

Curriculum Shifts in Vermont Public Schools

A Survey of School Superintendents

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I. Introduction

The No Child Left Behind Act of 2001 (NCLB) legislated state accountability in “meeting annual measurable achievement objectives” for student competence in mathematics and reading.¹ The imposition of high-stakes testing is intended to encourage schools to improve education in these areas. The new law also fundamentally altered the accountability structure from one solely driven by accountability to local voters to one driven by federally mandated sanctions for failure to meet state targets in math and reading.

While the objective of the act is to strengthen student competency in math, reading, and science, policymakers, educators and researchers have raised concerns that the new accountability system may also lead to a shift in school curriculum towards the tested subjects and away from other non-tested subjects such as social studies, arts, etc. A recent national study by the Center on Education Policy provides some evidence of curriculum shifts since the enactment of NCLB (CEP, 2005). Other studies have also suggested high-stakes testing leads to slower growth in achievement in low-stakes tested subjects such as social studies (Jacob, 2002; Korretz & Barron, 1998; Deere & Strayer, 2001). Our study seeks to determine if the curriculum has shifted in the state of Vermont. In a survey of 19 of 60 (32%) Vermont superintendents, our results suggest that school curriculum is likely shifting since the introduction of high-stakes testing. Eighty-three percent of the nineteen Vermont superintendents surveyed indicated that a narrowing of teaching to tested subjects is either “increasingly common” or occurring “throughout the district.”

II. State Standards v. No Child Left Behind Standards

Historically, Local Educational Agencies (LEAs) and State Educational Agencies (SEAs) have controlled curriculum and accountability for public schools. In the state of Vermont, the Commissioner of Education appoints representatives to serve on two different committees: the Technical Advisory Panel (TAP) and the Committee of Practitioners (CP). The members of each committee advise the Commissioner on school assessment and accountability, with the goal of further ensuring the development of sound education policies.²

Before the 1990s, the State Education Agencies provided guidelines for inputs (i.e., size of libraries) and standards for academic achievement. Standardized tests were not used to determine achievement. Rather, voters held schools accountable by voting school budgets up or down or by voting to replace local school board members in the next election.

In 1996, Vermont developed a Comprehensive Assessment System (CAS). The system tested developmental reading in grade 2, English and mathematics in grades 4, 8 and 10 and science in grades 5, 9, and 11.³ Results were published statewide, and technical assistance was provided to low-performing schools. If a school repeatedly underperformed, the state Department of Education could take stronger action potentially

leading to state control or closure of the school. More importantly, publicity of the scores was intended to encourage voters and school boards (and subsequently administrators and teachers) to change inputs in order to improve scores in the following year.

In addition to the CAS, the state has also developed Vermont's Framework of Standards & Learning Opportunities, which includes grade expectations in the subjects of arts, health, history and social studies, literacy, non-native languages, physical education and science. The state has not chosen to match these standards with tests like those now required in mathematics or reading.

Vermont's 1996 testing system covered many of the assessments that NCLB requires, but there were important differences. NCLB requires annual testing in mathematics and reading in grades 3-8, with results used to measure improvement over time. Starting in the 2001-2002 school year annual tests in mathematics and reading are used to determine if each school is making "adequate yearly progress" (AYP), with the goal of all students being "proficient" by 2014. AYP will also be measured in science starting in the 2007-2008 school year. Each state set a standard for proficiency for each grade and then set a target for the percentage of students that demonstrate proficiency, with the expectation that the percentage will keep rising until it reaches 100% by 2014. AYP is measured at the school and subgroup⁴ level and therefore does not measure the yearly improvement of individual students or cohorts year to year. If schools fail to meet AYP, regardless of changes in individual performance, a series of sanctions are imposed including restrictions on the use of Title I funding.

Each year, under state standards, the Commissioner of Education in Vermont releases a state-wide report on accountability results. If a school does not make AYP for two consecutive years, "the Commissioner shall send written notification of the actions that the school or LEA is required to institute to address those areas that caused the identification."⁵ Should a school not obtain AYP for a fourth consecutive year, the Commission must implement State Board actions that stem from state and federal law.

In response to the NCLB mandate for annual testing in mathematics and reading in grades 3-8, Vermont, Rhode Island, and New Hampshire developed the New England Common Assessment Program (NECAP). This past fall, the test was administered to "more than 216,000 students in grades 3 through 8, with approximately 20% representing 322 Vermont schools."⁶ Grades 3 through 8 were assessed in math and reading, while grades 5 and 8 were assessed in writing.

