table 16.
2006-07 School-level Percentage of Teachers
Perceiving NCLB as Narrowing/Refocusing Curriculum and Instruction in their School

| School Sample | Number of Schools | Type of Core Teacher | School-Level Percentage of Core Teachers | | | | | | | |
|---------------|-------------------|----------------------|--|--------|----------|----------|------------|--------|-----|--------|
| | | | To a great Extent | | Somewhat | | Not at All | | DK | |
| | | | Mdn | Range | Mdn | Range | Mdn | Range | Mdn | Range |
| Elementary | 31 | Non Primary | 25 | 0 - 67 | 60 | 14 - 100 | 0 | 0 - 29 | 0 | 0 - 50 |
| MS/HS | 58 | All Core | 18 | 0 - 72 | 57 | 17 - 100 | 5 | 0 - 42 | 11 | 0 - 40 |
| | 58 | ELA only | 27 | 0-100 | 56 | 0-100 | 0 | 0-100 | 0 | 0-50 |
| | 55 | Math only | 0 | 0-100 | 50 | 0-100 | 0 | 0-100 | 0 | 0-100 |
| | 57 | Science only | 0 | 0-100 | 56 | 0-100 | 0 | 0-100 | 0 | 0-100 |
| | 54 | Soc. St. only | 0 | 0-100 | 60 | 0-100 | 0 | 0-50 | 0 | 0-100 |
| All Schools | 89 | All Core | 20 | 0 - 72 | 57 | 14 - 100 | 3 | 0 - 42 | 10 | 0 - 50 |

Elementary and MS/HS teachers, however, did *not* share the same perceptions regarding whether the narrowing of the curriculum was positive or negative. Presented in Table 17 are the percentages of teachers, using the teacher as the unit of analysis, who believed narrowing and/or refocusing of curriculum had been positive or negative based on a five-point scale. As shown in the first row of data, the views of elementary teachers overall were balanced between a positive and negative impact. Approximately 40% of the elementary teachers perceived the changes to be balanced between positive and negative. Approximately 25% indicated narrowing was mostly

PERCEPTIONS

positive and the same percentage also indicated mostly negative. Approximately 5% believed the changes were primarily positive and primarily negative. In the MS/HS sample, similar distributions were seen for all teachers as well as for teachers of single-subject areas. An equal percentage of teachers thought the narrowing and/or refocusing was balanced or mostly negative (35%) compared with approximately 15% who believed it was mostly positive. Approximately 10% of teachers perceived primarily negative impacts and only 3% perceived primarily positive impacts.

Table 17.
2006-07 Perceived Impact of Narrowing/Refocusing Curriculum and Instruction

| School Sample | Number of Schools | Type of Core Teacher | N | Percent of Teachers Perceiving an Impact of Narrowing/Refocusing | | | | |
|---------------|-------------------|----------------------|-----|--|---------------------------------------|--------------------------------------|---------------------------------------|---|
| | | | | <i>Primarily negative, little/no positive</i> | <i>Mostly negative, some positive</i> | Balanced between positive & negative | <i>Mostly positive, some negative</i> | <i>Primarily positive, little/no negative</i> |
| Elementary | 31 | All Core | 194 | 6 | 26 | 41 | 21 | 6 |
| MS/HS | 58 | All Core | 623 | 12 | 35 | 35 | 16 | 3 |
| | | ELA only | 197 | 15 | 37 | 32 | 13 | 4 |
| | | Math only | 120 | 10 | 35 | 33 | 19 | 3 |
| | | Science only | 109 | 6 | 36 | 37 | 19 | 2 |
| | | Soc. St. only | 126 | 13 | 35 | 39 | 12 | 2 |
| All Schools | 89 | All Core | 817 | 11 | 33 | 36 | 17 | 3 |

Note. N = Number of teachers indicating that NCLB has resulted in narrowing/refocusing curriculum/instruction in their school “To a Great Extent” or “Somewhat” also indicating the impact.