III. Curriculum Shift

Ronald Tomalis, counselor to the former U.S. Secretary of Education, Rod Paige, has been quoted saying that "No Child Left Behind was meant to complement state standards in other subjects, not eliminate them."⁷ However, one possible result of high-stakes testing is that school districts will shift resources toward tested subjects and away from non-tested subjects that may be of importance to state policy makers. A school could shift resources in order to avoid being labeled a "school in need of improvement" and other negative consequences. Evidence from academic literature already suggests that,

other things being equal, shifts in resources are more likely to occur in low achieving schools (Jacob, 2002).

In July of 2005, The Center on Education Policy documented curriculum shifts based on a national survey conducted in the fall of 2004. Their findings showed that curriculum shifted toward math and reading and away from subjects like social studies and arts. According to an unpublished figure obtained from the CEP, “41 percent of districts overall reported that elementary schools have reduced the amount of instructional time devoted to at least one of the following--social studies, science, art and music, PE, or other--in order to make more time for reading/language arts and math.”⁸ Their published report also found that “among districts that require schools to devote a specific amount of time to reading/language arts and/or math instruction, an estimated 27% report that instructional time in social studies has been reduced somewhat or to a great extent to make more time for reading/language arts and math.”⁹ Using the same parameters, CEP found that an estimated 22% of schools reported science had been reduced, and 20% reported a reduction in art and music. The similarity in the questions between our survey and the one administered by the CEP should offer some national reference point for comparing the results of our findings, especially concerning the shift away from particular subjects.

IV. Survey Results

To help assess whether any curriculum shifts have occurred in Vermont’s public schools, a survey was given to a random sample of 32 of the 60 school district superintendents in Vermont. The survey was designed to gauge whether a shift in curriculum was occurring and to what extent NCLB is influencing the way education is being administered. The response rate was approximately 59% (19/32). Appendix B shows confidence intervals for the reported results.¹⁰

The survey consisted of eight questions, the first three of which were multiple choice with the remaining five open-ended. Results from five of the questions (questions 1-3 and 5-6) are shown in the following graphs and table.

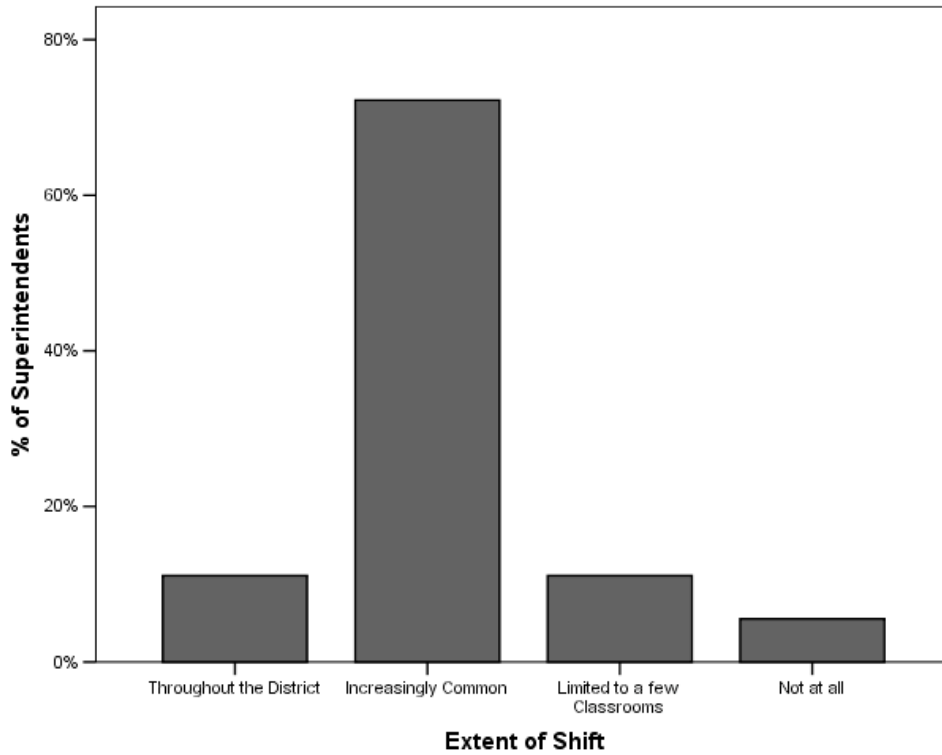


Figure 1 – To what extent do you feel that a narrowing of teaching to tested subjects is occurring?