Discussion

The extensive number of facets of education presented in this study may have left the reader wondering, “So what?” In order to make sense of the data, it is important to step back from the details and examine the broader picture. This study considered 16 different aspects of education ranging from classroom practices to allocation of time and resources to perceptions of school climate. In addition, teachers’ perceptions of pressure to increase test scores, school focus, and extent of narrowing and/or refocusing of the curriculum were explored. It is important not to consider these aspects in isolation of one another. Focusing on any one aspect alone shows only a small part of the comprehensive impact of NCLB. The role of this discussion is to assist the reader with obtaining a more integrated description of how teachers in the state of Iowa

PERCEPTIONS

perceive the impact of NCLB on education. Further, the practical and research implications of the results of this study will be discussed.

Perceptions of Change to Educational Aspects

One important interpretation of the findings in this study is that some of the trends are consistent with findings from previous research. First of all, similar trends were found across the two study periods. Additionally, the results of both study periods were somewhat similar to some previous research studies. In the current study, teachers perceived a decrease in instruction in non-tested content areas, which was also found in previous studies (Burroughs et al., 2005; Hamilton et al., 2007; Christenson et al., 2007). Previous research has also cited increased attention to low students, often at the expense of other students (Pedulla et al., 2003; Mendoza, 2006). In the current study, nearly three-fourths of teachers in the typical school believed attention to low students had increased. Teachers also believed there were increases in resources for low students. Similar increases were not reported for middle or high-achieving students. Positive consequences have also been reported in previous literature, including increases in tasks on higher-order-thinking skills, alternative teaching strategies, and teaching strategies for diverse learners (Christenson et al., 2007). An increase in *higher-order-thinking skills* was also identified in the current study. The consistency of some of the findings from this study with previous studies indicates that some of the ways in which NCLB has impacted education in Iowa can be generalized to other contexts.

Although the trends between the two sample years were similar, there was a general shift in nearly all of the aspects of education. Specifically, it appears that teachers perceived most aspects of education more positively in 2006-07 than in 2004-05. For example, fewer teachers reported decreases in *instruction in areas other than reading, math, or science* in 2006-07 than in 2004-05. This finding is encouraging because it suggests NCLB may be resulting in a number of positive consequences. However, what is unknown is the extent to which changes are the result of NCLB. When asked whether or not a change was attributable to NCLB, there were some aspects for which most teachers agreed NCLB had resulted in a change, such as increased *use of data* or decreases in *faculty morale*. However, teachers were less likely to attribute increases in the *quality of education* or *higher-order-thinking skills* to NCLB. One concern is that teachers responded in the way they did in order to avoid attributing positive impacts to NCLB. Yet, less than half of the teachers who perceived a decrease in *field trips* attributed that decrease to NCLB.

PERCEPTIONS

Although teachers indicated “positive” changes, factors other than NCLB may be responsible for these changes. In any case, it is impossible to isolate the impact of an intervention when it is one of many. What is most important is that there have been changes, regardless of whether or not these changes are directly attributable to NCLB or to some other initiative that was implemented independent of NCLB.

An additional consideration is the extent of variability across schools. For many of the aspects, percentages in schools ranged from 0% to 100%. The impact of this finding is important, because it illustrates that teachers within different schools have different perceptions of the impact of NCLB. For example, in some schools, no teachers perceived a decrease in *faculty morale*, and in others, all teachers perceived a decrease. Although the reason for schools being differentially impacted is unknown, one possible reason might be different leadership styles of school administrators or other individuals in charge of decision-making.

Perceptions of Pressure to Increase Test Scores

Not surprisingly, many teachers indicated feeling a lot of pressure to increase test scores. In previous research, teachers of many different grade levels and content areas—including non-tested content areas—reported feeling pressure to increase test scores (Burroughs et al., 2005; Firestone et al., 2002; Stecher & Chun, 2001; Koretz & Hamilton, 2003; Bickham et al., 2001). However, previous research did not always cite the source from which teachers felt pressure to increase test scores. One study found that elementary teachers felt personally responsible to increase test scores (Bickham et al., 2001), but in the current study, pressure from *yourself* was not the source from which most teachers felt pressure. Across all samples, teachers consistently felt the most pressure from *government* and *administrators*. It is possible that the variability across schools may be the result of teachers feeling pressure from different sources. For example, in some schools, a greater percentage of teachers may feel pressure from *yourself* while others feel a greater amount of pressure from the *school board*.

A surprising, yet encouraging, finding of this study was that pressure to increase test scores from some of the sources actually decreased between the 2004-05 and 2006-07 study periods. It would have been reasonable to assume that teachers would have felt more pressure as the deadline for all students to reach proficiency is closer. Additionally, with NCLB having been in place for over five years, more schools have started to become subjected to sanctions after having been on the list of “schools in need of improvement” for multiple years. Another

PERCEPTIONS

possibility is that teachers may not actually be feeling less pressure, but rather that they have become accustomed to pressure. It may also be indicative of an attitude that worrying about scores is not constructive because all schools will eventually be on the “list.”

Another finding of this current study was that elementary teachers tended to feel more pressure than did MS/HS teachers, although this trend was more prominent during 2004-05 than 2006-07. The reason for this relationship is not clear. One possible reason is that this study included only non-primary elementary teachers of core subject areas. Therefore, all of the teachers in the elementary study were directly involved with testing and were responsible for the instruction of tested content areas. In the MS/HS sample, only teachers of core subject areas were included, as well. However, some of the teachers, social studies in particular, do not teach tested content areas. Although previous research suggests social studies teachers still feel the impact of testing (Burroughs et al., 2005), it is plausible that they do not feel pressure to the same extent. Additionally, not all HS grade levels are required to participate in testing—only grade 11. If teachers do not have students of a tested grade level, they may not feel responsible for test scores; consequently, they would feel less pressure.

School Focus: Increasing Test Scores or Improving Overall Student Learning

In 2004-05, approximately one-third of teachers believed their school was most focused on increasing test scores rather than improving overall student learning. Between 2004-05 and 2006-07, the median percentage of teachers in the typical elementary school who believed their school was most focused on increasing test scores decreased to about 20%, although there was no change for the MS/HS sample. However, in 2006-07, there were no schools in which all teachers felt their school was most focused on increasing test scores. The decrease between the two study periods suggests schools may be shifting their focus away from test scores. However, as discussed with changes related to pressure, it may also indicate that teachers have become more accustomed to the current educational climate. Another possible reason is that teachers have become convinced that focusing on test scores is about improving learning. Historically, teachers did not have to pay attention to ITBS/ITED results. It is possible that teachers now view the usefulness of scores differently.

Perceptions of the Extent of Narrowing and/or Refocusing of Curriculum and Instruction

Across the elementary and MS/HS samples, most teachers in the typical school perceived at least some narrowing and/or refocusing of the curriculum in response to NCLB. However, as

PERCEPTIONS

with all of the other sections of the questionnaire, there was considerable variability in perceptions. The most interesting part of this question was in how teachers perceived the changes to curriculum. Teachers in the MS/HS samples found the narrowing and/or refocusing to be more negative than did teachers in the elementary sample. The reasoning for this difference is unknown, although there are some possible rationales. One possible reason is that the type of narrowing or refocusing occurring in elementary schools is different than what is occurring in MS/HS. Herman (2005) discussed how proper alignment between curriculum and assessment can be useful for identifying and improving areas of student weakness. However, curriculum can also become too focused on the specific content and/or format of a test, resulting in more negative outcomes. Another possible explanation for the difference in perceptions between the elementary and MS/HS samples is that content on the ITEDs is not as closely related to high school course curriculum as the elementary content on the ITBS.

Limitations

The results of this study provide invaluable insight into teachers' perceptions of education in the context of NCLB. Furthermore, the multi-year nature of this study provides evidence of the long-term impact of NCLB, of which there are few studies. Even though the information provided in this study is important and novel, as in any study, there are also limitations. This study used self-report questionnaires to collect data. Even though all teachers and schools were guaranteed anonymity, a concern with self-report measures is that teachers may not respond honestly. An additional concern of self-report measures is that teachers may have different understandings or interpretations of questions, even though the questionnaires were piloted with teachers before sending them to schools. Teachers may also have different interpretations of the response scales. For example, teachers may have different perceptions of what a lot of pressure means. Moreover, teachers' perceptions may not accurately reflect the reality of what is occurring in the school. However, for the person holding a belief or perception, that perception is reality. Consequently, if a teacher perceives a lot of pressure, regardless of whether or not any pressure exists, the teacher will act as though he or she is being pressured. In addition, the link between a teacher's perception and the reality of what is happening in the school and/or classroom is unknown.