Figure 1 details the results of question 1, “To what extent do you feel that a narrowing of teaching to tested subjects is occurring?” Results show that 83% of superintendents surveyed stated that a change in curriculum is at least “increasingly common” in their school district. This result indicates that curriculum shifts, at some level, are likely occurring in Vermont. One respondent mentioned specifically that curriculum shifts began in Vermont with the introduction of Act 60 rather than NCLB. Two superintends volunteered that the reported shift was not due to the testing requirements. (Note: One superintendent did not answer the question).

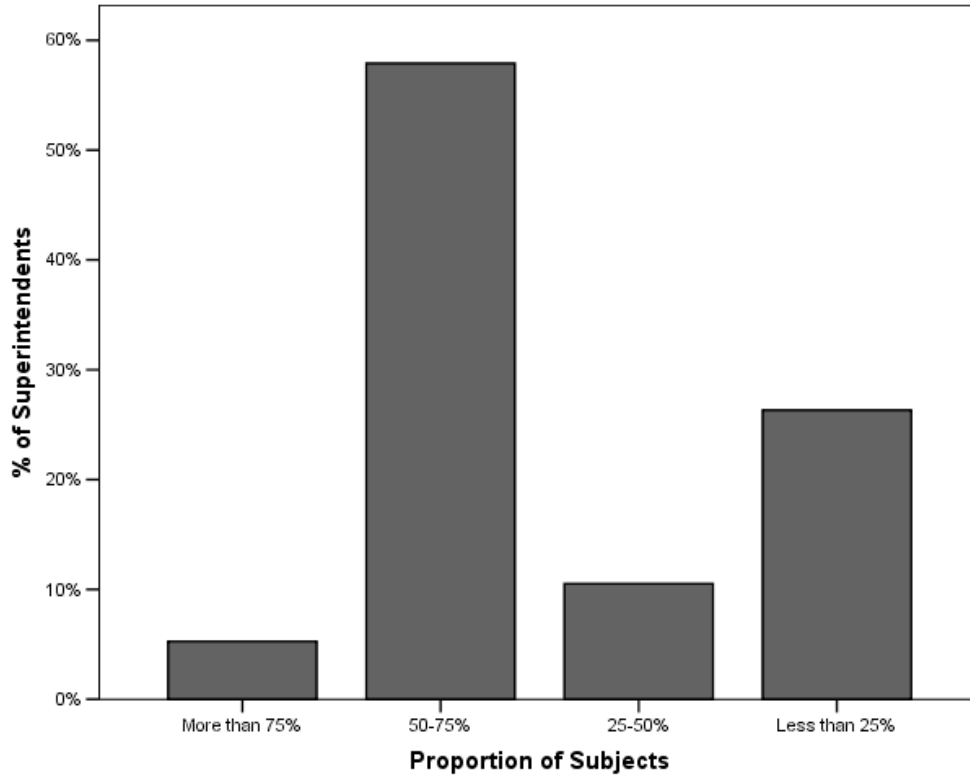


Figure 2 - What proportion of the curriculum in your district is prioritizing tested subjects over non-tested subjects?

Next, Figure 2 shows results for question 2, “What proportion of the curriculum in your district is prioritizing tested subjects over non-tested subjects?” This question was meant to determine how focused schools were on the core subjects. Results show that 63% of the superintendents interviewed indicated that greater than 50% of curriculum is prioritized towards tested subjects versus non-tested subjects.