The context of the study may also potentially be a disadvantage. Only one state was used for this study, and critics may argue that the schools in this state are not representative of schools

PERCEPTIONS

nationally, thus limiting generalizability. In some regards, it is advantageous to include only Iowa schools as this context allows for detection of changes that occurred when switching from a low-stakes to high-stakes testing program. Changes that are found are likely not the result of implementing a new test program; but rather of the change in stakes. However, since the *ITBS/ITED* have been used in Iowa schools for over 70 years, teachers and students in Iowa are likely very familiar with the content and format of these tests. School curriculums may already reflect the content and format of the *ITBS/ITED*. In other states with new testing programs, students and teachers would not have as much familiarity with the test, therefore engaging in activities in order to increase familiarity. Additionally, in Iowa, the accountability context is one of high stakes for schools. It cannot be assumed that the results would generalize to contexts where scores are used to make promotion and retention decisions or to reward teachers. Because of the unique context of each state testing program, every state should conduct research of this type as part of the validation of the testing program. Many of the findings in the current study were similar to studies previously conducted. Thus, although the Iowa context may limit generalizability, it is plausible that in other states the results may be even more pronounced.

Implications

The challenge in making interpretations about research of this nature is that the temptation is to look for conclusive evidence that will lead to one of two simple statements: NCLB has resulted in positive educational influences or NCLB has resulted in negative educational influences. However, there is no easy answer to the question, “What is the impact of NCLB on education?” The answer is a frustrating, “It depends.” This answer is disconcerting because it asks many more questions than it answers. The evidence in this paper suggests that overall, teachers’ perceptions were more positive in 2006-07 than in 2004-05. While this seems like cause for great celebration, cautious optimism is a more reasonable approach. The findings are representative of the typical school, not *all* schools. This means there are some schools in which teachers may not be experiencing the same positive consequences found in other schools. Additionally, not all teachers attribute the changes they have perceived to NCLB: there are other influences in the educational community. However, even for those schools where teachers have indicated positive changes and attributed those changes to NCLB, the extent to which these changes have actually occurred is unknown. For example, it is possible that for some teachers, feeling pressured to increase test scores has become normal; consequently, what may have been

PERCEPTIONS

perceived as a lot of pressure two years ago may now only feel like a little. Although perceptions do represent reality for the person who perceives them, reports of positive changes may not actually mean they have occurred.

If we assume the results represent positive changes for the typical school, the implications for future research are extensive. “It depends” is not an acceptable conclusion to reach. The only logical response to this question is, “On what?” Any number of factors could influence the perceived impacts of NCLB: the educators under investigation, achievement level or socioeconomic status of the school, number of years on the “list,” student populations served, size of the school, experience of the teachers, and the list goes on. Future research should identify variables that may be related to teachers’ perceptions and investigate how the variables are related to instructional practices and educational climate. In particular, research should focus on perceptions of different types of educators: non-core teachers, non-primary teachers, administrators, and counselors. Future research should also investigate how achievement level or socioeconomic status may be related to the impact of NCLB. There is some evidence to suggest that achievement level may not be influential in certain areas of education. For example, Lai and Waltman (2007) found that achievement level was not related to the type of instructional changes being made. However, it is plausible that the achievement level of a school would impact different areas of education. Additionally, this research should extend beyond the current context. In the state of Iowa, high stakes exist primarily for schools. That is, consequences typically exist for schools rather than individual teachers or students. However, it is unknown how these results would generalize to contexts in which consequences exist for teachers and/or students.

Additional research is an important implication of the findings of this study, because an understanding of why schools are differentially impacted can have an important influence on policy decisions, especially in light of the upcoming reauthorization of NCLB. However, it is also important for research to be put into practice. Practically, the implications of this research are important for developing awareness and professional development for individuals in positions of educational leadership, including policy-makers and administrators. Although not all teachers perceive the same impacts, it is disconcerting that any teacher feels a decrease in morale or a lot of pressure to increase test scores. It is also dismaying that any teachers perceive the quality of education to be diminished. It is important for the leadership in a school to have

PERCEPTIONS

professional development available to enable them to recognize negative impacts to instructional practices and educational climate. The professional development should focus on training those in leadership to create more positive learning environments for faculty and students. Finally, policymakers must be aware of the implications of policy decisions in order to make policy revisions that are likely to result in the intended positive outcomes without negatively impacting other facets of education.