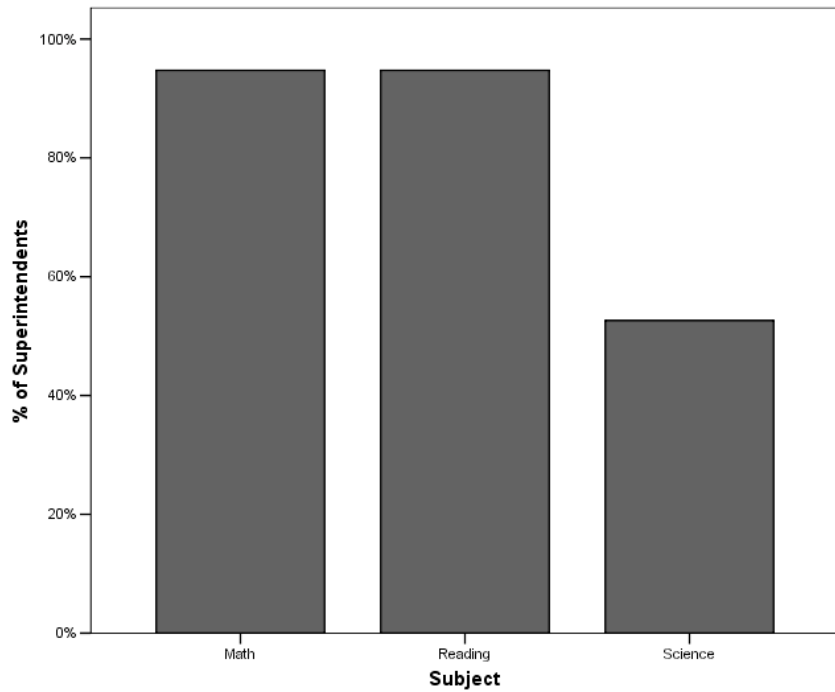


Figure 3 - Emphasized Subjects

Figure 3 details results for question 3, which asked, “How extensive is this shift among tested subjects?” The graph shows the percentage of respondents that cited math, reading, and science as subjects that were emphasized. Results show that 95% of the superintendents surveyed indicated math and reading were highly emphasized in the classroom, while 53% indicated science.

Next, Table 1 shows results from question 5 of the survey, which asked the superintendents, “What subject areas are being deemphasized?” This allowed for an array of responses. Results show that 42.1% of superintendents believe that social studies and 21.1% believe science are topics that are being replaced by additional emphasis on reading and math. Additionally another 10.5% of superintendents indicated that “everything” (presumably other than math and reading) is being deemphasized and 15.8% indicated that no subjects are being deemphasized.

Table 1 – Deemphasized Subjects

Category	Percentage
Social Studies	42.1%
Science	21.1%
Everything	10.5%
Nothing	15.8%

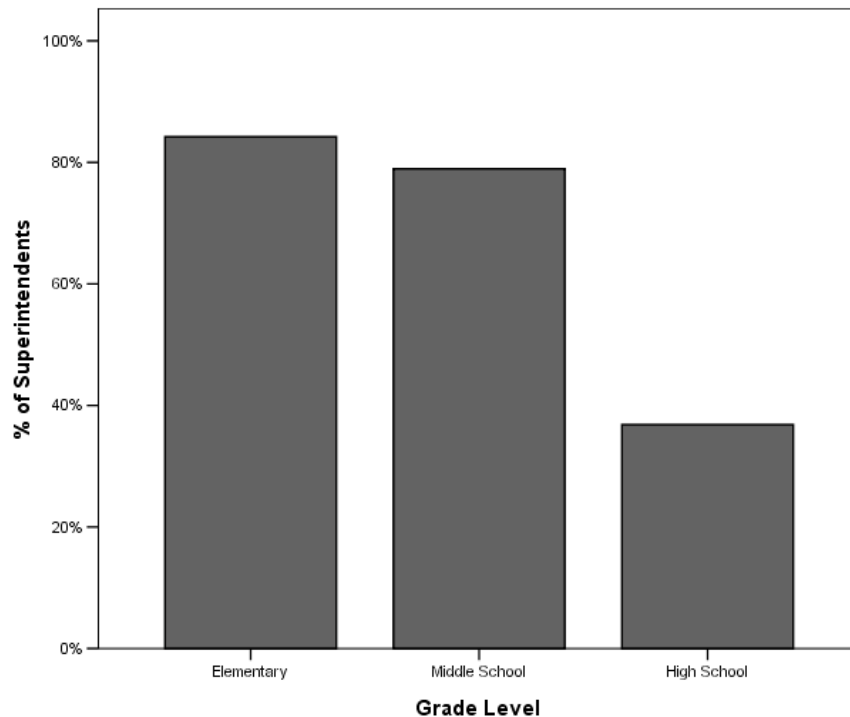


Figure 4 - Grade Level Where Shift is Occurring

Finally, Figure 4 shows results for question 6 of the survey asking, “At what grade levels has this been the case?” The graph shows the percentage of those surveyed citing curriculum shifts in each grade level by state. Elementary is counted as K-5, Middle School as 6-8, and High School as 9-12. For example, a superintendent answering “3rd grade” was counted as citing elementary. Superintendents could answer more than one level. Of the superintendents surveyed, 84% indicated shifts in elementary, 79% indicated middle school, while only 37% said high school. While NCLB does not require annual testing at the high school level, the CAS tests English and mathematics in grade 10 and science in grade 11. Results indicate that a majority of superintendents see changes in the curriculum at the elementary and middle school versus high school.