References

- Abrams, L. M., Pedulla, J. J., & Madaus, G. F. (2003). Views from the classroom: Teachers' opinions of statewide testing programs. *Theory Into Practice, 42*(1), 18-29.
- Bickham, T., Burns, P., & Monahan, D. (2001). *Emphasis placed on current assessment procedures affects the way teachers teach*. Chicago, IL: Saint Xavier University Reading Cohort Program. (ERIC Document Reproduction Service No. ED458632)
- Burroughs, S., Groce, E., & Webeck, M. L. (2005). Social studies education in the age of testing and accountability. *Educational Measurement: Issues and Practice, 24*(3), 13-20.
- Christenson, S. L., Decker, D. M., Triezenberg, H. L., Ysseldyke, J. E., & Reschly, A. (2007). Consequences of high-stakes assessment for students with and without disabilities. *Educational Policy, 21*(4), 662-690.
- Cizek (2001). More unintended consequences of high-stakes testing. *Educational Measurement: Issues and Practice, 20*(4), 19-27.
- Firestone, W. A., Monfils, L., Camilli, G., Schorr, R. Y., Hicks, J. E., & Mayrowetz, D. (2002). The ambiguity of test preparation: A multimethod analysis in one state. *Teachers College Record, 104*(7), 1485-1523.
- Goldhaber, D. (February, 2002). What might go wrong with the accountability measures of the "No Child Left Behind Act"? Paper presented at the "Will No Child Truly Be Left Behind? The Challenges of Making This Law Work" Conference, Washington, DC.
- Hamilton, S. L., Stecher, B. M., Marsh, J. A., McCombs, J. S., Robyn, A., Russell, J., et al. *Standards-based accountability under No Child Left Behind: Experiences of teachers and administrators in three states*. Santa Monica, Calif.: RAND Corporation, MG-589-NSF, 2007. As of July 19, 2007: <http://www.rand.org/pubs/monographs/MG589/>
- Herman, J. (2005, March). *Making accountability work to improve student learning* (CSE Tech. Rep. No. 649). Los Angeles: University of California, Center for Research on Evaluation, Standards, and Student Testing.
- Herman, J. L., & Golan, S. (1993). The effects of standardized testing on teaching and schools. *Educational Measurement: Issues and Practice, 12*(4), 20-25.
- Kane, M. (2006). Validation. In R. L. Brennan (Ed.), *Educational Measurement* (4th ed.) (pp 17-64). Westport, CT: Praeger Publishers.
- Koretz, D. M., & Hamilton, L. (2003, October). *Teachers' responses to high-stakes testing and the validity of gains: A pilot study* (CSE Tech. Rep. No. 610). Los Angeles: University of California, Center for Research on Evaluation, Standards, and Student Testing.

PERCEPTIONS

- Lai, E. R., & Waltman, K. (2007). *The impact of NCLB on instruction: A comparison of results from 2004-05 to 2006-07*. Poster presented at the annual meeting for the Iowa Educational Research and Evaluation Association, Iowa City, November 2007.
- Mendoza, C. (2006). Inside today's classrooms: Teacher voices on No Child Left Behind and the education of gifted children. *Roepers Review*, 29(1), 28-31.
- Moore, J., & Waltman, K. (2007). *Pressure felt by teachers to increase test scores in reaction to NCLB: An investigation of related factors*. Paper presented at the annual meeting of the American Educational Research Association, Chicago.
- No Child Left Behind Act of 2001, Pub. L. NO. 107-110, Stat. 1425 (2002).
- Pedulla, J. J., Abrams, L. M., Madaus, G. F., Russell, M. K., Ramos, M. A., & Maio, J. (2003). *Perceived effects of state-mandated testing programs on teaching and learning: Findings from a national survey of teachers*. Boston: National Board on Educational Testing and Public Policy.
- Perkins, B. (2007). *Where we teach: The CUBE survey of urban school climate*. Alexandria, VA: National School Boards Association.
- Rentner, D. S., Scott, C., Kober, N., Chudowsky, N., Chudowsky, V., Joftus, S., et al. (2006, March). *From the capital to the classroom: Year 4 of the No Child Left Behind Act*. Washington, D. C.: Center on Education Policy.
- Shepard, L. A., & Dougherty, K. C. (1001, April). *Effects of high-stakes testing on instruction*. Paper presented at the annual meeting of the American Educational Research Association and National Council on Measurement in Education, Chicago.
- Smith, M. L., Edelsky, C., Draper, K., Rottenberg, C., & Cherland, M. (1991). *The role of testing in elementary schools* (CSE Tech. Rep. 321). Los Angeles: University of California, Los Angeles, Center for Research on Evaluation, Standards, and Student Testing.
- Stecher, B., & Chun, T. (2001, November). *School and classroom practices during two years of education reform in Washington state* (CSE Tech. Rep. No. 550). Los Angeles: University of California, Center for Research on Evaluation, Standards, and Student Testing.
- Stevenson, E., & Waltman, K. (2006). *The impact of NCLB on instructional changes: A consequential validity study*. Paper presented at the annual meeting for the National Council on Measurement in Education, San Francisco, April 2006.