VI. Findings

The results of our surveys suggest the following conclusions:

- Despite state standards in non-tested subject areas, the imposition of high-stakes testing appears to cause school districts to prioritize tested subjects over non-tested subjects.
- 83% of superintendents indicated that a narrowing of teaching to tested subjects is either “increasingly common” or occurring “throughout the district”.
- 63% of the superintendents interviewed indicated that greater than 50% of the curriculum is prioritized towards tested subjects versus non-tested subjects.

- In an open-ended question, 42.1% of superintendents surveyed stated that social studies and 21.1% stated science are topics that are being replaced by additional emphasis on reading and math.

VII. Policy Options

Results from our survey indicate that curriculum is likely shifting in Vermont public schools toward math and reading and away from untested subjects. However, without adequate measures, it is unknown how well students are performing in the untested subjects. Likewise, mathematics and literacy are undeniably important to a good education and other desired educational outputs. The following provides a list of policy options to consider in light of these results:

- Do nothing. If educators and legislators feel that curriculum should focus more on math and reading, then policy intervention is not required.
- If the state believes that other subjects should not be deemphasized, additional incentives for teachers and administrators could be implemented. One alternative would be to create state-mandated testing in other subjects with similar incentives and performance requirements as the tests conducted under NCLB. While it would be costly to develop, administer, and evaluate these additional tests, doing so would likely achieve a more equal distribution of curriculum across subjects. Such a system would also create a more comprehensive method of assessing student abilities statewide.
- As an alternative to annual testing in other subjects, additional tests at various grade levels, such as 5th, 8th, and 12th grade could be implemented. These tests could assess overall student achievement on a wide array of subjects but would be much less costly than individual subject tests at each grade level. A system like this exists in Florida under the name “Sunshine State Standards”. Florida high school seniors must achieve a minimum score on the Florida Comprehensive Assessment Test in reading, writing, and math in order to graduate from high school.¹¹ (Currently, Vermont does not administer a test that all high school seniors must pass in order to graduate). In 2002, 73% of 10th graders passed the Mathematics portion of the FCAT exam, while 59% passed the Reading portion.¹²
- The state could explore alternative options, such as growth models, for measuring school and student success. In general, growth models measure the improvement of individual cohorts of students, rather than grade-years, over time. According to the Association of California School Administrators, the state of California is currently having discussions with U.S. Department of Education to allow use of their growth model, the Academic Performance Index, in determining AYP.
- A final option would be to reject NCLB and decline the Title 1 funding from the federal government. However, an extensive study of the costs and benefits of

complying with NCLB would be needed to make this determination as state received approximately \$27.2 million in Title 1 funding in FY06.¹³

VIII. Conclusion

Our study offers some evidence that the implementation of high-stakes testing is changing the curriculum priority of subjects in public schools in Vermont.

The research discussed in this report is certainly not comprehensive and further research may help policy makers further refine changes in education laws. In particular, it is important to note that the conclusions drawn from this study are from survey responses of 19 of the 60 Vermont superintendents; thus, our conclusions are drawn from a relatively small sample size.

Additional research topics could include:

There is an ongoing debate of whether the effects of standardized tests are greater in communities with certain demographics. Economic studies analyzing high- and low-stakes testing suggest that students in traditionally high performing schools improved in the low-stakes subjects by much greater percentages than their low achieving counterparts (Jacob, 2002; Korretz & Baron, 1998, and Deere & Strayer, 2001). This may provide further arguments for any new achievement testing to look at individual student performance rather than the change of the year-to-year cohort in each grade.

It is questionable whether the shift in curriculum is actually resulting in lower achievement in other priority subjects. Comparable assessments of some kind in the subjects other than math and reading would be necessary to determine the degree to which specific incentives to promote achievement in other subjects would be necessary.

Finally, there may be alternative assessment methodologies available to evaluate subjects not currently being tested. As mentioned before, these assessments may also wish to evaluate the success of individual students over a period of time in order to more accurately evaluate the effectiveness of a teacher or school system.

¹ No Child Left Behind Act of 2001, Title 6, Subpart 4, Section 6161, Subpart Title, “State Accountability for Adequate Yearly Progress”.

² Vermont Department of Education. Vermont State Board of Education Manual of Rules and Practices: School Accountability System Based on Student Achievement. Available: <<http://www.state.vt.us/educ/new/pdfdoc/board/rules/2500.pdf>> Accessed: Jan. 15, 2006.

³ Vermont Department of Education. Programs and Services: Assessments. Available: <http://www.state.vt.us/educ/new/html/pgm_assessment.html> Accessed: Feb. 28, 2005.

⁴ In order to AYP, improvement goals must be met for the following subgroups:

“economically disadvantaged students; students from major racial and ethnic groups; students with disabilities; and students with limited English proficiency.”

⁵ Vermont Department of Education. Vermont State Board of Education Manual of Rules and Practices: School Accountability System Based on Student Achievement. Available: <<http://www.state.vt.us/educ/new/pdfdoc/board/rules/2500.pdf>> Accessed: Jan. 15, 2006.

⁶ Vermont Department of Education. Standards and Assessments Division: NECAP.

Available: <

http://www.state.vt.us/educ/new/pdfdoc/pgm_assessment/necap/evaluation_report_123005.pdf> Accessed: Jan. 15, 2006.

⁷ “No Child Left Behind law gets mixed reviews from Illinois educators” *Daily Chronicle* [Illinois] 15 Feb. 2004. Available <<http://www.daily-chronicle.com/articles/2004/02/15/news/news01.txt>> Accessed: Oct. 9, 2005

⁸ Obtained from CEP Analyst, Leslie Anderson on October 12, 2005.

⁹ “NCLB Policy Brief 3: Is NCLB Narrowing the Curriculum?” Center On Education Policy (2005). Accessed: Oct. 10, 2005. Available

<<http://www.ctredpol.org/nclb/NCLBPolicyBriefs2005/CEPPB3web.pdf>>

¹⁰ Appendix B also shows comparative enrollment characteristics and standardized test score results for the schools who chose not to respond to the survey as well as those schools not in the survey sample. Results show there are no statistical differences in school characteristics between the sample of schools chosen for the survey, the schools that responded to the survey, and the schools not in the sample.

¹¹ Florida Department of Education. Sunshine State Standards. Available:

<<http://www.firn.edu/doe/menu/sss.htm>> Accessed: Oct. 9, 2005

¹² Florida Department of Education. Reading and Mathematics Scores: Grade 10.

Available: <http://fcats.fldoe.org/2004/pdf/fc_StatewideComparisonR-M_Grade10_2004.pdf> Accessed: Jan. 31, 2006.

¹³ Figure obtained from the Vermont Department of Education.

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Appendix A - Survey



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POLICY RESEARCH SHOP - ORESEARCH PROJECT INFORMATION SHEET

The Impact of “No Child Left Behind” on Educational Governance in New Hampshire and Vermont

This research project is being conducted by a group of undergraduate students supervised by the director of the Rockefeller Center, Professor Andrew Samwick. The study specifically examines the range of curriculum responses to changes in educational testing brought about by this new federal law. The results of this study will be summarized in a report made available to the state legislatures of New Hampshire and Vermont and to the general public through our website (policyresearch.dartmouth.edu).

Your school district was randomly selected from the entire pool of districts in the state. A total of 30 districts are being surveyed for this project.

Your participation is voluntary. Participation involves a 10 minute questionnaire. You may choose not to answer any or all questions. All information in this survey will be reported anonymously.

The information collected will be maintained confidentially, stored using only an identifying number. This identifier will be maintained separately under secure conditions. Your school district’s name, as well as yours, and any other identifying information will not be used in any presentation or report written about this project.

Questions about this project may be directed to:

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The federal “No Child Left Behind” Act was intended to create higher standards for education, particularly in what are considered by many to be the core topics of math, reading and science. In the crowded school day, raising the priority of one activity can sometimes mean reducing the importance of another. Commissioners in both Vermont and New Hampshire have stated that they did not know if a shift in priorities was

occurring since these decisions are left to the districts. This questionnaire is intended to understand further how NCLB may be affecting the education delivered in the two states.

1. **To what extent do you feel that a narrowing of teaching to tested subjects is occurring?**
 - A. Throughout the district
 - B. Increasingly common
 - C. Limited to a few classrooms
 - D. Not at all

2. **What proportion of the curriculum in your district is prioritizing tested subjects over non-tested subjects?**
 - A. More than 75%
 - B. 50-75%
 - C. 25% - 50%
 - D. Less than 25%

3. **How extensive is this shift among tested subjects?**
 - A. Math Only
 - B. Reading Only
 - C. Science Only
 - D. More than one, please specify: _____
 - E. All of the above

4. **Which subject areas are being emphasized?**

5. **Which subject areas are being deemphasized?**

6. **At what grade levels has this been the case?**

7. **Please provide us with a few concrete examples where this has occurred.**

8. **What other strategies have your schools used to improve their test scores?**

Appendix B – Summary Statistics and Confidence Intervals

Question 1: To what extent do you feel that a narrowing of teaching to tested subjects is occurring?

Question 1	# of Superintendents	Percent	Cumulative Percent
A Throughout the District	2	11.11	11.11
B Increasingly Common	13	72.22	83.33
C Limited to a few classrooms	2	11.11	94.44
D Not at all	1	5.56	100
95% Confidence Interval of 83.33%		(58.58% and 96.42%)	

Question 2: What proportion of the curriculum in your district is prioritizing tested subjects over non-tested subjects?

Question 2	# of Superintendents	Percent	Cumulative Percent
A More than 75%	1	5.26	5.26
B 50-75%	11	57.89	63.15
C 25% - 50%	2	10.53	73.68
D Less than 25%	5	26.32	100
95% Confidence Interval of 63.15%		(43.45% and 87.42%)	

Question 3: How extensive is this shift among tested subjects? (Responses have been aggregated by subject)

Superintendents' Responses

<i>Subject</i>	# Superintendents	Percent
Math	18	94.74
Reading	18	94.74
Science	10	52.63

Question 6: At what grade levels has this been the case?

Level	Percent of Superintendents	95% Confidence Interval
Elementary	84.21	(60.42% and 96.17%)
Middle	78.95	(54.43% and 93.95%)
High School	36.84	(16.28% and 61.64%)

Enrollment Data – Comparison on survey sample an population average enrollments

Sample	Districts	Total Enrollment	K to 5 Enrollment	6 to 8 Enrollment	9 to 12 Enrollment
Surveyed - Completed	19	1468	634	399	434
Surveyed - No Response	13	1802	745	461	596
Survey Total	32	1604	679	424	500
Not Surveyed	28	1319	534	343	441
All Districts	60	1471	611	387	472

* Statistical tests indicate that there is no statistically significant difference between completed, no response, survey total, not surveyed, and all districts with respect to enrollment.

Assessment Data – Comparison of survey sample and population characteristics**4th Grade 2001 - Percent of Students Substandard by Subject**

Assessment	Districts	Reading	Writing	Math	Problem Solving
Surveyed - Completed	18	6.2	17.4	9.0	52.8
Surveyed – No Response	14	6.5	20.4	8.4	55.2
Not Surveyed	28	7.1	17.4	8.9	51.1
All Districts	60	6.7	18.7	9.2	51.7

* The results indicate that there is no statistically significant difference between substandard averages and all four assessment groups.

4th Grade 2004 – Percent of Students Substandard by Subject

Assessment	Districts	Reading	Writing	Math	Problem Solving
Surveyed - Completed	18	5.5	13.3	7.5	32.6
Surveyed – No Response	14	5.9	14.5	8.4	33.9
Not Surveyed	28	7.1	12.4	5.7	33.2
All Districts	60	6.4	13.5	6.9	33.2

* The results indicate that there is no statistically significant difference between substandard averages and all four assessment groups.

10th Grade 2001 – Percent of Students Substandard by Subject

Assessment	Districts	Reading	Writing	Math	Problem Solving
Surveyed - Completed	16	12.2	14.0	35.8	60.4
Surveyed –No Response	13	10.7	15.2	31.6	54.1
Not Surveyed	24	10.7	11.7	31.1	55.1
All Districts	53	11.5	13.5	33.2	56.6

* The results indicate that there is no statistically significant difference between substandard averages and all four assessment groups.