PERCEPTIONS

Appendix A
Extracted Portions of the Questionnaire

2004-05 and 2006-07

| 5.1 Within the last 2 academic years, how do you think these aspects of education have changed in your school? If there has been a change (i.e., you marked “Increased” or “Decreased”), use the right-hand columns to indicate if you think this change is attributable to actions in response to NCLB. | Type of Change? | | | | Change Attributable to NCLB? | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|------------------------------|--------------------------|--------------------------|
| | Increased | Decreased | No Change | Don't Know | Yes | No | Don't Know |
| 5.1.1 Quality of classroom instruction | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.2 Teaching of higher-order thinking skills | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.3 Attention to lowest performing students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.4 Attention to highest performing students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.5 Attention to students in the middle range | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.6 Number of highly qualified teachers leaving the profession | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.7 Public regard for the teaching profession | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.8 Multidisciplinary approaches to subject matter | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.9 Student access to <u>special/elective</u> classes (e.g., art, music, foreign language, physical education, vocational) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.10 Faculty morale | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.11 Instructional time dedicated to <u>core</u> content areas <u>other than</u> reading, mathematics, and science (e.g., spelling, writing, social studies, handwriting) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.12 Allocation of resources for low performing students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.13 Allocation of resources for high performing students | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.14 Field trips and community service projects | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.15 Use of data to make instructional decisions | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.1.16 Professional development opportunities related to new instructional methods and strategies | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| |
|---|
| <p>5.2 Which of these two statements best characterizes the climate at your school? <u>Mark only one.</u></p> <p><input type="checkbox"/> “My school is more interested in increasing <u>test scores</u> than in improving <u>overall student learning</u>.”</p> <p><input type="checkbox"/> “My school is more interested in improving <u>overall student learning</u> than in just increasing <u>test scores</u>.”</p> |
|---|

PERCEPTIONS

| 5.4 To what extent do you feel <u>pressured</u> by each of the following sources to increase your students' scores on the ITBS/ITED? | Extent of Pressure? | | |
|--|--------------------------|--------------------------|--------------------------|
| | A Lot | A Little | Not at all |
| 5.4.1 Yourself | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.4.2 Colleagues | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.4.3 Administrators | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.4.4 School Board | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.4.5 Parents | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.4.6 General Public (including media) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.4.7 Government (state and/or federal) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2006-07

| | | | | |
|---|--|---|--|--|
| 5.3 To what extent do you believe that NCLB has resulted in narrowing and/or refocusing curriculum and instructional strategies <u>in your school</u>? | | | | |
| <input type="checkbox"/> To a great extent | <input type="checkbox"/> Somewhat | <input type="checkbox"/> Not at all | <input type="checkbox"/> Don't know | |
| If you marked "To a great extent" or "Somewhat," what has been the impact of this narrowing &/or refocusing? | | | | |
| <i>Primarily <u>negative</u>, little/no positive:</i> | <i>Mostly <u>negative</u>, some positive</i> | <i>Balanced between positive & negative</i> | <i>Mostly <u>positive</u>, some negative</i> | <i>Primarily <u>positive</u>, little/no negative</i> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |